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PETRO-CANADA

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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PETRO-CANADA

COAL DIVISION

MONKMAN COAL PROJECT

1981

NTS 93 I, 7, 8, 10 & 15

MONKMAN COAL PROJECT

1981 EXPLORATION REPORT

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I SUMMARY

The Monkman Coal Project is a joint venture of Canadian Superior Exploration Ltd., McIntyre Mines Ltd. and, the operator, Petro-Canada Exploration Inc. Since 1975, annual exploration has been carried out mainly on the Duke Mountain Block where medium volatile bituminous coal has been demonstrated to exist in substantial quantity.

The 1981 exploration program concentrated on the Duchess, Boomerang and Dokken areas of the Duke Mountain Block and on the Nekik Block. The purpose of the program was to establish, by drilling and/or geologic mapping, the structure, stratigraphy and coal quality of the aforementioned areas.

In addition to detailed in-fill geologic mapping on the Duke Mountain Block, similar in-fill mapping was undertaken on the Five Cabin, Onion Syncline and northern Wapiti Dip Slope Blocks. Re-interpretation, if necessary, will be undertaken in 1982, after the remainder of the mapping has been completed.

In all, 4,204 meters of diamond hole and 1,888 meters of rotary hole were drilled. The new data resulted in a complete re-interpretation of the areas explored on the Duke Mountain Block. In general, the overall geologic picture remained much the same although it was somewhat simplified.

The boundaries of the geologic resource areas changed considerably. However, the new total for the Duke Mountain Block in all confidence categories, 1,182.637 million tonnes, was only 4% lower than that

given in the 1980 report. The resource potential of the Nekik Block in all confidence categories is 99.022 million tonnes. Only the Dokken area does not appear to have any surface mining potential.

Coal seams in all areas, with the exception of B9 on Duchess, exhibit strong coking characteristics. A minor amount of additional drilling is recommended in all areas except Dokken. With 90% of the Duke Mountain Block updated in the last two years, it appears that only nine licences are not required for resource or other reasons. No new aquisitions are recommended.

2 INTRODUCTION

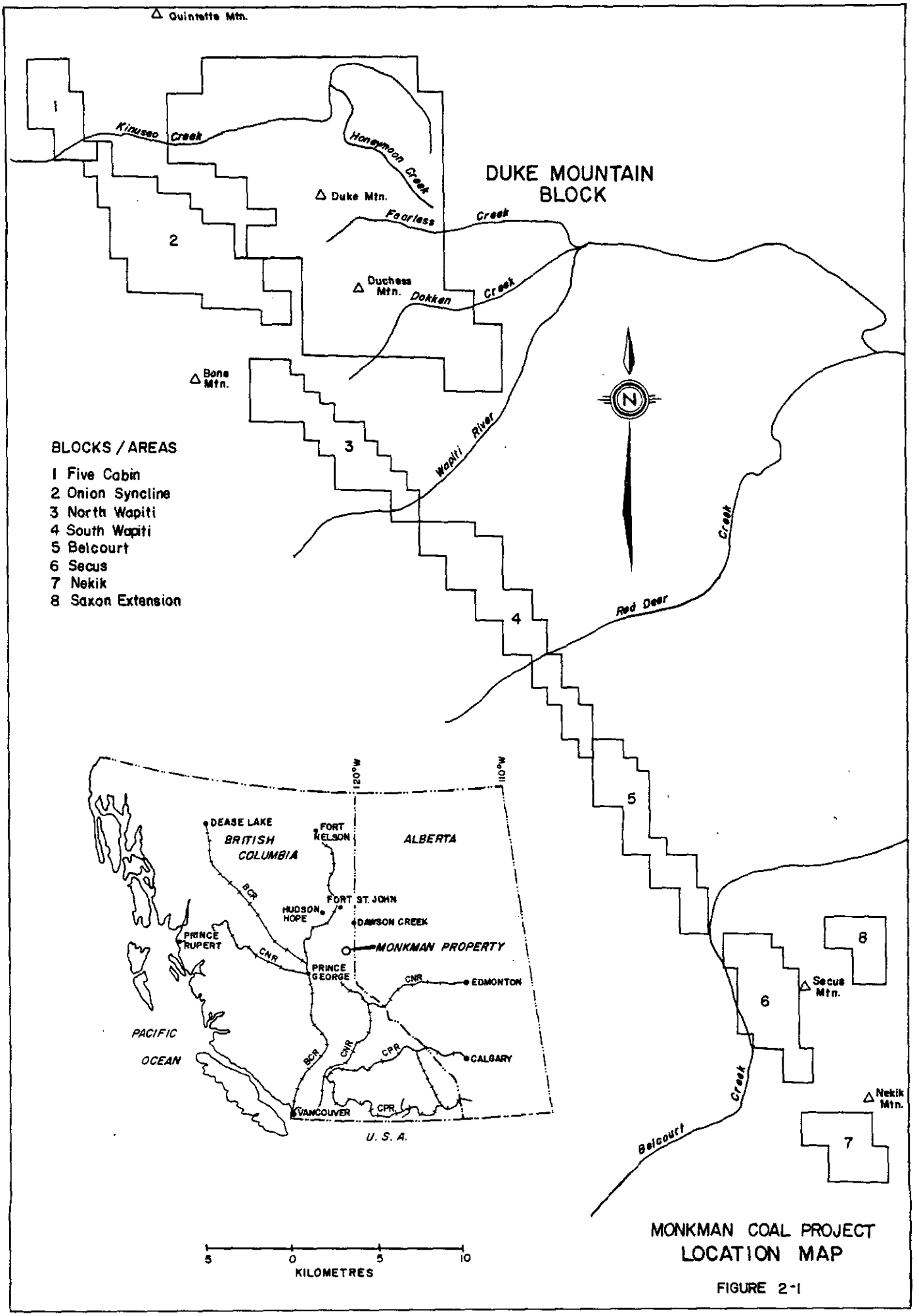
2.1 Location and Means of Access

The Monkman Property is located in the southern part of the Peace River Coalfield, approximately 630 kilometers northeast of Vancouver, British Columbia (Figure 2-1).

The property is more or less equidistant, by all-weather loose surface roads, from Beaverlodge, Alberta and Tupper, British Columbia both of which are situated on Highway No. 2 which connects Grande Prairie and Dawson Creek. The camp is 11 kilometers west of Stony Lake on the Kinuseo Falls road and is approximately 125 kilometers from pavement. A third route, the Fellers Heights road from Dawson Creek, is also passable most of the year. The Quasar airstrip near Thunder Mountain permits year-round access by light plane. This airstrip is 16 kilometers from the camp.

2.2 History of Land Tenure

In 1970, McIntyre Mines Ltd. acquired 134 coal licences from the Government of British Columbia. In 1975, Canadian Superior Exploration Ltd. acquired a 66 2/3% interest in the property, which was reduced to 119 licences. Pacific Petroleums Ltd. entered into an option agreement with McIntyre and Canadian Superior in 1976 and by the end of 1978 had earned a 50% interest in the property, the shares of the partners being reduced to 16 2/3% and 33 1/3% respectively. In 1978, 31 licences were added to the property and a further 12 licences were added in 1979, bringing the total to 162 and the area to 37,492 hectares.



MONKMAN COAL PROJECT
LOCATION MAP

FIGURE 2-1

Three licences (899 hectares) were added to the Duke Mountain Block in 1980 and four (1196 hectares) were added in 1981. The total area of the Monkman Property as of December 31, 1981 was 39,587 hectares of which 20,745 hectares were contained within the Duke Mountain Block. The 1981 licence groupings and work credits are presented in Appendix B.

2.3 Coal Licences

The current coal licence map is included in Appendix B.

2.4 Topography

The Monkman property is situated within the Inner Foothills of the Rocky Mountains in an area of rugged topography. The property is approximately 80 kilometers long, extending from the southern slopes of Quintette Mountain in the northwest to the Narraway River south of Nekik Mountain in the southeast. The property is situated on a dissected belt of highlands which rises from a valley floor elevation of 950 meters at Kinuseo Creek to a maximum of 2250 meters on Secus Mountain. The highlands are cut by seven water courses which are, from north to south, Kinuseo Creek, Fearless Creek, Dokken Creek, the Wapiti River, Red Deer Creek, Belcourt Creek and the Narraway River (Figure 2-1).

The Duke Mountain Block, 17 kilometers in length and 10 kilometers in width includes Kinuseo, Fearless and Dokken Creeks and Duke and Duchess Mountains. Its southerly limit is the Wapiti River and the highest point is 1791 meters, on Duchess Mountain. The valleys and lower slopes are heavily forested with spruce and jackpine up to the treeline which is 1400 meters above sea level.

2.5 Exploration History

1968:	Regional Mapping by D.F. Stott, G.S.C.
1970:	Initial licences acquired by McIntyre Mines
1973:	Geological reconnaissance, trenching
1975:	Canadian Superior drilled three diamond holes
1976:	Pacific Petroleums drilled twelve diamond holes, mapped
1977:	Pacific drilled eight diamond holes, mapped
1978:	Pacific drilled 24 diamond holes, 22 hammer holes and drove two adits on the Duke Mountain Block and drilled six diamond holes elsewhere
1979:	Pacific drilled 18 diamond holes, 35 hammer holes and drove four adits on Duke Mountain Block
1980:	Petro-Canada drilled 11 diamond holes and 77 hammer/rotary core holes and drove three adits - all on Duke Mountain Block
1981:	Petro-Canada drilled 17 diamond holes and 8 hammer/rotary core holes on the Duke Mountain Block and 2 diamond holes on the Nekik Block In addition to drilling, mapping was carried out on the Duke Mountain, Five Cabin, Onion Syncline Blocks and Wapiti Dip Slope areas

3 1981 EXPLORATION PROGRAM

3.1 Objectives

i. To determine by rotary and diamond drilling the structure and coal quality of the Boomerang, Duchess and Nekik areas.

ii. To finish detailed geologic mapping within the Boomerang, Duchess and Dokken areas and to begin detailed in-fill mapping of the Dip Slope blocks.

3.2 Field Camp and Services

The 1981 program commenced in January using the permanent camp facilities established in 1979. The first stage involved the construction of access roads and preparation of drill sites. Drilling began in mid-February with two Longyear 44 diamond rigs followed by a rotary rig in late February and two Boyles 25A diamond rigs in early August. Some mapping was carried out in February and March but most of the mapping was done from June to September.

The staff involved in the project are listed in Table 3-1 and the suppliers and contractors in Table 3-2.

TABLE 3-1

MONKMAN COAL PROJECT - PETRO-CANADA PERSONNEL

J. Wright	Manager-Special Projects
S. Santiago	Manager-Exploration
W. Plachner	Geological Supervisor
F. Gigliotti	Senior Geologist
T. Covert	Senior Geologist
E. Panchy	Geologist
A. Karnapke	Geologist
J. Moorhouse	Geologist
W. Nyysola	Geological Technologist
W. Nyland	Camp Supervisor
H. Hopkins	Temporary Geologist
C. Riediger	Temporary Geologist
L. Fabbro	Temporary Geological Assistant
P. Robertson	Temporary Geological Assistant

TABLE 3-2

CONTRACTORS AND SERVICES

Aircraft Charter

Ken Boric Air Limited	Dawson Creek, B.C.
Kenting Helicopters	Calgary, Alberta
Northern Thunderbird Air Ltd.	Prince George, B.C.
Pacific Helicopters Ltd.	Delta, B.C.
Rotortech Helicopters Ltd.	Surrey, B.C.
Wapiti Aviation Ltd.	Grande Prairie, Alberta

Camp and Catering

Alberta Government Telephone	Edmonton, Alberta
Big Jim's Bulk Plant	Dawson Creek, B.C.
Fred Burres Welding	Dawson Creek, B.C.
Cal-Van Canus Camp Services Ltd.	Vancouver, B.C.
Camp Entertainment Ltd.	Calgary, Alberta
Canadian Marconi Co.	Edmonton, Alberta
Canadian Propane Ltd.	Grande Prairie, Alberta
A. Fingerhut Welding	Dawson Creek, B.C.
Grande Prairie Fire Extinguishers and Safety Ltd.	Grande Prairie, Alberta
Knutsons Industrial First Aid Services Ltd.	Fort St. John, B.C.
Mountain Mobile Communications	Grande Prairie, Alberta
Northern Metallic Sales	Grande Prairie, Alberta
Sal's Electric Ltd.	Dawson Creek, B.C.
Silljer Enterprises Ltd.	Grande Prairie, Alberta

Assaying and Testing

Loring Laboratories	Calgary, Alberta

Geophysical Logging

Roke Oil Enterprises Ltd.	Calgary, Alberta

Drilling

Alberta Southern Exploration Drilling Limited	Calgary, Alberta
D.W. Coates Enterprises Ltd.	Richmond, B.C.
Midwest Drilling Ltd.	Winnipeg, Manitoba
Active Water Hauling Ltd.	Dawson Creek, B.C.

Mapping Services

R.M. Hardy and Associates	Calgary, Alberta
Hosford, Impey, Welter and Associates	Grande Prairie, Alberta

Rental Vehicles

Bow Mac Truck Rentals	Vancouver, B.C.
Visa Truck Rentals	Grande Prairie, Alberta
Mable Hall Investments (Hertz)	Dawson Creek, B.C.

Trucking

Aldar Transport Ltd.	Dawson Creek, B.C.
Beaver Transport Ltd.	Grande Prairie, Alberta
Bush Bunny Towing and Light Hauling	Beaverlodge, Alberta
Canadian Freightways Ltd.	Dawson Creek, B.C.
Edgar and Cissell Trucking Ltd.	Grande Prairie, Alberta
Purolator Courier Ltd.	Grande Prairie, Alberta
Loomis Courier	Dawson Creek, B.C.

Road Construction and Maintainence

Coal Valley Industries Ltd.	Dawson Creek, B.C.

3.3 Road Construction

Most drillsites used during the 1981 program were provided with road access. Existing exploration roads were used where possible.

3.4 Surveying

All 1981 drillholes were surveyed during the field season. In addition all holes drilled in previous years on the Five Cabin, Onion Syncline and Dip Slope areas were surveyed.

3.5 Geologic Mapping

Detailed geologic mapping was undertaken and completed within the Duchess, Dokken and Boomerang areas from early June to mid-August. The objective was to infill map in areas not completed. Similar mapping, with the same objective, was begun in the Dip Slope areas and will be completed in 1982.

3.6 Rotary Drilling

Eight holes were drilled by Alberta Southern Exploration Drilling in February and March. The rig used was a truck mounted TH60 Sanderson Cyclone equipped with casing and downhole hammers. In one of the holes the major coal seams were selectively cored using a three meter Christensen split tube core barrel. The total metreage drilled/cored was 1,888.

Of the eight rotary holes, three were drilled in the northeast part of the Duke Mountain Block (two of these were drilled on the newly acquired licences). The remaining five holes, including the core hole, were drilled in the Boomerang area.

3.7 Diamond Drilling

From February to August, D.W. Coates Enterprises drilled sixteen HQ holes with two Longyear 44 skid-mounted diamond rigs. A total of 4206 meters were drilled with an average coal recovery of 75%. All of these holes were drilled in the Duchess area. One hole on Fearless Creek in Duchess and two holes in the Nekik Block were drilled by Midwest Drilling using two Boyles 25A rigs. The result was 620 meters of NQ core with an average coal recovery of 90%. These rigs were moved by helicopter and were used in agreement with Crows Nest Resources Limited as part of a joint drilling program in the area.

3.8 Geophysical Logging

A full suite of geophysical logs were run, when possible, by Roke Oil Enterprises. The suite consisted of a gamma ray neutron log, a sidewall density log with caliper and a 20 centimeter focused beam log at a 1:100 scale. In addition, a detail densilog was run through most coal seams at a scale of 1:40 and a down-hole deviation survey was run in most holes.

3.9 Coal Sampling

All coal seams with a true thickness greater than 0.5 meters were

sampled. Coal seam descriptions were compared with detailed geophysical logs in order to determine core loss locations. Rock splits with a true thickness of 0.50 meters or more were sampled separately. All sampling took place soon after drilling to minimize oxidation.

3.10 Coal Quality

All the coal samples were shipped to Calgary for analysis by Loring Laboratories.

3.11 Reclamation

The reclamation work in 1981 was carried out under the supervision of Petro-Canada personnel and the reclamation report will be provided as a separate volume.

3.12 Cost Breakdown and Application of Work Credits

The costs applicable to the various licence groupings are summarized in Appendix B.

4 GEOLOGY

4.1 Introduction

The primary objective of the 1981 exploration program was to complete detailed exploration of the Duchess area and hence most of the mapping and drilling was carried out on this part of the Monkman property.

The southern part of the Duke Mountain Block has been subdivided into three structural blocks: Boomerang, Duchess and Dokken (Figure 4-3). The Boomerang area lies north of Fearless Creek, just south of the Duke Syncline. The area between Fearless Creek and Dokken Creek is designated as Duchess and contains the southern extension of Duke Pit geology. The Dokken block lies south of Dokken Creek and encompasses the southern most part of the Duke Mountain Block.

4.2 1981 Exploration

The 1981 exploration results demonstrate that the area defined by the Duchess, Boomerang and Dokken blocks is structurally complex. The area can be generally described as an anticlinorium that is complicated by both east and west dipping thrust faults (Section 4.5). Although Gates coal measures occur throughout the area, mineable reserves are limited by structural complexities. The potential mining areas lie within the Boomerang Syncline and Duchess East structures. The Duchess East structure is the relatively gently northeast dipping continuation of the structure containing the Duke Pit and Duke Extension areas.

Coal zones within the Gates Formation were confidently correlated between all the structural blocks explored this year and the previously explored areas. All twelve coal seams/zones (B1 through B12) of the Gates Formation are recognized in the Duchess area.

4.3 General Stratigraphy

The Monkman property lies within the tectonically disturbed Foothills belt of northeastern British Columbia. The property contains clastic sedimentary rocks and coal measures of the Jura-Cretaceous Minnes Group and the Lower Cretaceous Bullhead and Fort St. John Groups (Table 4-1 and Figures 4-1 and 4-2).

The Minnes Group forms the base of the geological section within the Duke Mountain Block. Overlying the Minnes Group are the succession of Cadomin, Gething, Bluesky, Moosebar, Gates, Hulcross, Boulder Creek and Shaftesbury Formations.

The Gates Formation is the principal coal-bearing unit of the property but coal seams are known to occur in the Minnes Group and in the Gething and Boulder Creek Formations.

4.3.1 Minnes Group

The Minnes Group is the oldest unit within the Duke Mountain Block. Only the topmost 385 meters have been penetrated by drilling. A 1980 diamond hole, MD80-11, showed that the uppermost 160 meters consist predominantly of coarse-grained continental sandstone and

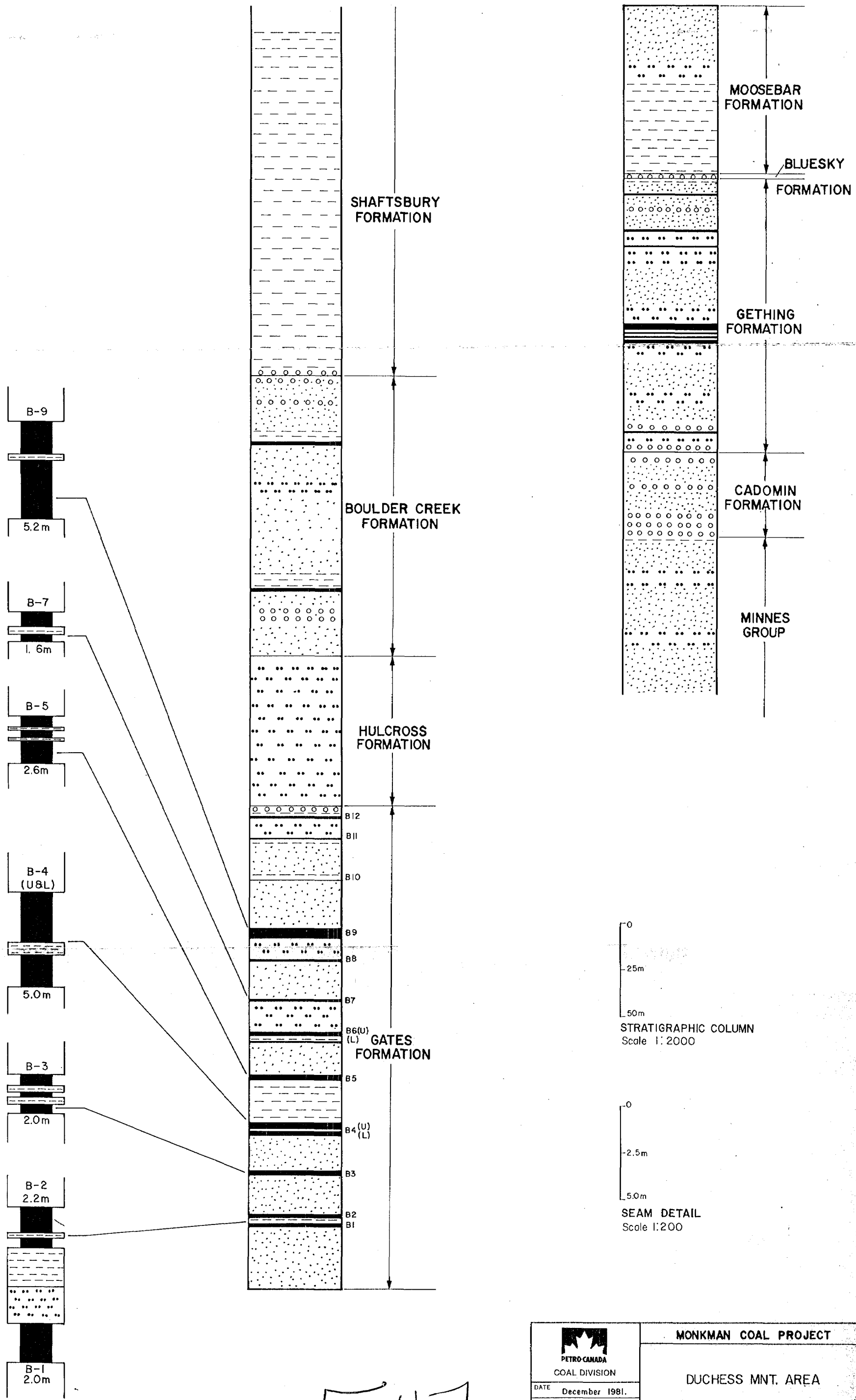
TABLE 4-1

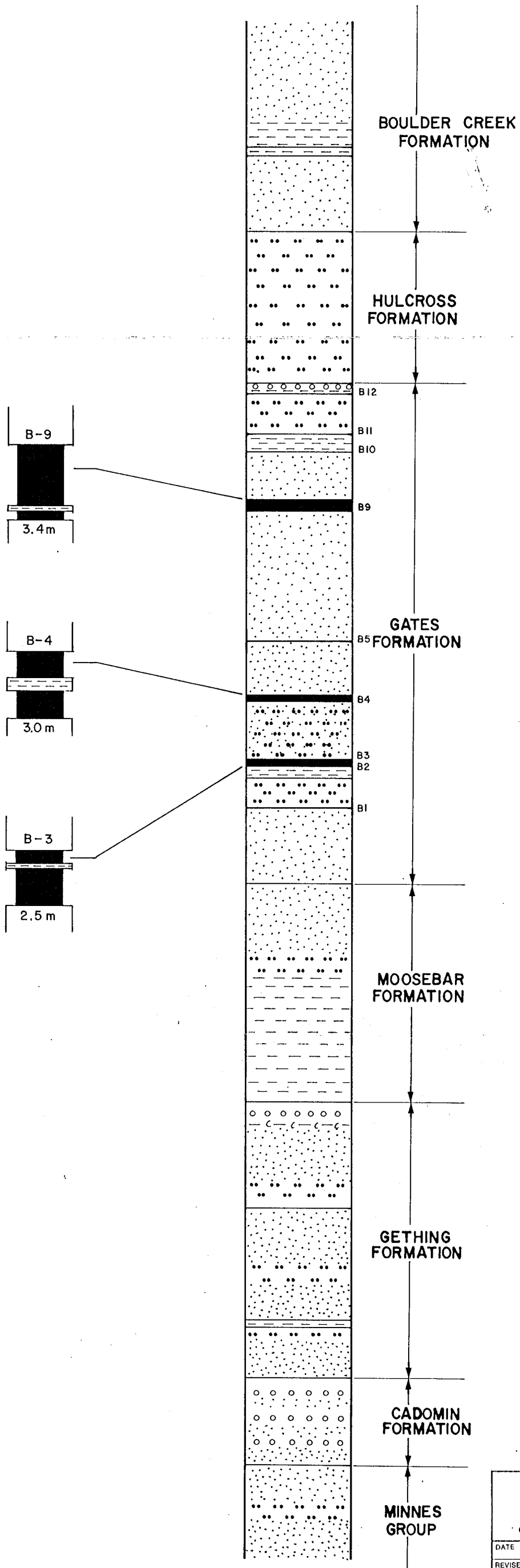
DUCHESS AREA

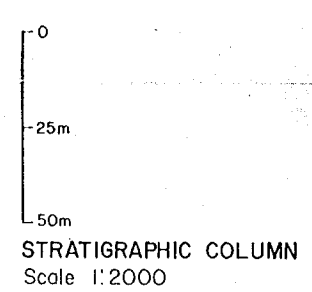
TABLE OF FORMATIONS

Period	Group	Formation or Member	Lithology
CRETACEOUS		Shaftesbury * (lower unit) 250 m	Dark grey marine claystone; sideritic concretions, some sandstone grading to silty dark grey marine claystone and siltstone in lower part; minor conglomerate at base.
	Fort	Boulder Creek 125 - 200 m	Fine to coarse non-marine sandstone; claystone, carbonaceous claystone, and conglomerate, few thin coal seams towards base.
	St.	Hulcross 70 - 80 m	Dark grey marine siltstone interlayered with fine-grained sandstone and claystone; gradational change to fossiliferous sandstone and claystone in south.
		Gates 190 - 290 m	Fine to coarse non-marine sandstone; conglomerate, major coal seams, siltstone, and claystone.
	John	Moosebar 80 - 100 m	Dark grey marine claystone with sideritic concretions in the lower portion; gradational increase in sandstone and siltstone at top.
		Bluesky 1 m	Glauconitic fine-grained sandstone, varying locally to glauconitic pebble conglomerate.
LOWER	Bullhead	Gething 100 - 150 m	Fine to coarse brown sandstone, coal, carbonaceous claystone and conglomerate.
		Cadomin 40 - 45 m	Massive conglomerate containing chert and quartzite pebbles interbedded with quartzose sandstone.
JURA-CRETA-CEOUS	Minnes	+ 2000 m	Conglomerate, carbonaceous claystone, thin bedded grey and brown sandstone; contains numerous thin coal seams.

* refer to section 4.3.9


B-9
5.2m
B-7
1.6m
B-5
2.6m
B-4
(U&L)
5.0m
B-3
2.0m
B-2
2.2m
B-1
2.0m
SHAFTSBURY FORMATION
BOULDER CREEK FORMATION
HULCROSS FORMATION
B12
B11
B10
B9
B8
B7
B6(U)
(L)
GATES FORMATION
B5
B4(U)
(L)
B3
B2
B1
MOOSEBAR FORMATION
BLUESKY
FORMATION
GETHING FORMATION
CADOMIN FORMATION
MINNES GROUP
0
25m
50m
STRATIGRAPHIC COLUMN
Scale 1:2000
0
2.5m
5.0m
SEAM DETAIL
Scale 1:200
PETRO-CANADA
COAL DIVISION
DATE December 1981.
REVISED
AUTHOR E.G.P.
DRAFTED S.R.T.
SCALE as shown
MONKMAN COAL PROJECT
DUCHESS MNT. AREA
GENERALIZED STRATIGRAPHIC COLUMN WITH GATES MINEABLE SEAM DETAIL
FIGURE 4 - 1
547





STRATIGRAPHIC COLUMN
Scale 1:2000

SEAM DETAIL
Scale 1:200

PETRO CANADA
COAL DIVISION

DATE	December 1981
REVISED	
AUTHOR	E.G.P.
DRAFTED	S.R.T.
SCALE	as shown

MONKMAN COAL PROJECT

BOOMERANG AREA

GENERALIZED STRATIGRAPHIC COLUMN WITH GATES MINEABLE SEAM DETAIL

FIGURE 4 - 2

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plant-bearing claystone and siltstone. The next 100 meters contain numerous thin coal seams, none of which exceeds 1.2 meters in true thickness. The remainder of the section to 385 meters is similar to the strata above the coal zone. From regional studies it is known that deeper, similarly thin coal seams exist within the upper 1500 meters of the Minnes Group.

4.3.2 Cadomin Formation

The Cadomin Formation is approximately 45 meters thick and unconformably overlies the Minnes Group strata. It consists of conglomerate interbedded with coarse-grained quartzose sandstone. The conglomerate contains pebbles and cobbles of vari-coloured chert and quartzite ranging in diameter from one to 20 centimeters within a sandstone matrix. The sandstone matrix and the intraformational sandstone beds and lenses appear to be lithologically similar to the clasts.

4.3.3 Gething Formation

The sedimentary strata of the Gething Formation are of non-marine origin, and conformably overlie the Cadomin Formation. The formation consists of brown weathering, calcareous sandstone ranging in grain size from fine to coarse and interbedded with conglomerate, siltstone and claystone. The Gething in the Duchess area ranges from 100 to 150 meters in thickness, and averages 130 meters on the Monkman property.

Several coal seams of mineable thickness occur within the Gething Formation. As yet a complete evaluation of the economic potential

of these coal seams has not been undertaken. Information to date indicates that the seam thicknesses are usually significantly less than those of the principal coal seams of the Gates Formation.

4.3.4 Bluesky Formation

The poorly-developed, marine Bluesky Formation overlies the Gething Formation. It consists of glauconitic and non-glauconitic conglomerate and sandstone. The formation reaches a maximum thickness of 8.4 meters in the Duke Pit area while in the Honeymoon area it averages 4.4 meters and in Duchess is a meter or less. The Bluesky Formation is abruptly overlain by the dark grey marine claystone of the Moosebar Formation.

4.3.5 Moosebar Formation

The marine Moosebar Formation averages 90 meters in thickness on Duchess and is divisible into two distinct units that are readily identifiable in the gamma ray-neutron geophysical logs.

The lower unit represents a slightly upward-coarsening sequence of dark grey claystones containing sideritic concretions. This unit is 72 and 76 meters thick in the Honeymoon and Duke pit areas respectively and averages 55 meters in thickness in Duchess. The middle part of this unit is marked by the presence of a pair of thin, whitish-grey kaolinite bands. Silty-sandy phases appear to increase above and decrease below these kaolinite bands. The unit is characterized by heavy bioturbation, pyrite disseminations and minor marcasite lenses.

The upper unit averages 24 meters in thickness in the Honeymoon-Duke areas and 35 meters in the Duchess area. It consists of interbedded siltstones and claystones with sandstone beds which become increasingly dominant toward the top. This unit represents a transitional zone between the marine conditions of the Moosebar sea and the continental conditions of the Gates.

4.3.6 Gates Formation

The Gates Formation is the principal coal-bearing unit of the Duke Mountain Block. It consists of a cyclic succession of brown-weathering sandstone, claystone, siltstone, conglomerate and coal. The coal seams/zones, numbered B1 to B12, from oldest to youngest, are discussed separately.

The formation has an average thickness of 248 meters. It is 262 meters thick in the Honeymoon area, 279 meters in the Duke area and varies from 190 meters to 290 meters in Duchess.

The basal unit of the Gates Formation is a resistant, medium-grained sandstone referred to as the Torrens Member and is commonly worm-burrowed and cross-bedded. Near its conformable contact with the underlying Moosebar Formation it is occasionally gritty. The contact is placed at the base of the lowest massive sandstone bed. The Torrens Member is 19 meters thick in the Honeymoon area, 29 meters thick in the Duke area and from 25 to 30 meters thick in the Duchess area.

The Torrens Member is usually capped with a carbonaceous claystone-siltstone unit which may represent an underclay for B1.

In Duchess, the coal-bearing portion of the Gates Formation, from B1 to B12, averages 190 meters in thickness. The seams which are considered economic, B1 to B9 (excluding B6 and B8), occur within a 145 meter section.

Above the coal-bearing section, carbonaceous claystone and siltstone predominate. A Gates Formation Fence diagram is provided in Appendix C.

4.3.7 Hulcross Formation

The Hulcross Formation consists of a sequence of thinly laminated marine siltstone, claystone and fine-grained sandstone. Numerous shell bands are present and some zones are characterized by worm burrows. A thin (10-30 centimeters) lag conglomerate or grit marks the base of the Hulcross. In the Honeymoon area the complete section is 63 meters thick whereas in the Duke area the thickness varies from 127 meters in the northwest to 78 meters in the southeast. In Duchess the Hulcross varies from 70 to 80 meters in thickness.

4.3.8 Boulder Creek Formation

The Boulder Creek Formation is the youngest unit with a complete section on the Duke Mountain Block. This unit consists of non-marine sandstone interbedded with siltstone, claystone, minor coal seams and conglomerate. The strata of the Boulder Creek Formation are fairly resistant to erosion and tend to form ridges and dip slopes. The Boulder Creek Formation in Duchess is estimated to be from 125 to 200 meters in thickness.

4.3.9 Shaftesbury Formation

The youngest stratigraphic unit on the Monkman property is the Shaftesbury Formation which disconformably overlies the Boulder Creek Formation. The Shaftesbury Formation in this area of the Foothills encompasses three lithologically separable units. The upper and lower marine units are composed predominantly of dark grey, sideritic marine claystone with minor sandstone phases. The middle unit consists of coarse material represented locally by non-marine sandstones. In the Monkman area, claystones and siltstones of the lower unit are underlain by sandstone and minor conglomerate at the base of the unit. Portions of this lower marine unit appear as erosional remants within the Duke Mountain Block. This unit achieves a thickness of approximately 250 meters in other locations of the Foothills.

4.4 Coal Measures Stratigraphy

4.4.1 Introduction

The coal seams of the Gates Formation are numbered B1 to B12 stratigraphically from the base of the section. Typical seam sections are illustrated in the coal seam correlation chart and their relative positions are shown on a fence diagram (both are in Appendix C). All ash values presented in this section are quoted on an air dried basis.

4.4.2 Coal Seam and Interseam Stratigraphy

Seam B1

Seam B1 occurs consistently throughout the Duchess area in close proximity to the top of the Torrens Member sandstone and is characteristically split into two benches. The parting is composed of claystone and varies in thickness from 15 centimeters in MUD 78-21 to two meters in MUD81-03. The total B1 thickness averages three meters in Duchess and thins northward in Boomerang to a 1.5 meter zone with numerous rock splits. Seam B1 averages 15% ash.

B1-B2 Interseam

The interval between B1 and B2 varies from two to ten meters. In Duchess East B2 is only two meters above B1. This interval, however, is increased to a maximum of 10 meters in Duchess West. The dominant lithology is claystone with intermittent siltstone bands.

Seam B2

Seam B2 splits into upper and lower benches in Duchess East. Seam B2 lower averages two meters in thickness and is situated two to three meters above B1. Seam B2 upper varies from two to twelve meters above B2 lower and has an average thickness of 60 centimeters. In Duchess West, B2 is not split and averages 50 centimeters in thickness and is located seven to ten meters above B1. The seam is very poorly developed in Boomerang.

Since B2 generally occurs very near B1, its thickness and quality parameters were combined with those of B1 to generate a single unit for resource calculations and quality tabulations.

B2-B3 Interseam

The interval between B2 and B3 averages 19 meters in Duchess East. The major lithology is siltstone grading to fine-grained sandstone. This interval thins in Duchess West to about five meters and is predominantly composed of siltstone.

Seam B3

Seam B3 is typically split into three benches in Duchess East. It averages four meters in thickness with an ash content of 18%. In Duchess West and Boomerang, B3 is only split into two benches which total two meters in thickness with a 21% ash content.

B3-B4 Interseam

The interseam thickness is highly variable between B3 and B4 in Duchess West ranging from eight to twenty-three meters. In Duchess East and Boomerang, the thickness is consistently 18 to 20 meters and this thickness persists northward into the Duke Pit area. Massive sandstones dominate this interval.

Seam B4

Seam B4 in Duchess East is lithologically similar to B4 in the Duke Pit area. The seam is split into two more or less equally thick benches totalling six meters of coal with a separation of 1.25 meters. The lower bench is virtually solid coal whereas the upper one is characterized by numerous thin rock partings.

In Duchess West and Boomerang, the entire seam thins to an average of 2.5 meters.

The ash content in Duchess East and West averages 22% whereas in Boomerang the seam is very clean with an ash content of only 9%.

B4-B5 Interseam

In Duchess East, the interval between B4 and B5 thickens from 15 meters in the northwest to 40 meters in the southeast. This interval is dominated by a succession of siltstones and claystones, cut in places by sandstone bodies which may represent channel deposits. In Duchess West and Boomerang this interval changes rapidly, ranging from 10 to 30 meters and is predominantly sandstone.

Seam B5

Seam B5 is generally dirty and characterized by partings throughout. The seam is split into two benches in MUD81-03 but only the upper bench persists to the south and west. In Duchess East, the seam averages 2.5 meters in thickness with average ash values of 25%. Seam B5 thins to 1.5 meters westward into Duchess West. In the Boomerang area, B5 is reduced to a couple of thin, uneconomic splits on the east flank of the syncline and apparently does not occur on the west flank at all.

B5-B7 Interseam

The interval between B5 and the uneconomical B6 is approximately 15 meters in Duchess East. In Duchess West the interval ranges

from five to fifteen meters. In MUD81-20, however, the interval increases to 50 meters. This anomalous thickness is believed to be caused by a major channel system represented by alternating coarse sandstone and conglomerate whereas elsewhere this interval is composed of sandstones and claystones.

Seam B6 is commonly represented by a pair of thin seams in the 0.5 to two meter thickness range. Both upper and lower seams pinch and swell rapidly.

The B6-B7 interval is approximately 10 meters thick. Interbedded siltstones and claystones make up the major lithologies but they are occasionally interrupted by sandstones which probably represent channel deposits.

Seam B7

Seam B7 is approximately one meter thick and has an ash content of 27% in Duchess East. The seam thickness increases to almost four meters in Duchess West and has an ash content comparable to Duchess East.

B7-B9 Interseam

The interval between B7 and uneconomical B8 is about 10 meters and is composed mainly of claystone in Duchess East. The interval thickens to an average of 50 meters of sandstones and siltstones in Duchess West. Seam B8 is characterized by a one to two meter zone of alternating coal and rock partings. B8-B9 interseam consists mainly of siltstones and claystones and has a consistent thickness

of 10 meters throughout Duchess East and West. Seams B7 and B8 are not present in Boomerang.

Seam B9

Seam B9 is a very well developed, laterally continuous seam characterized by the virtual absence of partings. It constitutes roughly 40-45% of the geological resource in Duchess and 35% in Boomerang. Seam B9 averages 5.5 meters in thickness in Duchess East with an ash content of 18%. Seam B9 thins to the west and north to three meters and this thickness persists into the Duke Pit area.

B9-B12 Interseam

The 75 meter interval between Seam B9 and B12 is represented by a cyclic repetition of thinly interbedded siltstones, claystones and sandstones with minor coal. Seams B10, B11 and B12 rarely exceed one meter in thickness but are laterally continuous extending northward into both the Duke and Honeymoon areas.

4.5 Structural Geology

4.5.1 Introduction

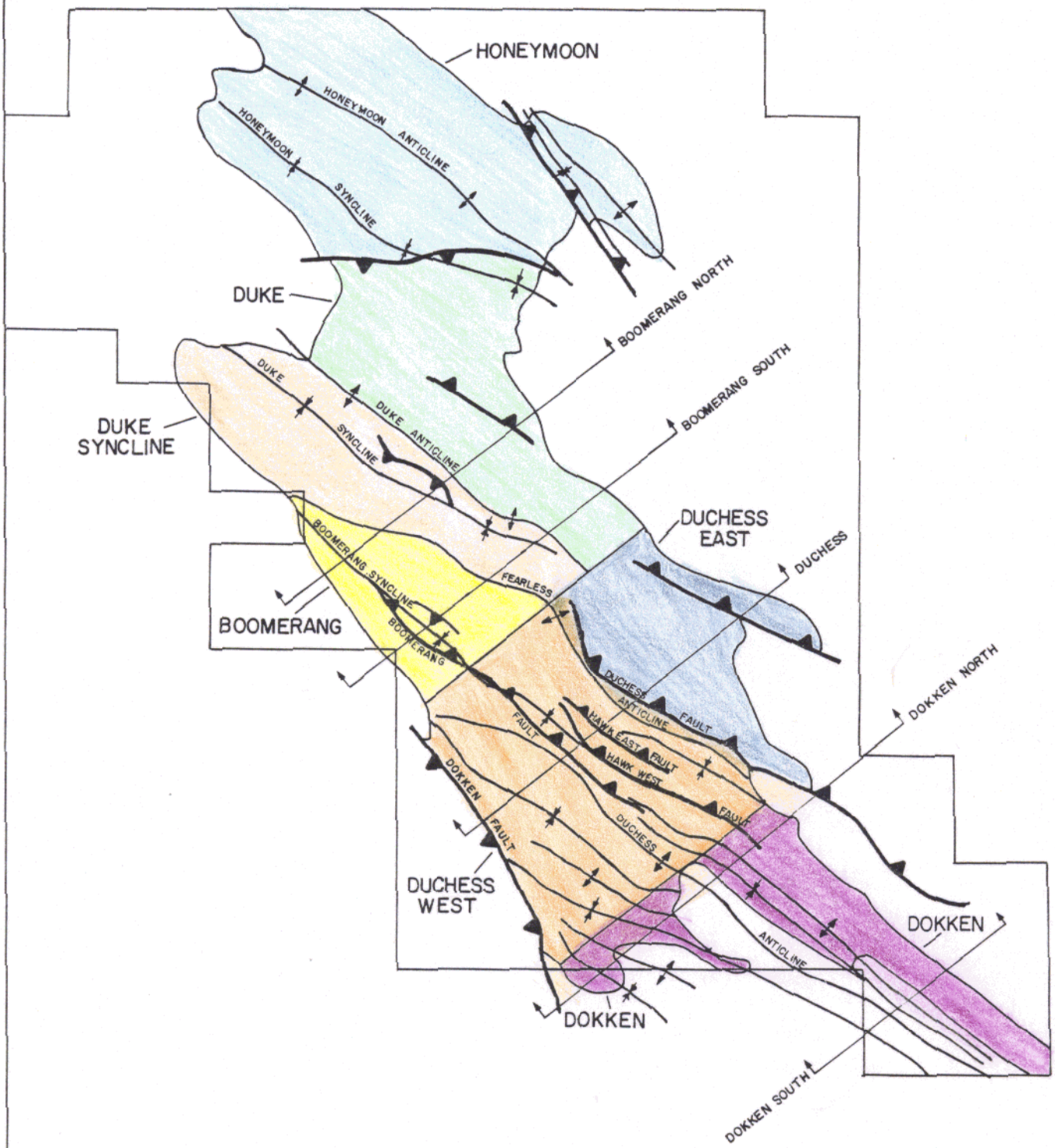
The Duchess area lies to the south of the Honeymoon and Duke Pit areas in the Duke Mountain Block. The area has been subdivided into three structural blocks: Boomerang, Duchess and Dokken

(Figure 4-3). The general structure can be described as an anticlinorium bounded on the east and west by thrust faults and complicated internally by zones of intense folding and faulting. Most structures strike roughly northwest-southeast. The coal-bearing Gates Formation strata outcrop intermittently along the entire strike length of this area. The accompanying structural plan (Figure 4-3) and cross-sections (Figures 4-4 to 4-9) illustrate the generalized structures in each block and should be referred to throughout the following discussions.

4.5.2 DUCHESS STRUCTURE

The Duchess structural block can be described as an anticlinorium bounded by west dipping thrust faults on the west and east dipping thrust faults on the east (Figure 4-5). The anticlinorium is complicated by a series of folds which were cut by east dipping thrust faults. Boulder Creek and younger strata are exposed over most of the Duchess area with some Gates strata outcropping in the central and eastern parts.

The anticlinorial axis is represented by the axis of the Duchess Anticline. This fold opens westward into a broad, open syncline where the Shaftesbury Formation is exposed. The syncline, in turn is paired to the west by a moderately open anticline near the western boundary of the block. The western limb of this anticline has been truncated by a major west dipping thrust, the Dokken Fault, which placed Jurassic-Cretaceous Minnes Group rocks on Cretaceous Boulder Creek Formation strata.



Generalized section locations.
Blocks generally bound by Cadomin / Gething and Shaftesbury / Boulder Creek contacts.

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DRAWN	P.J.H.
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MONKMAN COAL PROJECT

DUKE MOUNTAIN BLOCK
MAJOR STRUCTURAL BLOCKS

FIGURE 4-3

STRUCTURAL CROSS-SECTIONS

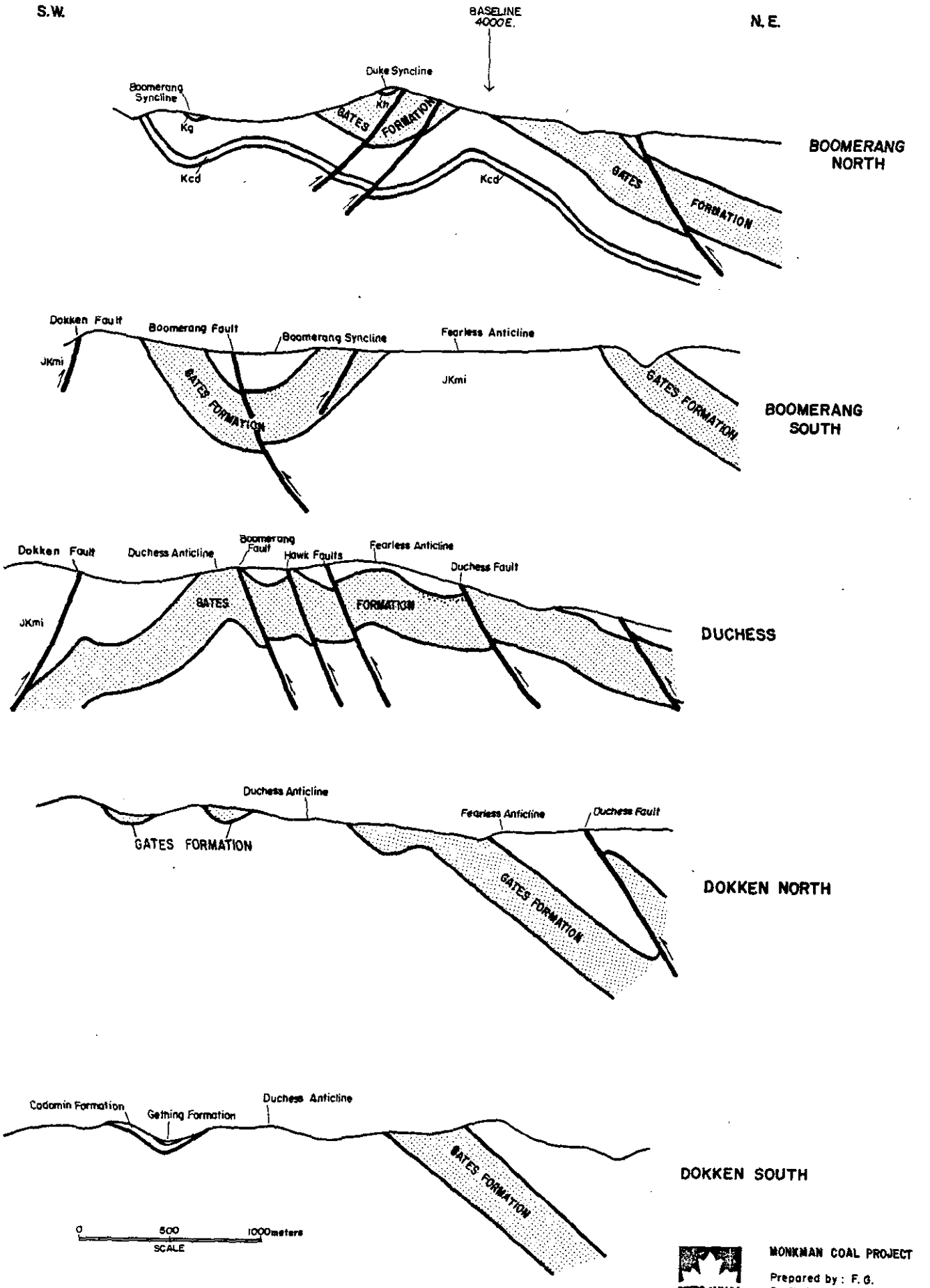
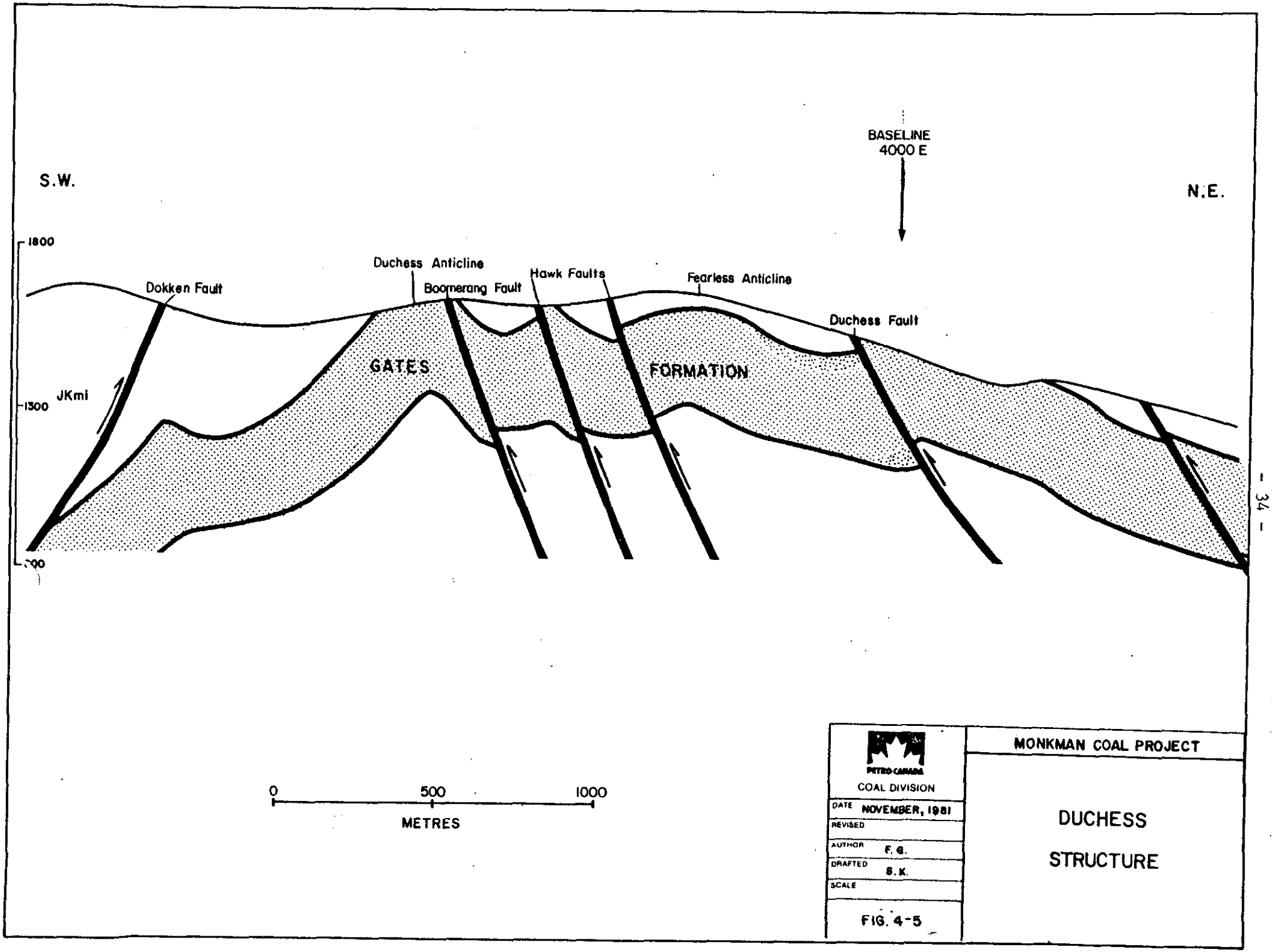


FIG. 4-4


S.W.
N.E.
BASELINE
4000 E
1800
1300
JKmi
Dokken Fault
Duchess Anticline
Boomerang Fault
Hawk Faults
Fearless Anticline
Duchess Fault
GATES
FORMATION
0
500
1000
METRES
PETRO-CANADA
COAL DIVISION
DATE NOVEMBER, 1981
REVISED
AUTHOR F. G.
DRAFTED B. K.
SCALE
FIG. 4-5
MONKMAN COAL PROJECT
DUCHESS
STRUCTURE

The east limb of the Duchess Anticline has been displaced by the Boomerang Fault, an east dipping thrust which extends northward from Duchess into the Boomerang area. Its displacement reached a maximum of 180 meters in Duchess and was reduced northward to zero in Boomerang. A series of anticlines and synclines east of the Boomerang Fault, in the central portion of the Duchess area, were cut by a pair of east dipping thrusts known locally as the Hawk Faults. The displacement on these two faults is somewhat less than that of the Boomerang fault; the westernmost reaches a maximum displacement of 120 meters and the eastern fault achieves a maximum displacement of 70 meters. Maximum displacement for both faults is attained in Duchess before dying out northward and southward, towards Boomerang and Dokken, respectively.

The upper plate of the eastern Hawk fault is comprised of an anticline-syncline pair exposing Boulder Creek and Hulcross sediments. The anticline (Fearless Anticline) is asymmetric and approaches a box-fold configuration. This fault plate is separated from the eastern, relatively undisturbed portion of the Duchess area by the east dipping Duchess Fault.

An entire section of Gates strata, capped by Hulcross and Boulder Creek sediments subcrops on the eastern portion of Duchess. Bedding dips increase from 15° near the Duchess Fault to 75° near Fearless Creek where the section is somewhat thickened by relatively minor faulting. Eastward from Fearless Creek the dip of the strata again decreases and the Boulder Creek forms a $25\text{-}30^{\circ}$ dip slope towards the east.

4.5.3 Dokken Structure

The complexities of the Duchess area diminish southward into the Dokken area where, in general, the structure is simpler. The intensely folded section in the vicinity of the Hawk Faults is replaced by relatively simple folds in Dokken. The Hawk and Boomerang Faults disappear. Dokken structure can be described as a series of relatively open folds bounded, to the southwest and northeast, by thrust faults contained within the Minnes Group and Shaftesbury Formation, respectively.

Dokken North

Dokken North can be described as a folded block bounded on the east by the Duchess Fault. A series of asymmetric anticlines and synclines exposes a Minnes through Shaftesbury sedimentary succession. The Duchess Anticline opens westward into a broad, open synclinorium where Gates Formation rocks outcrop. The west limb of this structure steepens and, in places, overturns as it is truncated by the Dokken Fault.

The east flank of the anticline is composed of Gates and younger strata which dip 35° to 45° towards the east. This area is bounded on the east by the Duchess Fault which, in this area, is completely contained within the Shaftesbury Formation.

Dokken South

The synclinorium west of the Duchess Anticline in Dokken North continues into Dokken South where Minnes, Cadomin, Gething and

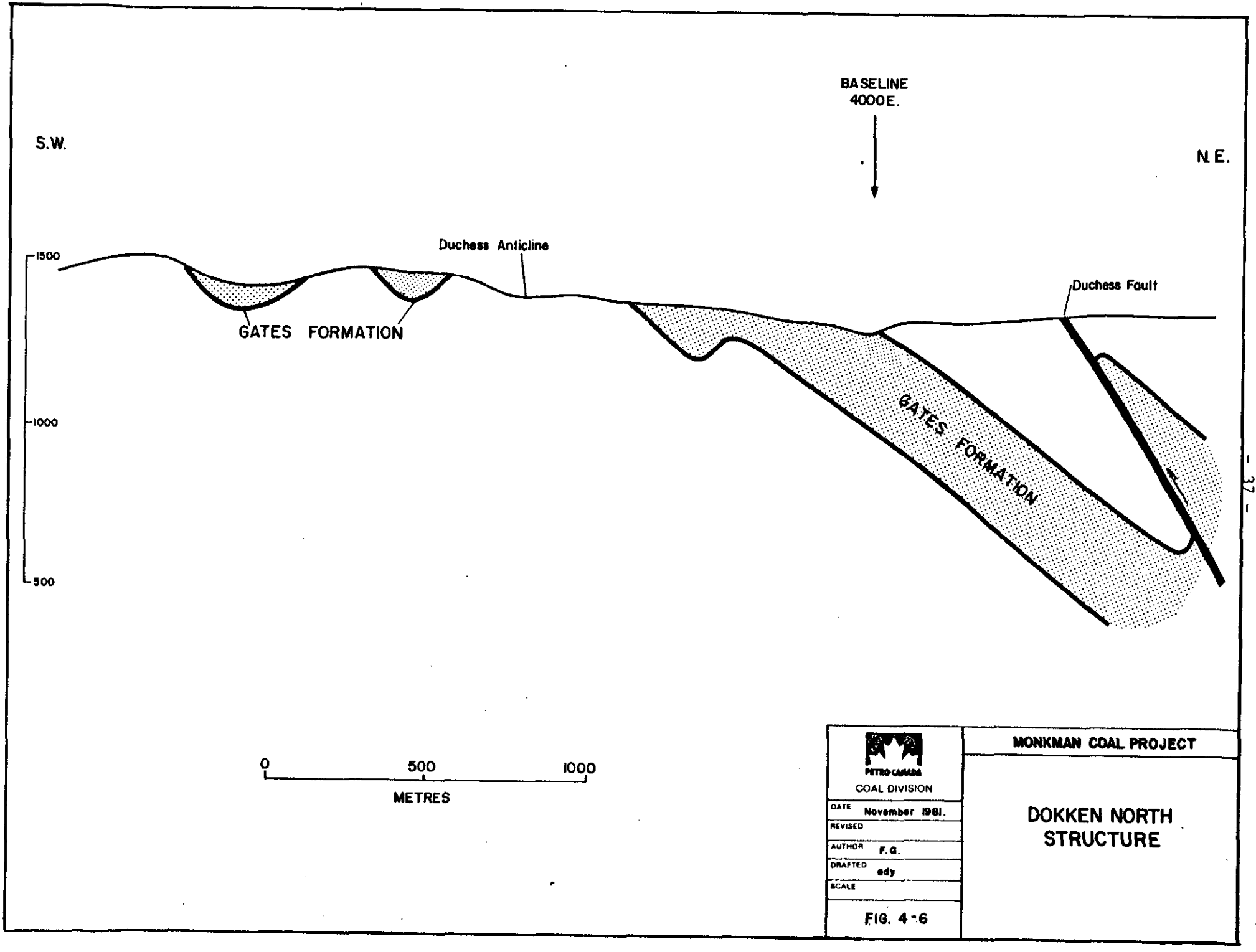

BASELINE
4000E.
S.W.
N.E.
1500
1000
500
Duchess Anticline
Duchess Fault
GATES FORMATION
GATES FORMATION
0
500
1000
METRES
PETRO-CANADA
COAL DIVISION
DATE November 1981.
REVISED
AUTHOR F.G.
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FIG. 4-6
MONKMAN COAL PROJECT
DOKKEN NORTH
STRUCTURE

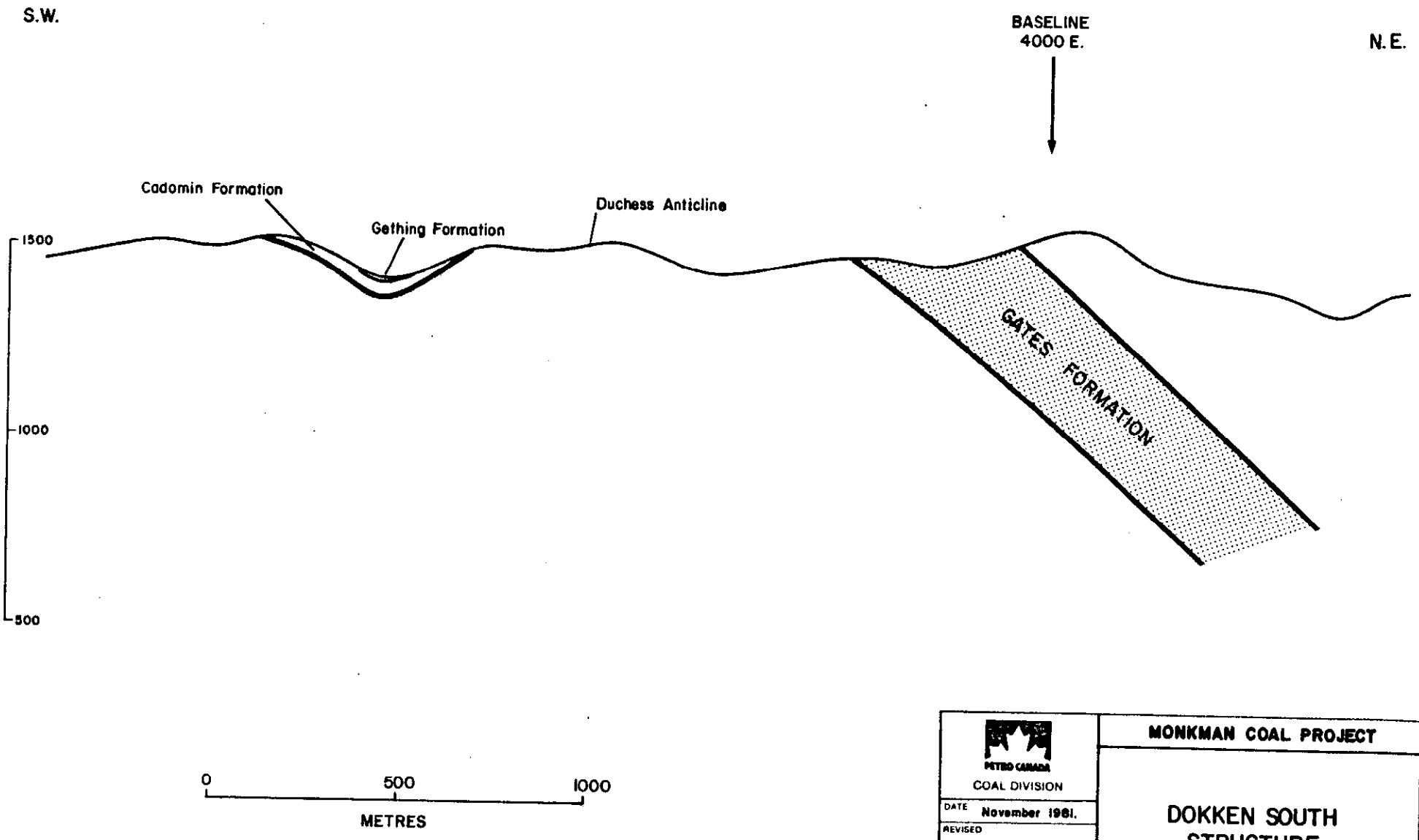

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FIG. 4-7

MONKMAN COAL PROJECT

DOKKEN SOUTH STRUCTURE

Moosebar strata are exposed. The Dokken Fault is entirely contained within Minnes and older rocks in Dokken South.

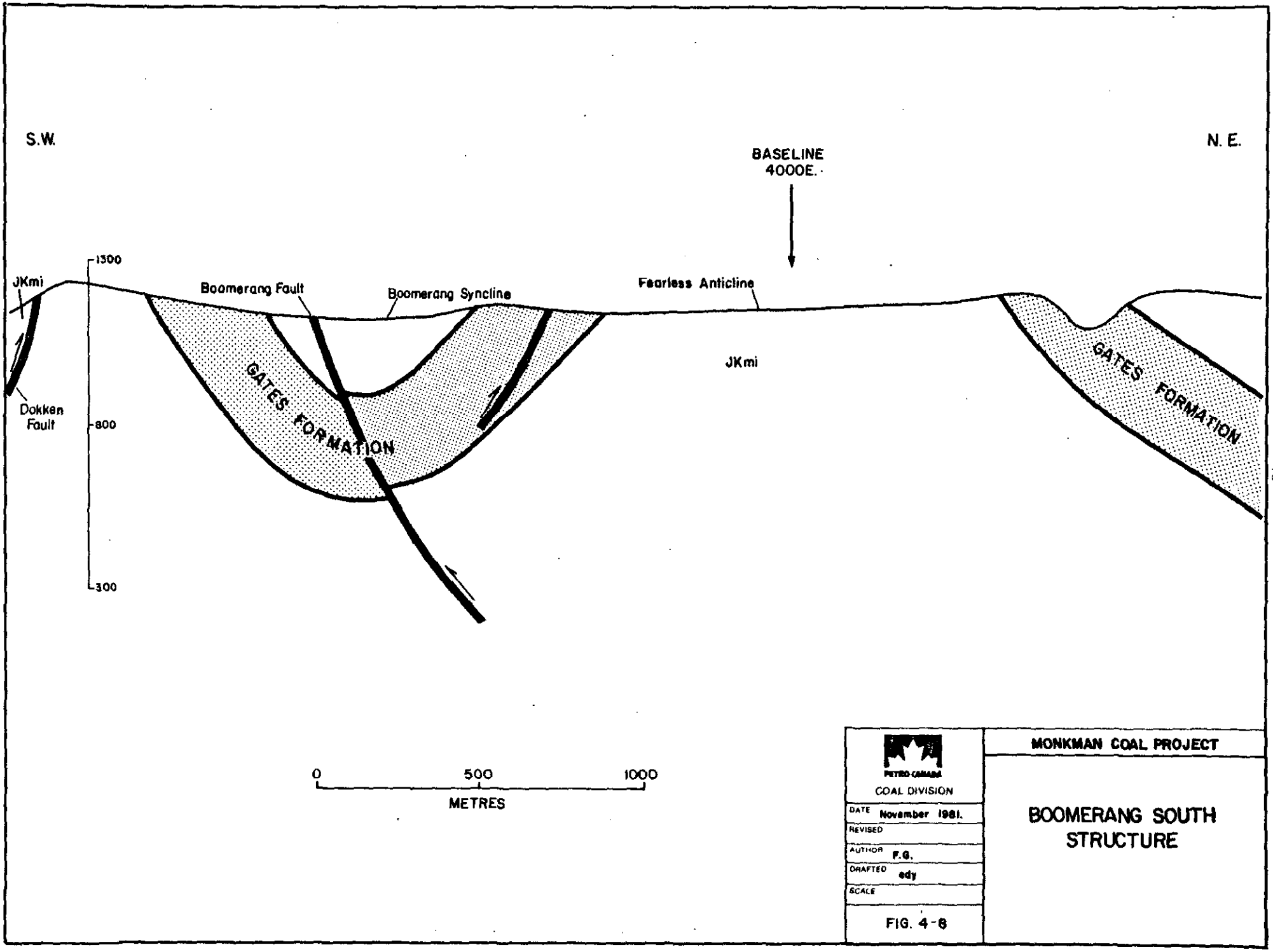
A relatively simple syncline-anticline pair west of the Duchess Anticline in South Dokken replaces the highly folded structural section between the Dokken Fault and the Duchess Anticline in Duchess. Both limbs of the syncline are steep (60°) but the eastern limb of the anticline dips less steeply (45°) to the east. The Duchess Fault is contained within Shaftesbury and younger rocks at the eastern edge of the Dokken Block.

4.5.4 Boomerang Structure

The intensity of deformation of the Duchess area is reduced northward into the Boomerang area. The Boomerang area is characterized by the broad, south plunging Boomerang Syncline and Fearless Anticline pair. Gates Formation strata are exposed on the limbs of the syncline whereas Hulcross and Boulder Creek sediments subcrop in the synclinal core. West of the syncline axis Cadomin and Minnes sediments are exposed and truncated by the Dokken Fault.

The Boomerang Fault cuts obliquely across the Boomerang Syncline. Displacement on this thrust is small (less than 50 meters) and the fault zone disappears in the northern part of Boomerang. A minor, west dipping thrust thickens the eastern limb of the Boomerang Syncline in the central portion of the Boomerang area. Maximum throw on this fault is less than 50 meters.

The Minnes Group subcrops in the Fearless anticlinal core east of the Boomerang Syncline. The Duchess Fault, extending from the


S.W.
N. E.
BASELINE
4000E.
1300
800
300
JKmi
Dokken
Fault
Boomerang Fault
Boomerang Syncline
Fearless Anticline
JKmi
GATES FORMATION
GATES FORMATION
0
500
1000
METRES
PETRO-CANADA
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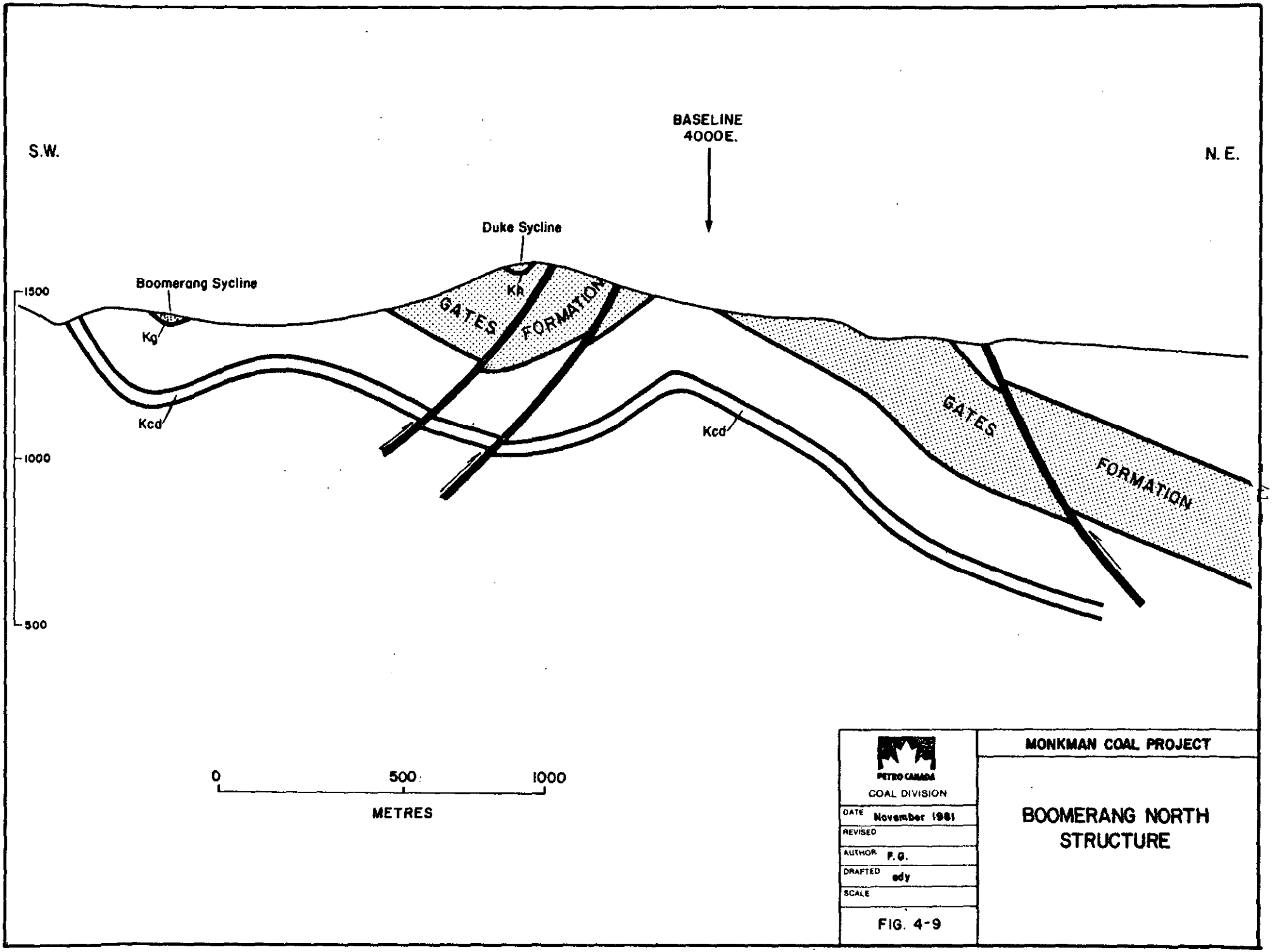
DRAFTED edy
SCALE
FIG. 4-6
MONKMAN COAL PROJECT
BOOMERANG SOUTH
STRUCTURE


S.W.
N.E.
BASELINE
4000E.
Duke Sycline
Boomerang Sycline
Kh
Kg
Kcd
Kcd
GATES FORMATION
GATES FORMATION
1500
1000
500
0
500
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METRES
PETRO CANADA
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FIG. 4-9
MONKMAN COAL PROJECT
BOOMERANG NORTH STRUCTURE

Duchess area, disappears northward within the Minnes Group and is not present in Boomerang.

4.5.5 East Honeymoon Structure

Re-interpretation of the northeastern corner of the Duke Mountain Block in 1980 was made necessary by the information provided by a 1980 drill hole which encountered twice the normal thickness of Hulcross Formation. The interpretation which best fit the known information was that of an east dipping thrust fault with a displacement in the order of 80 meters trending northwest-southeast. The syncline-anticline pair originally interpreted in the area were retained. Lack of additional information resulted in open ended geologic contacts with the chance of near surface Gates Formation to the northeast. To complete the geologic interpretation, three new licences, obtained in 1980, were explored.

In March of 1981, three hammer holes were drilled in this area, two of which were located on the new licences. All three holes penetrated only Shaftesbury sediments. With this conclusive evidence, a final interpretation of the area has been made with adjustments in the trend and location of the fault trace and the synclinal and anticlinal axes. The southeasterly plunge of the anticline and syncline has resulted in an elongated trend of Boulder Creek and Hulcross Formations to the southeast. The primary difference in this new interpretation is that the geologic contacts are now closed and the possibility of other areas of near surface Gates sediments has been eliminated.

5 RESOURCES

5.1 Geologic Resources

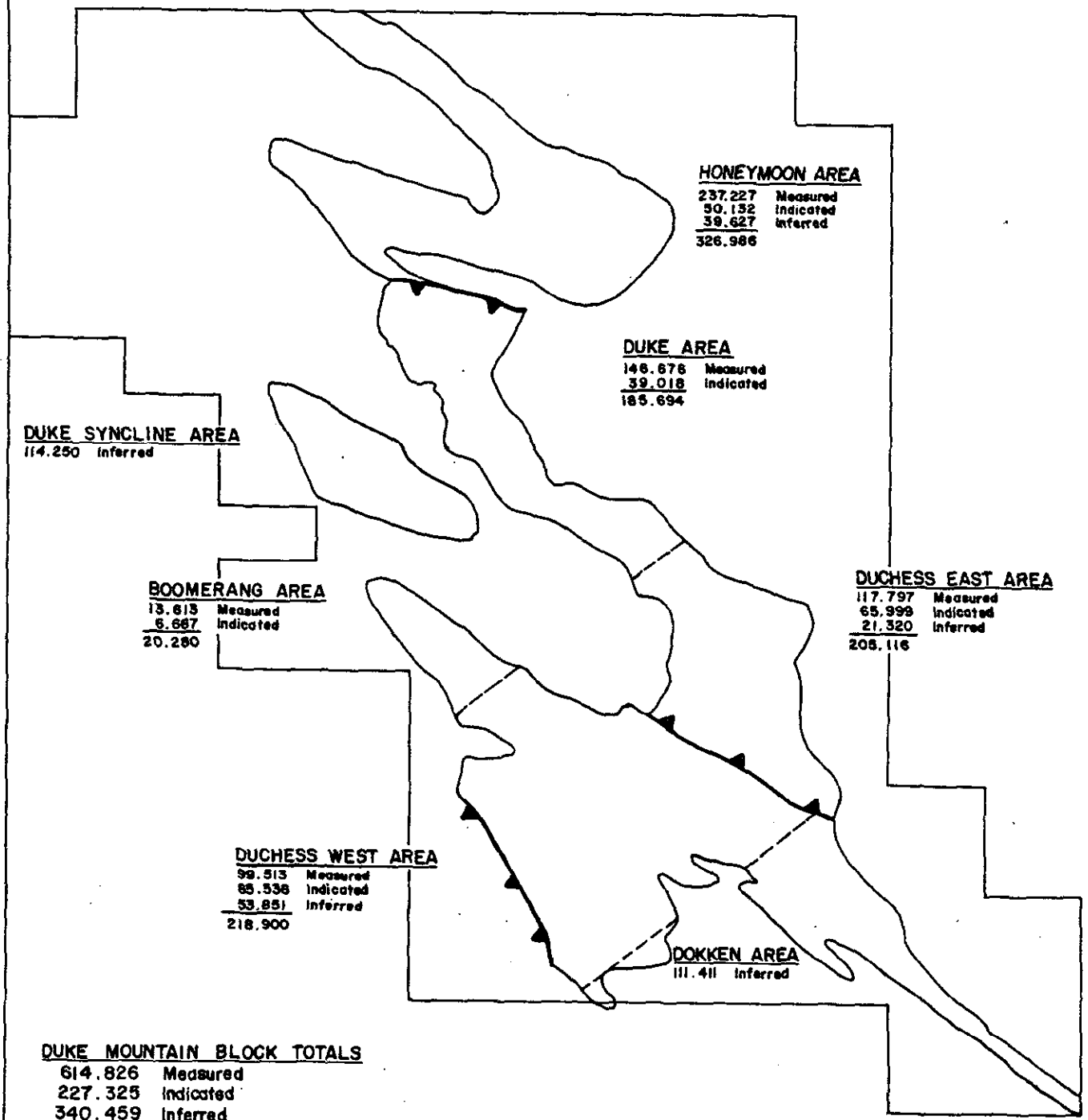
The total, in-place coal resource potential of the Duke Mountain Block has been revised with the addition of new information gathered from the Duchess area. In-place resources for the Duke Mountain Block total 1,182.637 million tonnes in all confidence categories. The contribution from the Duchess area is 555.707 million tonnes, in all confidences. Duchess area resources are tabulated with respect to the individual structural blocks (defined in Section 4). Total in-place resources, within all confidence categories for these blocks are: Boomerang, 20.280 million tonnes; Duchess West, 218.900 million tonnes; Duchess East, 205.116 million tonnes and Dokken, 111.411 million tonnes. These results are provided on Figure 5-1 and in Table 5-1. Additional breakdown of the resources by seam is provided in Tables 5-2 to 5-5 at the end of this section.

5.2 Methodology

5.2.1 Criteria

The following criteria were used to establish confidence limits for resource calculations:

- minimum mineable seam thickness is one meter for 0 to 200 meters vertical depth and three meters for 200 to 500 meters vertical depth.



DUKE MOUNTAIN BLOCK TOTALS

614.826	Measured
227.325	Indicated
340.459	Inferred
1,182.637	

Resources quoted in millions of tonnes. Areas generally bound by B1 subcrop and 500 metre cover line on B9.

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	GEOLOGIC
AUTHOR E.G.P.	RESOURCES
DRAFTED P.J.H.	
SCALE 1:100 000	FIGURE 5-1

TABLE 5-1

MONKMAN COAL PROJECT

GEOLOGICAL RESOURCE SUMMARY - DUKE MOUNTAIN BLOCK

(MILLIONS OF METRIC TONNES)

AREA	MEASURED	INDICATED	INFERRED	1981* TOTAL BY AREA	
HONEYMOON	237.227	50.132	39.627	326.986	
DUKE	146.676	39.018	-	185.694	
DUCHESS EAST	117.797	65.999	21.320	205.116	
DUCHESS WEST	99.513	65.536	53.851	218.900	
DOKKEN	-	-	111.411	111.411	
BOOMERANG	13.613	6.667	-	20.280	
DUKE SYNCLINE	-	-	114.250	114.250	
1981 TOTAL BY CONFIDENCE	614.826	227.325	340.459	1,182.637	
PREVIOUS TOTAL BY CONFIDENCE	383.953	284.150	562.787	-	1,230.840

* Due to major changes in the resource area boundaries, comparison between the 1980 and 1981 totals by area would have been meaningless.

- "measured resource" means any resource within 500 meters of a true thickness data point, measured along the seam, subject to the above thickness and depth restrictions.

- "indicated resource", similarly, 500 to 1000 meters from a data point.

- "inferred resource", similarly, beyond 1000 meters from a data point.

- in-situ specific gravities were assigned to each mining section based on selected laboratory analyses.

5.2.2 Method of Calculation

The Duchess Fault is regarded as the western boundary of Duchess East and the method of calculation of resources differs somewhat on either side of the fault.

5.2.2.1 Duchess East

The isopach method of calculation was used for Duchess East, where the structural geology is relatively simple. Isopach maps were generated for every mineable seam and the 200 meter and 500 meter depth lines and the resource confidence limits were superimposed on these maps.

The resulting segments, based on the previously outlined criteria, were planimetered. Each segment was corrected for dip and the true volume was then multiplied by the specific gravity for that seam to give coal quantity, in tonnes.

5.2.2.2 Duchess West, Dokken and Boomerang

The cross-section method was used to calculate resources in the Duchess West, Dokken and Boomerang areas where the structure is relatively complex and/or data points relatively scarce. Isopachs were generated for each mineable seam and confidence limits were measured on cross-sections and plans. These measurements were then combined to produce confidence areas on the isopach plans. The established confidence areas were then projected onto the cross-sections upon which were also placed the 200 and 500 meter vertical depth limits and the isopach thicknesses. The resulting seam lengths and thicknesses within each confidence and depth limit were multiplied by cross-section influence and assigned specific gravity to give coal resource values in tonnes. Specific gravity values were assigned to mining sections based on selected laboratory analyses. Cross-section influence was defined as the distance on either side of a section, along strike, equal to one-half the distance between adjacent cross-sections which, in most cases, was 500 meters.

TABLE 5-2

MONKMAN COAL PROJECT

GEOLOGIC RESOURCES - DUCHESS EAST*

Seam	Measured	0-200 m Indicated	Inferred	Sub-Total 0-200 m	Measured	201 m - 500 m Indicated	Inferred	Sub-Total 201-200 m	Total 0-500 m
B-9	16,701,060	1,478,490	2,185,144	20,364,694	11,765,596	33,035,357	3,682,893	48,483,846	68,848,540
B-7	1,504,334	561,676	479,087	2,545,097	-	-	-	-	2,545,097
B-5	9,971,787	549,204	-	10,520,991	10,441,788	6,640,789	7,279,906	24,362,483	34,883,474
B-4	17,965,439	1,497,218	-	19,462,657	22,322,161	14,231,527	5,068,663	41,622,351	61,085,008
B-3	3,924,189	-	-	3,924,189	-	-	-	-	3,924,189
B2-B1	6,536,722	2,110,351	-	8,647,073	16,664,275	5,895,098	2,624,332	25,183,705	33,830,778
TOTAL BY CONFIDENCE AND DEPTH:									
	56,603,531	6,196,939	2,664,231	65,464,701	61,193,820	59,802,771	18,655,794	139,652,385	205,117,086

CONFIDENCE TOTAL:

Seam	Measured	Indicated	Inferred	0-500 m
B-9	28,466,656	34,513,847	5,868,037	68,848,540
B-7	1,504,334	561,676	479,087	2,545,097
B-5	20,413,575	7,189,993	7,279,906	34,883,474
B-4	40,287,600	15,728,745	5,068,663	61,085,008
B-3	3,924,189	-	-	3,924,189
B2-B1	23,200,997	8,005,449	2,624,332	33,830,778
TOTAL BY CONFIDENCE 0-500 m:				
	117,797,351	65,999,710	21,320,025	205,117,086

* From cross-section 6,000 N to 10,500 N and from the Duchess Fault east.

TABLE 5-3

MONKMAN COAL PROJECT

GEOLOGICAL RESOURCES - DUCHESS WEST*

SEAM	MEASURED	0 - 200 M INDICATED	INFERRED	SUB-TOTAL 0 - 200 M	MEASURED	201-500 M INDICATED	INFERRED	SUB-TOTAL 201-500 M	TOTAL 0 - 500 M
B9	14,613,784	15,452,920	1,494,640	31,561,344	27,853,578	16,174,702	-	44,028,280	75,589,624
B7	12,613,115	6,043,418	4,528,893	23,185,426	15,058,830	4,143,048	-	19,201,878	42,387,304
B5	2,333,796	1,243,100	2,637,325	6,214,221	-	-	-	-	6,214,221
B4	6,113,272	4,878,216	14,079,137	25,070,625	12,523,597	8,450,600	11,207,772	32,181,972	57,252,597
B3	4,269,056	3,621,938	4,835,063	12,726,057	-	-	-	-	12,726,057
B2-B1	3,626,962	1,239,875	12,382,195	17,249,032	507,325	4,288,550	2,686,145	7,482,020	24,731,052
TOTAL BY CONFIDENCE AND DEPTH	43,569,985	32,479,467	39,957,253	116,006,705	55,943,330	33,056,900	13,893,917	102,894,150	218,900,855

SEAM	MEASURED	CONFIDENCE INDICATED	INFERRED	TOTAL 0 - 500 M
B9	42,467,362	31,627,622	1,494,640	75,589,624
B7	27,671,945	10,186,466	4,528,893	42,387,304
B5	2,333,796	1,243,100	2,637,325	6,214,221
B4	18,636,869	13,328,816	25,286,912	57,252,597
B3	4,269,056	3,621,938	4,835,063	12,726,057
B2-B1	4,134,287	5,528,425	15,068,340	24,731,052
TOTAL BY CONFIDENCE	99,513,315	65,536,367	53,851,173	218,900,855

* From cross-section 6,000N to 10,500N and between the Dokken Fault and the Duchess Fault

TABLE 5-4

GEOLOGIC RESOURCES - DOKKEN*

Seam	Measured	0-200 m Indicated	Inferred	Sub-Total 0-200 m	Measured	201-500 m Indicated	Inferred	Sub-Total 201-500 m	Total 0-500 m
B-9			15,187,200	15,187,200			26,174,400	26,174,400	41,361,600
B-7			9,419,925	9,419,925			12,812,925	12,812,925	22,232,850
B-5			3,547,950	3,547,950			-	-	3,547,950
B-4			13,403,250	13,403,250			14,994,000	14,994,400	28,397,250
B-3			4,561,500	4,561,500			-	-	4,561,500
B2-B1			11,310,250	11,310,250			-	-	11,310,250
TOTAL BY CONFIDENCE AND DEPTH			57,430,075	57,430,075			72,976,725	72,976,725	111,411,400

*Cross-section 0 to 5500 N

TABLE 5-5

MONKMAN COAL PROJECT

GEOLOGIC RESOURCES - BOOMERANG*

Seam	0-200 m Measured	0-200 m Indicated	0-200 m Inferred	Sub-Total 0-200 m	201 - 500 m Measured	201 - 500 m Indicated	201 - 500 m Inferred	Sub-Total 201-500 m	Total 0-500 m
B-9	4,485,320	2,242,660	-	6,727,980	295,295	-	-	295,295	7,023,275
B-4	3,527,761	1,763,880	-	5,291,641	-	-	-	-	5,291,641
B-3	4,216,065	2,107,897	-	6,323,962	125,775	-	-	125,775	6,449,737
B-1	962,290	552,825	-	1,515,115	-	-	-	-	1,515,115
TOTAL BY CONFIDENCE AND DEPTH:									
	13,191,436	6,667,262	-	19,858,698	421,070	-	-	421,070	20,279,768

CONFIDENCE TOTAL:

Seam	Measured	Indicated	Inferred	0-500 m
B-9	4,780,615	2,242,660	-	7,023,275
B-4	3,527,761	1,763,880	-	5,291,641
B-3	4,341,840	2,107,897	-	6,323,962
B-1	962,290	552,825	-	1,515,115
TOTAL BY CONFIDENCE:				
	13,612,506	6,667,262	-	20,279,768

* From section 11,000 N to 14,000 N

6 COAL QUALITY

6.1 Drill Core Testing

Coal core was sampled in all cases where the true thickness was 0.5 meters or greater. All core was lithologically logged and depth measurements were adjusted to the detailed sidewall density log which was run through the coal zones. With the aid of this log the lithologies and locations of lost core were determined. Sample intervals were defined by ash content, core loss and lithology change. The quality of lost core was estimated from the densilog trace.

The coal core was shipped to the laboratory as soon as possible after sampling in order to minimize coal oxidation. The individual samples were analysed for moisture, ash content and free swelling index. The results of these analyses were used to determine composite mining section samples. Figure 6-1 outlines the test procedures applied to the core samples.

6.2 Summary of Results

6.2.1 Introduction

The Duchess coals have been analysed for both coking and thermal properties. The laboratory washability program used in the previous investigations of Monkman coal, which was designed for metallurgical coals, was used again for the Duchess area. The resulting clean coal ash values are, therefore, a little lower than

1981 DRILL CORE ANALYTICAL PROCEDURES

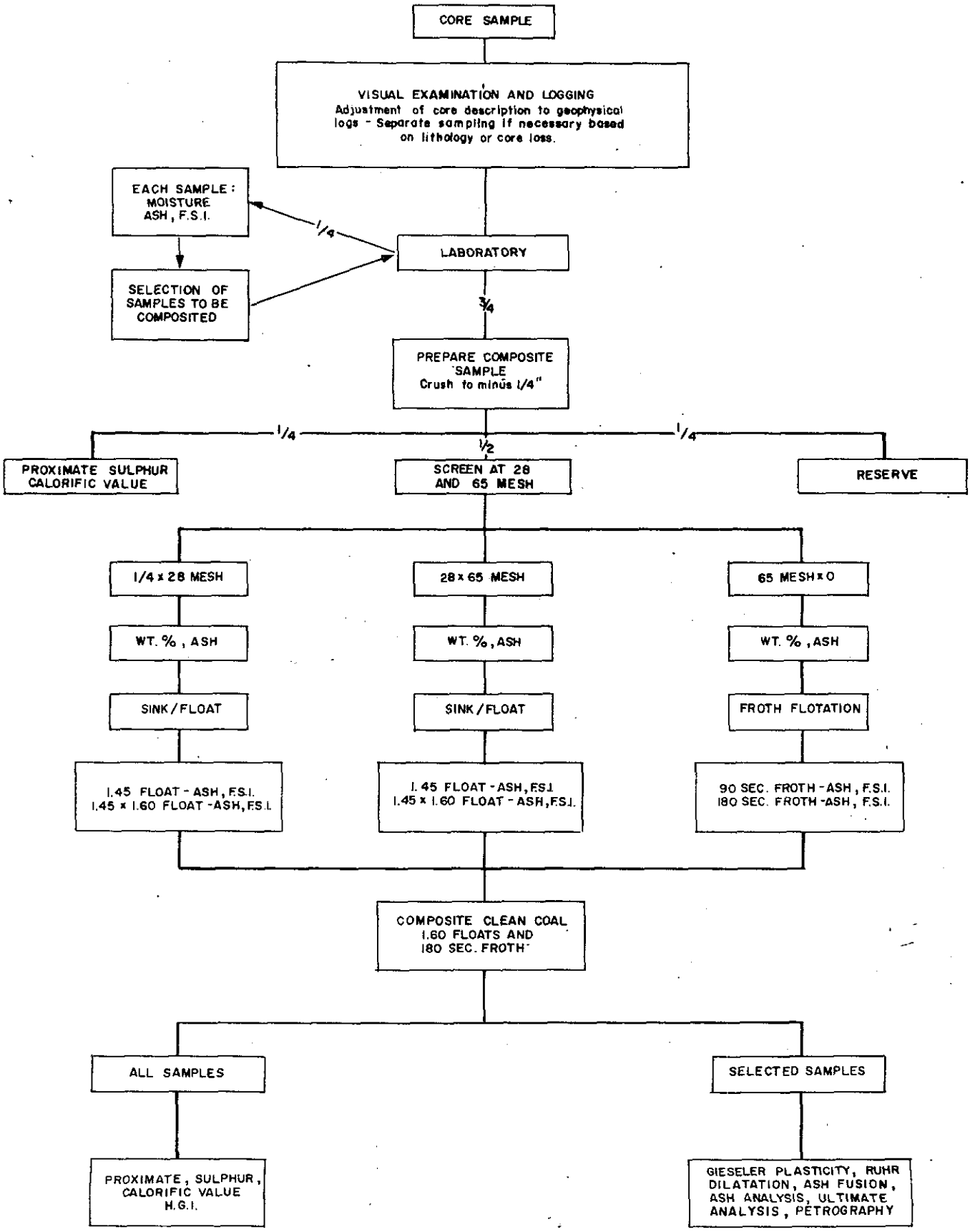


Figure 6-1

TABLE 6-1

MONKMAN COAL PROJECT

MINING SECTION QUALITY ANALYSIS

SUMMARY

AREA: DUCHESS & BOOMERANG

			Raw Coal - ADB							Clean Coal - ADB									
Seam	Area	% Core Rec.	% Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	kJ/kg	% Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
B-9	Duchess East	96	0.87	18.61	21.84	58.68	0.31	2.5	28,258	0.91	8.57	23.83	66.69	0.34	3.5	0.08	79.36	72	31,910
	Duchess West	86	0.83	20.14	21.85	57.18	0.39	2	27,952	0.51	9.22	23.51	66.76	0.45	3	0.06	76.27	70	31,766
B-7	Duchess East	92	0.63	23.49	21.63	54.25	0.59	5	27,459	0.80	9.85	24.99	64.36	0.58	6.5	0.21	71.03	87	31,491
	Duchess West	91	0.77	21.63	23.33	54.27	0.37	6	26,157	0.76	5.99	26.41	66.84	0.42	7.5	0.12	74.82	97	33,629
B-5	Duchess East	87	0.81	25.12	19.68	54.39	0.41	3	28,589	0.72	10.44	23.77	65.07	0.49	6	0.18	75.13	79	31,405
	Duchess West	82	0.78	33.91	21.76	43.55	0.42	5	22,781	0.92	11.17	22.31	65.60	0.57	8	0.15	60.61	81	30,793
B-4	Duchess East	73	0.88	22.87	20.81	55.44	0.29	4.5	26,601	0.89	9.63	23.95	65.53	0.34	7	0.21	75.19	83	32,784
	Duchess West	91	0.56	20.79	21.29	57.36	0.40	5	27,876	0.70	7.21	22.66	69.43	0.44	7	0.23	73.37	77	32,222
	Boomerang	85	0.72	9.09	22.31	67.88	0.46	7	-	0.76	5.11	23.31	70.82	0.45	7	-	91.51	-	-
B-3	Duchess East	89	0.69	18.36	21.18	59.77	0.59	6	28,969	0.83	7.69	23.39	68.09	0.65	7.5	0.28	77.95	84	33,143
	Duchess West	75	0.76	21.98	20.94	56.32	0.51	5	27,889	0.68	8.80	23.19	67.33	0.53	7	-	75.34	72	31,789
	Boomerang	76	0.68	21.27	21.30	56.75	0.47	6.5	-	0.70	7.87	23.70	67.73	0.54	8	-	74.77	-	-
B2-B1	Duchess East	92	0.64	17.20	20.93	61.23	0.38	6	29,815	0.74	7.34	23.37	68.55	0.42	7	0.07	78.18	79	32,832
	Duchess West	86	0.64	12.53	22.61	64.22	0.42	7.5	31,722	0.39	7.68	24.91	67.02	0.43	7	-	79.02	78	33,448

TABLE 6-2

MONKMAN COAL PROJECT

ASH ANALYSIS

SUMMARY

Seam No.	Area	SiO_2 %	Al_2O_3 %	TiO_2 %	Fe_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	P_2O_5 %	SO_3 %	UNDETER. %
B-9	Duchess East	54.00	21.90	1.05	4.46	6.23	2.66	1.22	0.44	1.58	4.74	1.72
B-7	Duchess East	72.17	17.44	1.01	0.93	2.24	0.46	0.62	1.06	1.72	0.62	1.73
B-5	Duchess East	54.80	25.71	1.38	1.93	4.59	1.59	0.11	0.24	1.68	5.68	2.29
	Duchess West	66.50	24.76	0.80	1.21	1.04	0.68	0.75	0.66	0.96	0.79	1.85
B-4	Duchess East	59.35	22.98	1.25	2.67	3.88	1.50	0.85	0.51	1.41	3.52	2.10
	Duchess West	67.06	20.05	0.78	2.22	2.10	0.85	0.86	0.60	2.29	1.28	1.91
B-3	Duchess East	60.70	24.51	1.25	1.39	2.37	0.80	0.60	0.74	4.13	1.20	2.31
	Duchess West	73.20	19.95	0.78	1.29	0.77	0.48	0.92	0.54	0.08	0.48	1.51
B2-B1	Duchess East	69.12	22.90	1.58	1.23	0.56	0.33	0.90	0.53	0.07	0.42	2.36
	Duchess West	66.69	19.42	0.71	2.72	3.27	1.08	1.21	0.42	0.05	2.86	1.57

TABLE 6-5

DUCHESS COAL : BASIC THERMAL PARAMETERS

	Raw Coal (Dry Basis)				Washed Coal (Dry Basis)					Petrography	Ash Fusion ID (reducing)
Seam	% Ash	% dmmf VM	% S	(kJ/kg) Cal. Val.	% Ash	% dmmf VM	% S	(kJ/kg) Cal.Val.	Na_2O in Ash	% Inerts	°C
B-9	18.8	25.4	0.31	28,506	8.6	25.6	0.34	32,203	1.28	37.9	1288
B-7	27.6	25.6	0.53	25,947	9.9	27.1	0.59	31,780	0.62	27.4	1450+
B-5	25.3	24.0	0.41	28,822	10.5	25.8	0.49	31,633	0.43	32.2	1450+
B-4	23.1	25.0	0.29	26,837	9.7	25.9	0.34	33,078	0.85	32.4	1450+
B-3	18.5	24.4	0.59	29,170	7.8	24.9	0.65	33,420	0.76	29.4	1450+
B1-B2	17.3	23.8	0.38	30,007	7.4	24.8	0.42	33,077	1.05	31.6	1450+

TABLE 6-6
MONKMAN COAL PROJECT
ASH FUSION ANALYSIS
SUMMARY

Seam No.	Area	Reducing Atmosphere I.D. (°F)	H=W (°F)	H=0.5W (°F)	Fluid (°F)	Oxidizing Atmosphere I.D. (°F)	H=W (°F)	H=0.5W (°F)	Fluid (°F)
B-9	Duchess East	2336	2452	2449	2564	2383	2463	2503	2578
B-7	Duchess East	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B-5	Duchess East	2614	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	Duchess West	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B-4	Duchess East	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	Duchess West	2543	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B-3	Duchess East	2481	+2650	+2650	+2650	2501	+2650	+2650	+2650
	Duchess West	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B2-B1	Duchess East	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	Duchess West	2503	2588	2603	+2650	2583	2643	+2650	+2650

TABLE 6-7

MONKMAN COAL PROJECT

ULTIMATE ANALYSIS - AIR DRIED

SUMMARY

Seam No.	Area	H_2O %	C %	H %	N %	Ash %	S %	O (Diff.) %
B-9	Duchess East	1.03	75.92	4.29	0.95	8.68	0.37	8.43
	Duchess West							
B-7	Duchess East	0.66	77.09	4.45	0.83	10.87	0.63	5.47
	Duchess West							
B-5	Duchess East	0.77	74.34	4.27	0.79	6.90	0.39	12.54
	Duchess West	0.60	74.43	3.75	0.83	11.21	0.57	8.61
B-4	Duchess East	1.30	73.51	4.48	0.90	8.40	0.28	11.10
	Duchess West	0.57	80.88	5.06	0.92	7.07	0.46	5.04
B-3	Duchess East	1.68	75.07	4.24	0.66	6.85	0.66	10.84
	Duchess West	0.60	77.67	4.65	0.97	9.83	0.64	5.64
B2-B1	Duchess East	1.09	75.69	4.37	0.63	5.90	0.46	11.87
	Duchess West	0.44	80.52	5.08	0.88	6.95	0.48	5.65

TABLE 6-8

MONKMAN COAL PROJECT

SCREEN ANALYSIS

SUMMARY

AREA: DUCHESS & BOOMERANG

		1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
SEAM	AREA	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
B-9	DUCHESS EAST	88.07	19.89	7.39	14.01	4.54	18.05
	DUCHESS WEST	84.80	22.86	8.98	14.35	6.22	16.35
B-7	DUCHESS EAST	84.24	25.88	9.37	21.19	6.39	22.97
	DUCHESS WEST	81.11	22.42	11.40	12.89	7.49	14.92
B-5	DUCHESS EAST	81.54	27.66	10.48	18.98	7.98	20.57
	DUCHESS WEST	87.80	35.99	7.76	18.24	4.44	16.82
B-4	DUCHESS EAST	82.25	24.70	10.68	14.28	7.07	16.17
	DUCHESS WEST	87.58	21.20	7.69	11.39	4.73	17.52
	BOOMERANG	85.21	7.68	9.17	7.03	5.62	7.25
B-3	DUCHESS EAST	82.93	19.55	10.65	13.99	6.42	13.60
	DUCHESS WEST	88.25	24.04	7.53	14.18	4.22	16.74
	BOOMERANG	85.10	23.17	9.03	12.05	5.87	11.81
B2-B1	DUCHESS EAST	82.95	19.53	10.30	12.88	6.75	13.58
	DUCHESS WEST	81.00	24.73	11.39	18.25	7.61	18.52

7 NEKIK BLOCK

7.1 Introduction

The Nekik Block consists of seven coal licences and is the southernmost of the Wapiti Dip Slope Blocks. It is situated just north of the Narraway River in a flat valley between Nekik Mountain and the Front Ranges of the Rocky Mountains. The valley is almost completely covered with marsh vegetation and conifers. Outcrop within the area is very limited and is restricted to the southern portion of the valley which slopes towards the Narraway River. Overburden depth, where drilled, varies from less than two to almost fifty meters. Most of the outcrops are composed of resistant conglomerates of the Cadomin and Gething Formations. These strata are exposed in the southern portion of the block and east of the block on Nekik Mountain. The western side of the valley is formed by overthrusted Paleozoic carbonates. Geologic maps, structure contours and cross-sections for the Nekik Block are provided in Appendix C.

7.2 1981 Exploration

Geologic mapping was limited to check traverses since most of the limited outcrop was mapped prior to 1981.

Two diamond holes were drilled on the Nekik Block in a joint venture with Crows Nest Resources Ltd. The holes were drilled by Midwest Drilling with two Boyles 25A NQ drills.

7.3 Geology

7.3.1 Introduction

The Nekik Block encompasses the southern extension of the Wapiti Dip Slope which exposes Minnes through Shaftesbury sediments along a northwest-southeast trending valley adjacent to the Rocky Mountain Front Ranges.

7.3.2 Stratigraphy

Outcrop is very limited within the Nekik Block. Stratigraphic information has been projected from better exposed areas to the north and from drill hole intersections on Nekik and on blocks north of Nekik. The Nekik drill holes, MND81-01 and MND81-02, intersected lower Gates, Moosebar and Gething Formations. A 4.18 meter thick seam was encountered in the lower Gates in MND81-01 and has been identified as B3. Claystones, siltstones and fine to medium grained sandstones were intersected below the seam. These, in turn, were underlain by the coarse grained Torrens sandstone. Interbedded claystone, siltstone and, in the upper portion, sandstone of the Moosebar Formation was intersected in both holes. The Moosebar Formation on Nekik is 60 meters thick. Sediments within the upper portion of the Gething Formation consist predominantly of sandstone, siltstone and claystone with some coal.

One seam, averaging 2.93 meters thick, was intersected a short distance below the Moosebar-Gething contact. The lower portion of the Gething is very conglomeratic. Basal Gething conglomerates

consist of chert and quartzite cobbles very similar to those of the underlying Cadomin Formation and the contact between these formations is difficult to define. The combined thickness of the Gething and Cadomin Formations in Nekik is 188 meters. The Cadomin is roughly 40 meters thick. The lower contact of the Cadomin was chosen as the base of the oldest conglomerate outcropping in the area. Sandstones outcropping below this conglomerate are thought to be contained within the upper portion of the Minnes Group.

The stratigraphy of the Gates Formation above B3 and of the overlying formations in Nekik can only be surmised from projections of the geology to the north. Crows Nest Resources Ltd. drill holes intersected three seams above B3 in the Gates Formation just north of the Nekik Block. These seams have been identified as B4, B7 and B9 with average thicknesses of 3.63 meters, 2.55 meters and 1.70 meters respectively.

The projected thickness of the Hulcross is only 10 meters, demonstrating the thinning trend of this formation from north to south within the Monkman property. Nothing is known of the Boulder Creek or Shaftesbury Formations in this southernmost portion of the Wapiti Dip Slope.

7.3.3 Structure

Nekik structure consists of a northerly plunging syncline with a gently dipping eastern limb and an overturned western limb.

Outcrop and drill hole information has delineated the fold's eastern limb which dips at 10° to 20° to the west. Cadomin and Gething Formation sediments outline the eastern limb and nose of the fold. At the nose, just above the Narraway valley, bedding attitudes display a fold plunge of 15° to the north.

Overturned strata of the Gates Formation outcrop near the western boundary and are overlain by Paleozoic carbonate rocks. The western limb of the Nekik syncline is thought to have been overturned as thrusting of the carbonates and associated drag folding progressed. The limb is truncated by a major thrust fault which cut progressively up section from south to north. The fault forms the western boundary for resource potential in Nekik.

7.4 Resources

7.4.1 Methodology

In-place coal resources were calculated using the cross-section method. Five cross-sections at a spacing of 1000 meters were generated and, using drill hole, outcrop and projected information, mineable seams were assigned to the sections. The mineable seams included four within the Gates Formation, designated B3, B4, B7 and B9 and one within the Gething Formation, designated A. The thicknesses of the mining sections used were taken from holes drilled on and near the Nekik Block and are as follows:

Seam	Mining Section Thickness (m)
B9	1.70
B7	2.55
B4	3.63
B3	4.18
A	2.88 - 2.98

Seam length on each section were measured and the following formulas were used to calculate coal quantity.

Coal volume per seam = seam length X mining section thickness X section influence (1000 meters along strike) per section.

Coal mass per seam = coal volume X specific gravity per seam.

A value of 1.45 gm/cc was used for the specific gravity for each seam. The resource tonnage from each section was then totalled for the entire block and subsequently categorized with respect to confidence and depth. Confidence limits are described as measured, indicated and inferred based on distance, along seam, from data points. Measured resources are located within 500 meters of a data point, indicated and inferred resources are located from 500 meters to 1000 meters and greater than 1000 meters from a data point, respectively. The data points on the Nekik Block are the diamond drill holes. Resources were also categorized as lying within 200 meters of the surface and within 500 meters of the surface.

TABLE 7-1

MONKMAN COAL PROJECT

GEOLOGICAL RESOURCES - NEKIK (TONNES)*

	0 - 200 M			0 - 200 M	201 - 500 M				0 - 500 M
SEAM	MEASURED	INDICATED	INFERRED	SUB-TOTAL	MEASURED	INDICATED	INFERRED	SUB-TOTAL	TOTAL
B9	-	-	5,671,965	5,671,965	-	-	-	-	5,671,965
B7	-	-	9,010,807	9,010,807	-	-	-	-	9,010,807
B4	-	-	14,648,320	14,648,320	-	-	15,843,134	15,843,134	30,491,454
B3	4,685,153	-	12,806,893	17,492,046	254,562	3,030,500	17,298,094	20,583,156	38,075,202
GETHING	5,825,955	3,924,425	6,022,604	15,772,984	-	-	-	-	15,772,984
TOTAL BY CONFIDENCE AND DEPTH	10,511,108	3,924,425	48,160,589	62,596,122	254,562	3,030,500	33,141,228	36,426,290	99,022,412

	CONFIDENCE			TOTAL
SEAM	MEASURED	INDICATED	INFERRED	0 - 500 M
B9	-	-	5,671,965	5,671,965
B7	-	-	9,010,807	9,010,807
B4	-	-	30,491,454	30,491,454
B3	4,939,715	3,030,500	30,104,987	38,075,202
GETHING	5,825,955	3,924,425	6,022,604	15,772,984
TOTAL BY CONFIDENCE 0 - 500 M	10,765,670	6,954,925	81,301,817	99,022,412

* From section 44,000 S to 47,000 S

7.4.2 Geologic Resources

The total in-place resource, within all confidence limits, for the Nekik Block is 99.022 million tonnes. Table 7-1 summarizes this resource with respect to seam, confidence, and depth limits.

7.5 Coal Quality

7.5.1 Drill Core Analysis

Coal intersections were sampled and sent to Loring Laboratories. Coals from both the Gates and the Gething Formations were analyzed using the same procedures as for the Duchess area.

7.5.2 Summary

Both the Gates and Gething coals sampled are of high volatile bituminous rank. Quality values are summarized below (clean air dried basis - 1.60 S.G.):

	Gates Formation (B3)	Gething Formation (A)
Moisture	1.14%	1.19%
Ash	9.79%	9.52%
Volatile Matter	29.95%	29.92%
Fixed Carbon	59.12%	59.37%
Sulphur	0.30%	0.35%
F.S.I.	3	2.5
Yield	90.64%	75.01%
Calorific Value	30,547 kJ/kg	30,938 kJ/kg

7.6 Conclusion

The relatively simple structure and low relief of the Nekik Block provide for a reasonably attractive surface mining situation. At present, however, the paucity of resource information and the logistical isolation of the Nekik Block prevent serious consideration of the area as a coal producer.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

Work completed during the 1981 exploration program has outlined the resource potential of several areas peripheral to the Honeymoon and Duke pit areas of the Duke Mountain Block. Surface mineable coal potential exists within Boomerang and Duchess East, and parts of the Duchess West area where the geologic structure is relatively simple. Generally the Duchess West and Dokken areas were found to be structurally complex with virtually no surface mineable coal potential.

The coal in the Duchess area is similar in quality to that of the Duke and Honeymoon pits with a rank of medium volatile bituminous. The B9 seam, however, appears to be compositionally different than the other seams and although it is not as favourable for direct use as a metallurgical coal, its quality and thickness make it attractive for use in thermal power generation or metallurgical blending.

Preliminary resource evaluation of the Nekik Block has demonstrated potential surface mineable coal. At present, however, insufficient geological information and the remote location of the block render it low in priority as a coal producing area.

8.2 Recommendations

8.2.1 Drilling

A minor amount of additional drilling is recommended for three of the areas discussed in this report. The first is in the south-western part of Duchess West where the latest interpretation predicts a small area of simple geologic structure with Gates Formation strata exposed at the surface. However, the size of the area involved and the distance to the proposed preparation plant give this area a low priority for future exploration.

Secondly, two diamond holes are recommended for the Boomerang area. These would provide stratigraphic information which would allow for correlation with Duchess West and the Duke Syncline.

Finally it is recommended that one diamond hole be drilled at the northern edge of the Nekik Block in conjunction with a helicopter supported drill program on the Dip Slope blocks to the north. This hole would penetrate the maximum Gates section available on Nekik and allow for very confident resource calculations.

8.2.2 Future Licence Surrender - Duke Mountain Block

The exploration programs of the last two years have resulted in a complete re-interpretation of 90% of the Duke Mountain Block. The only area not updated is the Duke Syncline. One result of this re-interpretation has been the high degree of confidence in the placement of the 500 meter cover line on B9 and in the delineation of

areas where the coal measures have eroded. From a resource point of view, licences outside of these limits are not required. However, when the licences required for other reasons are added to those overlying resources, only nine remain with apparently no use, present or future.

Therefore, at such time when and if a decision becomes necessary, the following licences could probably be surrendered - 3241, 3250, 3251, 3953, 3956, 4521, 5160, 5161 and 5165.

Appendix A

Quality Data By Hole and By Seam - All Years

Mining Section Quality Analysis

Ash Analysis

Gieseler Plasticity/Ruhr Dilatometer

Petrographic Analysis

Ash Fusion Analysis

Ultimate Analysis

Screen Analysis

Summary of Analytical Data

Adit 78-B9 Carbonization Data

MONKMAN COAL PROJECT

MINING SECTION QUALITY ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B-9

				Raw Coal - ADB							Clean Coal - ADB									
Drill Hole	Seam Interval	True Coal Thickness	% Core Rec.	% Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	kJ/kg	% Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
MDD81-01	226.00-231.84	5.74	92	0.79	16.55	22.07	60.59	0.29	3	29,038	0.67	8.61	23.77	66.95	0.33	3.5	0.04	85.43	68	32,131
MUD81-02	192.30-197.96	5.71	96	0.70	18.81	22.01	58.48	0.34	3	28,217	1.04	7.75	23.41	67.80	0.38	3.5	0.18	79.56	69	31,653
MUD81-03	207.21-213.15	5.78	99	0.99	20.52	22.41	56.08	0.28	3	27,474	1.55	8.76	24.95	64.74	0.34	4	0.05	78.52	69	32,084
MUD81-05	123.08-129.12	5.39	98	1.02	20.20	21.48	57.30	0.29	1.5	27,451	1.27	9.27	25.26	64.20	0.30	3	0.05	78.56	73	31,527
MUD81-06	27.92-33.88	5.92	99	0.94	17.40	20.35	61.31	0.45	3.5	29,206	1.20	8.70	22.68	67.42	0.45	4	0.09	82.93	70	31,899
MUD81-08	248.45-255.40	5.66	42	0.97	23.45	20.58	55.00	0.35	2	25,534	0.99	8.87	24.25	65.89	0.45	4	0.38	71.48	68	31,577
MUD81-09	95.40-99.30	3.79	87	0.89	27.98	20.53	50.60	0.44	1	24,788	0.76	8.74	23.13	67.37	0.63	3.5	0.16	68.60	70	31,092
MUD81-11	207.10-214.50	5.72	54	1.01	17.04	22.65	59.30	0.35	4	27,299	1.14	10.24	25.39	63.23	0.39	5.5	0.05	79.91	106	31,879
MUD81-13	72.76-79.38	6.46	98	1.05	16.62	22.81	59.52	0.30	2	29,106	0.60	8.87	24.46	66.07	0.31	3.5	0.06	85.12	74	32,030
MUD81-15	234.97-242.42	5.57	60	0.64	19.84	23.21	56.31	0.31	2	27,549	0.51	7.90	24.76	66.83	0.34	4	-	75.62	-	31,964
MUD81-16	61.88-63.40	1.36	93	0.33	13.15	22.62	63.90	0.53	2.5	29,894	0.37	8.18	23.56	67.89	0.55	4	-	86.91	-	32,243
MDD80-10	148.22-155.59	6.74	97	1.04	20.21	21.43	57.32	0.29	2.5	27,747	1.00	8.81	23.11	67.08	0.33	4	0.05	78.94	88	32,048
MUD78-17	346.64-350.20	3.43	88	1.0	24.9	20.2	53.9	0.41	1.5	-	0.70	11.5	22.5	65.3	0.33	2.5	-	70.7	-	-
MUD78-20	107.40-111.00	2.27	87	1.1	22.0	20.5	56.4	0.38	2.5	-	0.9	9.8	23.6	65.7	0.39	3	-	79.5	-	-
MUD78-21	102.84-108.80	5.76	100	0.4	20.7	23.7	55.2	0.26	3	-	0.2	9.5	25.0	65.3	0.31	4	0.06	77.8	68	-
MUD77-04	93.57-99.20	5.43	100	0.95	18.18	22.32	58.55	0.34	3.5	28,025	0.71	7.63	24.00	67.66	0.35	4.5	-	74.55	-	-
MUD77-05	123.53-129.63	6.02	99	1.00	12.95	24.03	62.02	0.29	3	29,580	-	-	-	-	-	-	-	-	-	-
ADIT78-B9*	-	-	-	0.9	19.1	20.5	59.5	0.35	2	-	1.1	7.4	24.0	67.5	0.40	3.5	-	74.3	66	32,503
ARITHMETIC AVERAGES																				
DUCHESS EAST			96	0.87	18.61	21.84	58.68	0.31	2.5	28,258	0.91	8.57	23.83	66.69	0.34	3.5	0.08	79.36	72	31,910
DUCHESS WEST			86	0.83	20.14	21.85	57.18	0.39	2	27,952	0.51	9.22	23.51	66.76	0.45	3	0.06	76.27	70	31,766

* Analyses derived via different methods.

MONKMAN COAL PROJECT

MINING SECTION QUALITY ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B-7

Drill Hole	Seam Interval	True Coal Thickness	% Core Rec.	Raw Coal - ADB % Moist.	Raw Coal - ADB % Ash	Raw Coal - ADB % V.M.	Raw Coal - ADB % F.C.	Raw Coal - ADB % S	Raw Coal - ADB F.S.I.	Raw Coal - ADB kJ/kg	Clean Coal - ADB % Moist.	Clean Coal - ADB % Ash	Clean Coal - ADB % V.M.	Clean Coal - ADB % F.C.	Clean Coal - ADB % S	Clean Coal - ADB F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
MDD81-01	283.00-283.61	0.59	85	0.61	29.22	19.39	50.22	0.56	5	24,717	0.69	16.16	22.93	60.22	0.69	8	0.31	67.35	84	29,961
MUD81-09	148.57-152.53	3.80	76	0.79	18.50	22.97	57.74	0.33	6.5	29,122	0.98	5.00	25.70	68.32	0.40	7.5	0.12	75.90	97	33,629
MUD81-14	6.88- 10.04	1.98	87	1.07	14.60	24.39	59.94	0.53	2.5	29,272	1.23	5.85	26.06	66.50	0.36	3	0.06	87.22	83	32,307
MUD81-16	119.79-123.17	3.21	93	0.31	26.74	24.55	48.40	0.48	6	26,037	0.47	7.23	27.76	64.54	0.49	8.5	-	68.60	-	33,380
MUD81-06	54.55- 55.29	0.74	100	0.79	38.01	16.58	44.62	0.50	5	20,379	1.04	10.47	23.70	64.79	0.62	8	0.32	56.74	74	31,958
MUD81-13	101.58-102.15	0.43	88	0.45	16.76	22.40	60.39	0.56	7	28,739	0.63	10.87	24.66	63.84	0.63	7.5	0.17	83.05	77	31,738
MUD78-15	283.96-287.38*	3.19	97	1.1	27.3	19.9	51.7	0.55	5.5	-	0.8	5.4	25.1	68.7	0.44	7.5	-	68.4	-	-
MUD78-16	94.78- 99.10	2.49	83	0.9	16.9	23.3	58.9	0.33	6	-	0.9	5.8	25.8	67.5	0.37	7	-	81.0	-	-
MUD78-17	393.94-396.81	2.81	100	0.8	19.5	24.1	55.6	0.33	6.5	-	0.7	5.6	27.2	66.5	0.40	8.5	-	76.5	-	-
MUD78-20	162.14-165.57	2.91	100	1.0	17.5	23.3	58.2	0.34	6.5	-	0.8	5.8	26.0	67.4	0.29	8.5	-	80.8	-	-
MUD78-21	134.11-137.18	2.98	92	0.4	38.3	19.9	41.4	0.48	4	-	0.4	5.9	27.6	66.1	0.62	7	0.20	60.8	117	-
MUD77-05	160.13-163.32	3.14	95	0.84	30.63	21.78	46.75	0.42	4.5	23,314	0.7	6.5	26.0	66.8	0.56	7	-	66.1	-	-
MUD77-04	138.18-139.28	0.89	100	0.49	4.08	27.12	68.31	0.92	7	34,292	-	-	-	-	-	-	-	-	-	-
ARITHMETIC AVERAGES																				
DUCHESS EAST			92	0.63	23.49	21.63	54.25	0.59	5	27,479	0.80	9.85	24.99	64.36	0.58	6.5	0.21	71.03	87	31,491
DUCHESS WEST			91	0.77	21.63	23.33	54.27	0.37	6	26,157	0.76	5.99	26.41	66.84	0.42	7.5	0.12	74.82	97	33,629

AREA: DUCHESS & BOOMERANG

SEAM: B-5

Drill Hole	Seam Interval	True Coal Thickness	% Core Rec.	Raw Coal - ADB % Moist.	Raw Coal - ADB % Ash	Raw Coal - ADB % V.M.	Raw Coal - ADB % F.C.	Raw Coal - ADB % S	Raw Coal - ADB F.S.I.	Raw Coal - ADB kJ/kg	Clean Coal - ADB % Moist.	Clean Coal - ADB % Ash	Clean Coal - ADB % V.M.	Clean Coal - ADB % F.C.	Clean Coal - ADB % S	Clean Coal - ADB F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
MDD81-01	305.58-313.09	5.22	93	0.67	28.16	19.65	51.14	0.38	4	24,851	0.48	10.50	25.44	63.58	0.47	6	0.11	68.69	74	31,754
MDD81-02	263.53-269.73	5.20	91	0.65	40.08	17.29	41.98	0.33	2.5	20,396	0.84	13.34	23.00	62.82	0.48	6	0.02	56.02	79	30,545
MUD81-03	287.71-290.93	3.12	63	0.77	9.07	23.00	67.16	0.39	5	32,328	0.77	6.90	23.99	68.34	0.39	6.5	0.41	98.52	89	32,870
MUD81-05	184.45-193.27	6.37	49	0.86	30.44	18.72	49.98	0.53	2	23,998	0.90	12.40	22.33	64.37	0.61	4.5	0.50	65.97	85	30,793
MUD81-09	242.66-243.97	1.31	82	0.78	33.91	21.76	43.55	0.42	5	22,781	0.92	11.17	22.31	65.60	0.57	8	0.15	60.61	81	30,073
MDD80-10	224.46-230.07*	3.78	91	0.84	20.74	21.32	57.72	0.48	4.5	-	0.82	9.98	24.30	66.00	0.51	6	-	77.69	-	-
MUD78-14	121.55-125.15	3.50	100	1.0	38.9	17.0	43.1	0.47	1.5	-	0.7	11.5	22.1	65.7	0.59	6	-	55.6	-	-
ARITHMETIC AVERAGES																				
DUCHESS EAST			87	0.81	25.12	19.68	54.39	0.41	3	28,589	0.72	10.44	23.77	65.07	0.49	6	0.18	73.53	79	31,405
DUCHESS WEST			82	0.78	33.91	21.76	43.55	0.42	5	22,781	0.92	11.17	22.31	65.60	0.57	8	0.15	60.61	81	30,793

* Values may not have been used in arithmetic averages due to descrepancy between sampled interval and the mining section chosen later.

MONKMAN COAL PROJECT

MINING SECTION QUALITY ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B-4

Drill Hole	Seam Interval	True Coal Thickness	% Core Rec.	Raw Coal - ADB % Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	kJ/kg	Clean Coal - ADB % Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
MDD81-02	298.14-304.95	4.97	96	0.53	19.90	21.32	57.91	0.34	6	28,319	0.84	8.65	23.88	66.25	0.38	7.5	0.28	81.36	85	32,597
MUD81-03	322.72-330.30	7.69	82	0.74	21.10	21.59	56.57	0.26	6.5	27,943	1.30	8.50	23.93	65.99	0.28	7	0.12	79.52	82	35,602
MUD81-05	231.26-242.34	8.81	69	0.81	26.52	20.46	51.97	0.24	4.5	26,051	1.04	9.53	23.63	65.52	0.28	7	0.11	72.41	85	32,307
MUD81-06	116.77-127.66	7.78	96	1.80	21.63	19.12	57.45	0.33	4	27,593	1.18	10.05	23.01	65.76	0.35	7.5	0.39	78.75	75	32,083
MUD81-09	258.42-260.90	2.43	84	0.56	20.79	21.29	57.36	0.40	5	27,876	0.82	7.05	22.57	69.56	0.46	7	0.23	81.32	77	32,222
MUD81-14	81.64- 90.98	6.61	75	0.68	29.86	20.90	48.56	0.25	5	24,091	0.82	11.57	24.84	62.46	0.31	7	0.30	69.15	95	31,332
MDD80-10	282.43-296.46	5.57	61	0.70	18.20	21.47	59.33	0.30	5.5	-	0.78	8.55	23.96	66.71	0.35	7	0.12	83.07	78	-
MRC80-75	30.39- 33.78	2.33	85	0.72	9.09	22.39	67.34	0.46	7	-	0.76	5.11	23.31	70.37	0.45	7	-	91.51	-	-
MUD78-14	165.57-175.38*	7.19	97	0.8	23.4	13.5	34.7	0.20	3	-	0.77	8.97	23.8	66.1	0.41	7.5	0.18	72.87	78	-
MUD78-16	215.53-221.10*	4.01	93	0.8	22.9	20.1	56.2	0.57	5.5	-	0.8	7.0	23.1	69.1	0.44	7	-	79.0	-	-
MUD78-20	287.50-290.89*	2.88	100	0.8	21.8	20.7	56.7	0.48	6	-	0.5	7.8	23.0	68.7	0.42	7	-	62.0	-	-
MUD78-21	196.65-206.21*	6.64	90	0.4	34.5	19.7	45.2	0.33	4.5	-	0.4	11.25	24.53	63.44	0.38	6.5	0.18	64.1	91	-
MUD77-04	198.56-208.17*	6.06	82	0.77	27.78	20.89	50.56	0.20	5	24,784	0.59	9.92	23.80	65.69	0.27	6.5	-	67.3	-	-
ARITHMETIC AVERAGE																				
DUCHESS EAST			73	0.88	22.87	20.81	55.44	0.29	4.5	26,601	0.89	9.63	23.95	65.53	0.34	7	0.21	75.19	83	32,784
DUCHESS WEST			91	0.56	20.79	21.29	57.36	0.40	5	27,876	0.70	7.21	22.66	69.43	0.44	7	0.23	73.37	77	32,222
BOOMERANG			85	0.72	9.09	22.31	67.88	0.46	7	-	0.76	5.11	23.31	70.82	0.45	7	-	91.51	-	-

AREA: DUCHESS & BOOMERANG

SEAM: B-3

Drill Hole	Seam Interval	True Coal Thickness	% Core Rec.	Raw Coal - ADB % Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	kJ/kg	Clean Coal - ADB % Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
MDD81-02	321.55-323.76	2.21	57	0.48	20.63	20.35	58.54	0.49	6.5	27,723	1.11	7.38	23.29	68.22	0.53	7.5	0.07	80.02	85	33,011
MUD81-03	349.40-351.50	2.00	76	0.78	23.14	20.26	55.82	0.58	7	27,375	1.68	6.85	23.80	67.67	0.66	8	0.27	74.93	90	33,380
MUD81-05	258.60-260.93	2.33	96	0.83	34.96	17.32	46.89	0.57	3.5	22,485	0.92	10.04	22.31	66.73	0.71	7.5	0.31	60.64	80	31,753
MUD81-06	141.95-144.29	1.62	77	0.72	8.92	22.05	68.31	0.66	7.5	32,764	0.89	6.05	23.58	69.48	0.67	8	0.28	93.18	85	33,781
MUD81-09	296.10-298.10	2.00	75	0.76	21.98	20.94	56.32	0.51	5	27,889	0.86	9.80	23.38	65.96	0.64	7	-	75.34	72	31,789
MUD81-14	124.17-126.96	1.52	89	0.41	6.43	25.10	68.06	0.53	7.5	33,253	0.61	5.63	25.43	68.33	0.54	7.5	0.27	98.19	83	33,658
MDD80-10	328.97-331.99	2.06	50	0.85	29.48	18.15	51.52	0.52	3	-	0.80	7.31	22.20	69.69	0.63	7.5	0.28	67.03	69	-
MRC80-76	55.65- 58.52	2.54	76	0.68	21.27	21.30	56.75	0.47	6.5	-	0.70	7.87	23.70	67.73	0.54	8	-	74.77	-	-
MUD78-14	189.12-191.44*	2.18	100	0.8	39.0	15.9	44.3	0.48	3.5	-	0.70	8.8	22.1	68.4	0.70	7.5	-	62.8	-	-
MUD78-20	321.59-325.74*	3.73	100	0.7	33.2	18.2	47.9	0.55	5	-	0.5	7.8	23.0	68.7	0.42	7	-	62.0	-	-
MUD78-21	219.40-221.49*	2.03	100	0.4	36.9	18.1	44.6	0.48	3	-	0.2	8.8	23.1	67.9	0.6	6.5	-	63.9	-	-
ARITHMETIC AVERAGE																				
DUCHESS EAST			89	0.69	18.36	21.18	59.77	0.59	6	28,969	0.83	7.69	23.39	68.09	0.65	7.5	0.28	81.73	84	33,143
DUCHESS WEST			75	0.76	21.98	20.94	56.32	0.51	5	27,889	0.68	8.80	23.19	67.33	0.53	7	-	75.34	72	31,789
BOOMERANG			76	0.68	21.27	21.30	56.75	0.47	6.5	-	0.70	7.87	23.70	67.73	0.54	8	-	74.77	-	-

* Values may not have been used in arithmetic averages due to descrepancy between sampled interval and the mining section chosen later.

MONKMAN COAL PROJECT

MINING SECTION QUALITY ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B2-B1

				Raw Coal - ADB							Clean Coal - ADB									
Drill Hole	Seam Interval	True Coal Thickness	% Core Rec.	% Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	kJ/kg	% Moist.	% Ash	% V.M.	% F.C.	% S	F.S.I.	% P_2O_5	% Yield	H.G.I.	kJ/kg
MDD81-02	341.84-362.20	3.38	100	0.47	16.73	20.60	61.80	0.40	5	27,470	0.75	7.67	23.58	68.00	0.43	7.5	0.13	67.36	72	32,236
MUD81-03	376.09-386.31	3.09	92	0.72	13.96	21.67	63.65	0.41	7.5	31,043	1.09	5.90	23.55	69.46	0.46	8	0.02	88.76	93	33,921
MUD81-05	291.13-300.00	3.48	78	0.42	21.96	21.96	65.82	0.38	6.5	31,836	0.92	6.79	23.38	68.80	0.39	7.5	0.06	90.54	87	33,335
MUD81-09	304.72-307.42	2.69	80	0.64	12.53	22.61	64.22	0.42	7.5	31,722	0.47	6.95	25.22	67.36	0.48	8	TRACE	88.24	78	33,448
MDD80-10	375.69-385.45	5.74	90	0.82	17.98	20.47	60.73	0.35	5.5	-	0.64	8.14	22.26	68.52	0.39	7.5	0.07	80.95	69	-
MUD78-14	223.10-231.94	5.84	100	0.78	25.90	19.94	53.02	0.36	6.5	-	0.76	7.12	22.85	69.27	0.46	7.5	0.05	71.68	78	-
MUD78-20	336.21-338.15	1.74	92	0.8	33.8	17.4	48.0	0.75	5	-	0.7	9.1	22.2	68.0	0.59	8	-	65.3	-	-
MUD78-21	258.98-266.00*	6.85	96	0.5	30.5	19.6	49.4	0.33	5	-	0.3	8.4	24.6	66.7	0.37	5.5	-	69.8	-	-
MUD77-04	264.77-274.02*	6.12	96	0.60	8.88	23.37	67.15	0.40	7	32,648	0.45	6.74	23.38	69.43	0.32	7.5	-	84.0	-	-
ARITHMETIC AVERAGE																				
DUCHESS EAST			92	0.64	17.20	20.93	61.00	0.38	6	29,815	0.74	7.34	23.37	68.55	0.42	7	0.07	79.59	79	32,832
DUCHESS WEST			86	0.64	12.53	22.61	64.22	0.42	7.5	31,722	0.39	7.68	24.91	67.02	0.43	7	-	79.02	78	33,448

* Values may not have been used in arithmetic averages due to descrepancy between sampled interval and the mining section chosen later.

MONKMAN COAL PROJECT

ASH ANALYSIS

Seam No.	Hole No.	SiO_2 %	Al_2O_3 %	TiO_2%	Fe_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	P_2O_5 %	SO_3 %	UNDETER. %
B-9	MUD81-03	53.86	21.41	0.90	3.50	7.14	2.90	1.13	0.60	0.56	5.75	2.25
	MUD81-08	51.50	22.68	0.91	3.15	6.02	2.90	1.08	0.40	4.48	5.54	1.34
	MUD81-09	55.26	27.60	0.63	2.86	4.39	1.97	0.94	0.30	1.59	3.38	1.08
	MUD81-13	56.91	22.32	1.12	4.02	5.60	2.50	1.67	0.35	0.71	2.85	1.95
	ADIT78-B3	53.72	21.17	1.28	7.15	6.16	2.32	1.00	0.42	0.58	4.82	-1.38
B-7	MUD81-09	46.32	23.44	0.61	3.86	9.74	3.32	0.86	0.30	2.39	8.59	0.57
	MUD81-13	72.17	17.44	1.01	0.93	2.24	0.46	0.62	1.06	1.72	0.62	1.73
B-5	MUD81-03	54.80	25.71	1.38	1.93	4.59	1.59	0.11	0.24	1.68	5.68	2.29
	MUD81-09	66.50	24.76	0.80	1.21	1.04	0.68	0.75	0.66	0.96	0.79	1.85
B-4	MUD81-03	59.35	22.98	1.25	2.67	3.88	1.50	0.85	0.51	1.41	3.52	2.10
	MUD81-09	67.06	20.05	0.78	2.22	2.10	0.85	0.86	0.60	2.29	1.28	1.91
B-3	MUD81-03	60.70	24.51	1.25	1.39	2.37	0.80	0.60	0.74	4.13	1.20	2.31
	MUD81-09	73.20	19.95	0.78	1.29	0.77	0.48	0.92	0.54	0.08	0.48	1.51
B2-B1	MUD81-03	69.12	22.90	1.58	1.23	0.56	0.33	0.90	0.53	0.07	0.42	2.36
	MUD81-09	66.69	19.42	0.71	2.72	3.27	1.08	1.21	0.42	0.05	2.86	1.57

MONKMAN COAL PROJECT

ASH FUSION ANALYSIS

		Reducing Atmosphere				Oxidizing Atmosphere			
Seam No.	Hole No.	I.D. (°F)	H=W (°F)	H=0.5W (°F)	Fluid (°F)	I.D. (°F)	H=W (°F)	H=0.5W (°F)	Fluid (°F)
B-9	MUD81-03	2300	2534	2388	2521	2334	2364	2393	2530
	MUD81-08	2414	2461	2516	2642	2437	2498	2577	2602
	MUD81-09	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	MUD81-13	2413	2453	2493	2593	2443	2533	2553	+2650
	ADIT78-B9	2220	2360	2400	2500	2320	2460	2490	2530
B-7	MUD81-09	2320	2453	2473	2518	2363	2463	2503	2523
	MUD81-13	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B-5	MUD81-03	2614	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	MUD81-09	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B-4	MUD81-03	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	MUD81-09	2543	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B-3	MUD81-03	2481	+2650	+2650	+2650	2501	+2650	+2650	+2650
	MUD81-09	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
B2-B1	MUD81-03	+2650	+2650	+2650	+2650	+2650	+2650	+2650	+2650
	MUD81-09	2503	2588	2603	+2650	2583	2643	+2650	+2650

already have

MONKMAN COAL PROJECT

ULTIMATE ANALYSIS - AIR DRIED

Seam No.	Hole No.	H_2O %	C %	H %	N %	Ash %	S %	O (Diff.) %
B-9	MUD81-03	1.55	72.24	4.18	0.87	8.76	0.34	12.06
	MUD81-08	0.99	74.26	4.36	1.01	8.87	0.45	10.06
	MUD81-09	0.56	79.12	4.02	0.76	8.76	0.63	6.15
	MUD81-13	0.87	77.86	4.21	0.92	8.85	0.31	6.98
	ADIT78-B9	0.71	80.59	4.40	1.01	8.27	0.39	4.63
B-7	MUD81-09	0.75	81.99	4.34	1.04	5.01	0.40	6.47
	MUD81-13	0.66	77.09	4.45	0.83	10.87	0.63	5.47
B-5	MUD81-03	0.77	74.34	4.27	0.79	6.90	0.39	12.54
	MUD81-09	0.60	74.43	3.75	0.83	11.21	0.57	8.61
B-4	MUD81-03	1.30	73.51	4.48	0.90	8.40	0.28	11.10
	MUD81-09	0.57	80.88	5.06	0.92	7.07	0.46	5.04
B-3	MUD81-03	1.68	75.07	4.24	0.66	6.85	0.66	10.84
	MUD81-09	0.60	77.67	4.65	0.97	9.83	0.64	5.64
B2-B1	MUD81-03	1.09	75.69	4.37	0.63	5.90	0.46	11.87
	MUD81-09	0.44	80.52	5.08	0.88	6.95	0.48	5.65

MONKMAN COAL PROJECT

SCREEN ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B-9

	1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
HOLE NO.	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
MDD81-01	91.76	16.21	5.40	10.43	2.84	22.22
MDD81-02	88.46	19.91	7.36	13.78	4.18	16.26
MUD81-03	86.84	20.80	8.32	15.91	4.84	17.79
MUD81-05	82.34	20.93	10.09	13.68	7.57	15.58
MUD81-06	88.30	17.89	7.22	12.45	4.48	17.83
MUD81-08	85.37	25.28	8.33	14.87	5.80	17.35
MUD81-09	85.95	28.96	8.38	19.12	5.67	20.22
MUD81-11	77.90	18.11	13.78	15.84	8.32	15.32
MUD81-13	84.58	17.32	10.22	12.87	5.20	16.54
MUD81-15	81.62	22.69	10.93	10.01	7.45	11.75
MUD81-16	85.01	14.45	9.17	9.63	5.82	10.56
MDD80-10	93.57	19.99	4.19	16.11	2.24	20.34
MUD78-17	89.2	25.5	6.5	19.1	4.3	20.6
MUD78-20	82.2	22.7	9.9	13.9	7.9	18.6
MUD78-21	91.4	20.7	5.4	16.0	3.2	18.5
ARITHMETIC AVERAGE						
DUCHESS EAST	88.07	19.89	7.39	14.01	4.54	18.05
DUCHESS WEST	84.80	22.86	8.98	14.35	6.22	16.35

MONKMAN COAL PROJECT

SCREEN ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B-7

	1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
HOLE NO.	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
MDD81-01	87.18	30.75	8.10	21.11	4.72	26.45
MUD81-06	84.43	40.09	8.95	33.95	6.62	31.37
MUD81-09	72.23	21.43	16.17	9.30	11.60	9.82
MUD81-13	82.26	18.43	10.29	15.00	7.45	14.91
MUD81-14	83.10	14.25	10.12	14.71	6.79	19.14
MUD81-16	83.23	29.49	10.74	15.23	6.03	18.56
MUD78-16	76.9	17.8	13.7	9.3	9.4	12.1
MUD78-17	89.2	25.5	6.5	19.1	4.3	20.6
MUD78-20	84.0	17.9	9.9	11.5	6.1	13.5
ARITHMETIC AVERAGE						
DUCHESS EAST	84.24	25.88	9.37	21.19	6.39	22.97
DUCHESS WEST	81.11	22.42	11.40	12.89	7.49	14.92

MONKMAN COAL PROJECT
SCREEN ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B5

	1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
HOLE NO.	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
MDD 81-01	86.79	29.91	8.38	18.60	4.83	25.42
MUD 81-03	73.13	8.31	14.77	6.07	12.10	6.66
81-05	78.65	32.80	11.77	24.14	9.58	23.50
81-09	87.80	35.99	7.76	18.24	4.44	16.82
MUD 78-14	87.6	39.6	7.0	27.1	5.4	26.7
ARITHMETIC AVERAGE						
DUCHESS EAST	81.54	27.66	10.48	18.98	7.98	20.57
DUCHESS WEST	87.80	35.99	7.76	18.24	4.44	16.82

MONKMAN COAL PROJECT

SCREEN ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B4

	1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
HOLE NO.	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
MDD 81-02	85.19	20.78	9.21	13.28	5.60	15.73
MUD 81-03	80.43	22.72	11.92	14.85	7.65	16.01
81-05	82.69	28.24	10.19	17.76	7.12	18.31
81-06	85.42	23.44	8.94	12.47	5.64	16.07
81-09	87.58	21.12	7.69	11.39	4.73	17.52
81-14	76.88	33.47	13.20	16.40	9.92	17.52
MDD 80-10	82.91	19.54	10.63	10.91	6.46	13.40
MRC 80-75	85.21	7.68	9.17	7.03	5.62	7.25
ARITHMETIC AVERAGE						
DUCHESS EAST	82.25	24.70	10.68	14.28	7.07	16.17
DUCHESS WEST	87.58	21.20	7.69	11.39	4.73	17.52
BOOMERANG	85.21	7.68	9.17	7.03	5.62	7.25

MONKMAN COAL PROJECT

SCREEN ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B3

	1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
HOLE NO.	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
MDD 81-02	83.96	21.26	9.53	12.25	6.51	12.72
MUD 81-03	77.07	26.46	14.18	12.84	8.75	12.70
81-05	81.81	35.92	10.41	28.81	7.78	25.62
81-06	88.12	9.12	8.08	8.95	3.80	8.77
81-09	88.25	24.04	7.53	14.18	4.22	16.74
81-14	84.73	6.70	9.93	5.36	5.34	7.30
MDD 80-10	88.84	30.85	7.19	22.61	3.97	21.29
MRC 80-76	85.10	23.17	9.03	12.05	5.87	11.81
ARITHMETIC AVERAGE						
DUCHESS EAST	82.93	19.55	10.65	13.99	6.42	13.60
DUCHESS WEST	88.25	24.04	7.53	14.18	4.22	16.74
BOOMERANG	85.10	23.17	9.03	12.05	5.87	11.81

MONKMAN COAL PROJECT

SCREEN ANALYSIS

AREA: DUCHESS & BOOMERANG

SEAM: B2-B1

	1/4 X 28 Mesh		28 X 65 Mesh		-65 Mesh	
HOLE NO.	Wt.%	Ash %	Wt.%	Ash %	Wt.%	Ash %
MDD 81-02	86.78	24.37	8.35	18.03	4.87	18.21
MUD 81-03	74.30	15.19	15.13	8.59	10.57	7.86
81-05	80.46	11.28	11.69	9.42	7.85	10.75
81-09	83.50	13.45	9.98	8.20	6.52	9.53
MDD 80-10	85.60	19.21	9.03	13.75	5.37	14.67
MUD 78-14	87.6	27.6	7.3	14.6	5.1	16.4
78-20	78.5	36.0	12.8	28.3	8.7	27.5
ARITHMETIC AVERAGE						
DUCHESS EAST	82.95	19.53	10.30	12.88	6.75	13.58
DUCHESS WEST	81.00	24.73	11.39	18.25	7.61	18.52

MONKMAN COAL PROJECT

Summary of Analytical Data - B-9

Source of Sample	MDD81-01		MDD81-02		MUD81-03		MUD81-05		MUD81-06	
Interval (m): from	206.00		192.30		207.21		123.08		27.92	
to	231.84		197.96		213.15		129.12		33.88	
True Seam Thickness (m)	5.74		5.71		5.78		6.01		5.92	
Core Recovery %	92		96		99		98		99	
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.79		.70		.99		1.02		.94	
Ash %	16.55		18.81		20.52		20.20		17.40	
Volatiles %	22.07		22.01		22.41		21.48		20.35	
Fixed Carbon %	60.59		58.48		56.08		57.30		61.31	
FSI	3		3		3		1½		3½	
Sulphur %	.29		.34		.28		.29		.45	
Calorific Value (kJ/kg)	29,038		28,217		27,474		27,451		29,206	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	91.76	16.21	88.46	19.91	86.84	20.80	82.34	20.93	88.30	17.89
28 x 65 mesh	5.40	10.43	7.36	13.78	8.32	15.91	10.09	13.68	7.22	12.45
-65 mesh	2.84	22.22	4.18	16.26	4.84	17.79	7.57	15.58	4.48	17.83
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery: +28 mesh product %	72.97	84.56	72.98	78.16	64.30	76.68	65.27	76.01	72.30	82.13
28 x 65 mesh product %	89.33	93.68	77.45	86.43	81.56	86.97	81.32	86.52	85.25	85.90
Analysis of +28 mesh product: Ash (dry basis) %	6.67	8.63	5.90	6.79	6.42	8.75	6.42	8.69	5.73	8.22
FSI	4	-	5	-	3	-	4		3½	
Analysis of 28 x 65 product: Ash (dry basis) %	7.06	7.72	4.55	6.42	8.18	9.03	5.98	7.09	4.28	4.42
FSI	5½	-	7	-	7	-	7		6½	
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	96.68	97.95	96.11	97.22	94.02	96.92	94.93	95.63	93.85	93.92
Analysis of product: Ash (dry basis) %	21.15	21.34	14.14	14.72	14.66	16.03	12.59	12.87	13.88	13.91
FSI	4½	-	4	-	4½	-	5½		3½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.67		1.04		1.55		1.27		1.20
Ash %		8.61		7.75		8.76		9.27		8.70
Volatiles %		23.77		23.41		24.95		25.26		22.68
Fixed Carbon %		66.95		67.80		64.74		64.20		67.42
FSI		3½		3½		4		3		4
Sulphur %		.33		.38		.34		.30		.45
P205 %		.04		.18		.05		.05		.09
Hardgrove Index		68		69		69		73		70
Recovery of clean coal %		85.43		79.56		78.52		78.56		82.93
Calorific Value (kJ/kg)		32,131		31,653		32,084		31,527		31,899

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-9

Source of Sample	MUD81-08		MUD81-09		MUD81-11		MUD81-13		MUD81-15	
Interval (m): from	248.45		95.40		207.10		72.76		234.97	
to	255.40		99.30		214.50		79.38		242.42	
True Seam Thickness (m)	5.66		3.79		5.72		6.46		5.57	
Core Recovery %	42		87		54		98		60	
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.97		.89		1.01		1.05		.64	
Ash %	23.45		27.98		17.04		16.62		19.84	
Volatiles %	20.58		20.53		22.65		22.81		23.21	
Fixed Carbon %	55.00		50.60		59.30		59.52		56.31	
FSI	2		1		4		2		2	
Sulphur %	.35		.44		.35		.30		.31	
Calorific Value (kJ/kg)	25,534		24,788		27,299		29,106		27,549	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	85.87	25.28	85.95	28.96	77.90	18.11	84.58	17.32	81.62	22.69
28 x 65 mesh	8.33	14.87	8.38	19.12	13.78	15.84	10.22	12.87	10.93	10.01
-65 mesh	5.80	17.35	5.67	20.22	8.32	15.32	5.20	16.54	7.45	11.75
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	53.84	68.40	54.36	65.90	63.23	76.78	75.04	83.70	57.86	71.74
28 x 65 mesh product %	78.58	85.04	71.29	79.37	79.98	87.03	87.99	91.43	83.71	89.32
Analysis of +28 mesh product:										
Ash (dry basis) %	7.13	9.26	5.43	8.04	8.04	10.07	7.59	9.39	5.51	8.29
FSI	4		3		6		3½		3	
Analysis of 28 x 65 product:										
Ash (dry basis) %	5.03	6.38	5.10	6.76	8.70	9.74	8.25	8.80	4.40	5.55
FSI	7		5		7		5		4	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	88.85	97.60	91.91	93.63	96.78	97.46	95.18	95.70	97.60	98.11
Analysis of product:										
Ash (dry basis) %	13.00	15.91	15.43	16.21	14.03	14.34	13.51	13.81	10.77	10.82
FSI	4½		4		4		3½		3½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.99		.76		1.14		.60		.51
Ash %		8.87		8.74		10.24		8.87		7.90
Volatiles %		24.25		23.13		25.39		24.46		24.76
Fixed Carbon %		65.89		67.37		63.23		66.07		66.83
FSI		4		3½		5½		3½		4
Sulphur %		.45		.63		.39		.31		.34
P205 %		.38		.16		.05		.06		
Hardgrove Index		68		70		106		74		
Recovery of clean coal %		71.48		68.60		79.91		85.12		75.62
Calorific Value (kJ/kg)		31,577		31,092		31,879		32,030		31,964

C. J. McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-9

Source of Sample	MUD81-16		MDD80-10		MUD78-17		MUD78-20		MUD78-21	
Interval (m): from	61.88		148.22		346.64		107.40		102.84	
to	63.40		155.59		350.20		111.00		108.80	
True Seam Thickness (m)	1.36		6.74		3.43		2.27		5.76	
Core Recovery %	93		97		88		87		100	
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.33		1.04		1.0		1.1		0.4	
Ash %	13.15		20.21		24.9		22.0		20.7	
Volatiles %	22.62		21.43		20.2		20.5		23.7	
Fixed Carbon %	63.90		57.32		53.9		56.4		55.2	
FSI	2½		2½		1½		2½		3	
Sulphur %	.53		.29		0.41		0.38		0.26	
Calorific Value (kJ/kg)	29,894		27,547							
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	85.01	14.45	93.57	19.99	89.2	25.5	82.2	22.7	91.4	20.7
28 x 65 mesh	9.17	9.63	4.19	16.11	6.5	19.1	9.9	13.9	5.4	16.0
-65 mesh	5.82	10.56	2.24	20.34	4.3	20.6	7.9	18.6	3.2	18.5
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	75.59	85.61	68.51	78.42	49.8	69.3	57.9	77.8	62.9	77.0
28 x 65 mesh product %	84.27	90.99	78.32	83.69	64.6	79.0	75.3	85.8	75.6	82.7
Analysis of +28 mesh product:										
Ash (dry basis) %	5.57	7.70	6.99	9.04	7.2	11.4	5.9	9.9	6.4	9.1
FSI	3½		3		3		4		4½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	3.81	5.22	5.77	7.03	5.7	8.5	4.5	6.5	7.2	8.0
FSI	5		7		6½		6½		5	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	99.24	99.41	82.27	91.84	82.0	86.2	85.9	89.8	63.0	92.4
Analysis of product:										
Ash (dry basis) %	10.23	10.28	13.03	15.06	14.1	15.1	10.7	12.2	12.1	15.1
FSI	3½		5		3		4½		5	
Analysis of total clean coal product:										
Moisture (a.d.) %		.37		1.00		0.7		0.9		0.2
Ash %		8.18		8.81		11.5		9.8		9.5
Volatiles %		23.56		23.11		22.5		23.6		25.0
Fixed Carbon %		67.89		67.08		65.3		65.7		65.3
FSI		4		4		2½		3		4
Sulphur %		.55		.33		0.33		0.39		0.31
P205 %				.05						0.06
Hardgrove Index				88						68
Recovery of clean coal %		86.91		78.94		70.7		79.5		77.8
Calorific Value (kJ/kg)		32,243		32,048						

C. L. McJonas

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-7

Source of Sample	MDD81-01		MUD81-06		MUD81-09		MUD81-13		MUD81-14	
Interval (m): from	283.00		54.55		148.57		101.58		6.88	
to	283.61		55.29		152.00		102.15		7.50	
True Seam Thickness (m)	0.59		0.74		3.29		0.43		0.62	
Core Recovery %	85		96		85		87		68	
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.69		.79		.79		.45		.46	
Ash %	29.22		38.01		18.50		16.76		11.89	
Volatiles %	19.39		16.58		22.97		22.40		26.91	
Fixed Carbon %	50.70		44.62		57.74		60.39		60.74	
FSI	5		5		6½		7		7½	
Sulphur %	.56		.50		.33		.56		.54	
Calorific Value (kJ/kg)	24,717		20,379		29,122		28,739		31,144	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	87.18	30.75	84.43	40.09	72.23	21.43	82.26	18.43	82.63	10.43
28 x 65 mesh	8.10	21.11	8.95	33.95	16.17	9.30	10.29	15.00	10.32	19.53
-65 mesh	4.72	26.45	6.62	31.37	11.60	9.82	7.45	14.91	7.05	23.53
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	29.73	64.95	47.41	55.27	67.30	72.47	73.75	80.99	80.38	92.56
28 x 65 mesh product %	62.16	76.96	56.41	61.47	87.36	90.98	83.01	88.57	74.17	83.56
Analysis of +28 mesh product:										
Ash (dry basis) %	5.98	16.75	6.78	9.65	3.55	4.69	9.13	11.08	4.66	7.40
FSI	9	-	8		7½		7		8	
Analysis of 28 x 65 product:										
Ash (dry basis) %	6.33	10.46	5.79	7.43	3.13	3.88	8.29	9.58	9.78	12.24
FSI	9	-	8½		8½		8½		8	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	94.70	95.05	65.79	69.11	75.22	76.25	97.70	98.12	90.86	93.43
Analysis of product:										
Ash (dry basis) %	24.77	24.80	16.93	18.25	5.25	5.35	13.81	13.99	18.99	19.80
FSI	7½	-	7½		7½		7		5½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.69		1.04		.98		.63		.90
Ash %		16.16		10.47		5.00		10.87		8.27
Volatiles %		22.93		23.70		25.70		24.66		27.16
Fixed Carbon %		60.22		64.79		68.32		63.84		63.87
FSI		8		8		7½		7½		8
Sulphur %		.69		.62		.40		.63		.54
P205 %		.31		.32		.12		.17		.14
Hardgrove Index		84		74		97		77		85
Recovery of clean coal %		67.35		56.74		75.90		83.05		91.69
Calorific Value (kJ/kg)		29,961		31,958		33,629		31,738		32,706

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-7

Source of Sample	MUD81-14	MUD81-14	MUD81-16	MUD78-15	MUD78-16
Interval (m): from	8.10	9.35	119.79	283.96	94.78
to	8.77	10.04	123.17	287.38	99.10
True Seam Thickness (m)	0.67	0.69	3.21	2.68	2.49
Core Recovery %	91	100	93	97	83

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	1.08		1.62		.31		1.1		0.9	
Ash %	7.21		24.20		26.74		27.3		16.9	
Volatiles %	25.37		21.17		24.55		19.9		23.3	
Fixed Carbon %	66.34		53.01		48.40		51.7		58.9	
FSI	1		½		6		5½		6	
Sulphur %	.55		.51		.48		0.55		0.33	
Calorific Value (kJ/kg)	31,945		24,996		26,037					
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	79.35	5.65	87.15	26.04	83.23	29.49	87.1	28.6	76.9	17.8
28 x 65 mesh	11.73	9.43	8.37	15.50	10.74	15.23	7.8	16.6	13.7	9.3
-65 mesh	8.92	12.69	4.48	21.36	6.03	18.56	5.1	17.5	9.4	12.1
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	87.61	96.66	64.91	72.86	58.40	64.76	63.3	66.4	73.3	78.6
28 x 65 mesh product %	87.04	93.33	78.62	81.80	79.21	82.72	76.7	81.8	86.5	90.0
Analysis of +28 mesh product:										
Ash (dry basis) %	3.34	4.30	2.87	4.27	4.87	7.07	4.3	5.2	4.5	5.4
FSI	1		1		8½		7½		7½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	5.42	6.69	2.73	3.42	3.42	4.40	2.8	3.8	3.3	4.0
FSI	1		½		8½		8½		8	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	96.29	96.96	88.14	90.03	94.47	96.48	70.5	82.1	31.4	87.6
Analysis of product:										
Ash (dry basis) %	10.95	11.08	12.55	15.20	15.62	16.33	8.5	9.8	6.3	7.5
FSI	1		½		7½		8		7½	
Analysis of total clean coal product:										
Moisture (a.d.) %		1.28		1.48		.47		0.8		0.9
Ash %		4.96		4.55		7.23		5.4		5.8
Volatiles %		25.42		25.70		27.76		25.1		25.8
Fixed Carbon %		68.34		68.27		64.54		68.7		67.5
FSI		1		1		8½		7½		7
Sulphur %		.57		.61		.49		0.44		0.37
P205 %		.09		.08						
Hardgrove Index		84		83						
Recovery of clean coal %		96.30		74.38		68.60		68.4		81.0
Calorific Value (kJ/kg)		32,182		32,070		33,380				

C L McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-7

Source of Sample	MUD78-17	MUD78-20	MUD78-21		
Interval (m): from	393.94	162.14	131.85		
to	396.81	165.57	137.18		
True Seam Thickness (m)	2.81	2.91	5.16		
Core Recovery %	100	100	97		

Weighted Average Analysis Raw Coal (Air Dried Basis): Moisture %	0.8		1.0		0.4					
Ash %	19.5		17.5		38.3					
Volatiles %	24.1		23.3		19.9					
Fixed Carbon %	55.6		58.2		41.4					
FSI	6½		6½		4					
Sulphur %	0.33		0.34		0.48					
Calorific Value (kJ/kg)										
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	87.9	20.4	84.0	17.9	89.5	39.6				
28 x 65 mesh	7.5	12.2	9.9	11.5	6.9	17.6				
-65 mesh	4.6	14.7	6.1	13.5	3.6	20.1				
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45 x1.60		1.45	1.60
Recovery: +28 mesh product %	70.3	75.1	76.7	79.4	55.2	58.0				
28 x 65 mesh product %	79.7	85.0	83.5	86.9	77.2	82.6				
Analysis of +28 mesh product: Ash (dry basis) %	4.2	5.3	5.1	5.7	4.7	5.5				
FSI	8		7		6½		1			
Analysis of 28 x 65 product: Ash (dry basis) %	3.1	4.1	3.1	3.7	4.5	5.2				
FSI	8½		8½		7½		1			
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90 x 180		90	180
Rec. of -65 mesh portion %	86.7	90.0	86.2	90.2	79.2	89.6				
Analysis of product: Ash (dry basis) %	9.8	10.4	7.5	8.5	9.0	12.3				
FSI	7		8		7		1			
Analysis of total clean coal product: Moisture (a.d.) %		0.7		0.8		0.4				
Ash %		5.6		5.8		5.9				
Volatiles %		27.2		26.0		27.6				
Fixed Carbon %		66.5		67.4		66.1				
FSI		8½		8½		7				
Sulphur %		0.40		0.29		0.62				
P205 %						0.20				
Hardgrove Index						117				
Recovery of clean coal %		76.5		80.8		60.8				

Calorific Value (kJ/kg)

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MONKMAN COAL PROJECT

Summary of Analytical Data - B-7

Source of Sample	MUD77-04	MUD77-05			
Interval (m): from	138.18	160.13			
to	139.28	163.32			
True Seam Thickness (m)	0.89	3.14			
Core Recovery %	100	95			

Weighted Average Analysis Raw Coal (Air Dried Basis) :									
Moisture %	0.49		0.84						
Ash %	4.08		30.63						
Volatiles %	27.12		21.78						
Fixed Carbon %	68.31		46.75						
FSI	7		3-6						
Sulphur %	0.92		0.42						
Calorific Value (kJ/kg)	34,292		23,314						
Screen Analysis									
¼ x 28 mesh Wt %			85.6						
- 28 mesh Wt %			14.4						
Flotation of + 28 mesh portion at 1.6 S.G. Rec %			63.2						
Analysis of washed + 28 mesh product :									
Moisture (a.d.) %			0.7						
Ash %			5.9						
Volatiles %									
Fixed Carbon %									
FSI			7½						
Sulphur %									
P_2O_5 %									
Froth flotation of - 28 mesh portion Rec %			83.5						
Analysis of froth product:									
Moisture (a.d.)			0.7						
Ash %			13.3						
Volatiles %									
Fixed Carbon %									
FSI			1-6½						
Sulphur %									
P_2O_5 %									
Analysis of total clean coal product *									
Moisture (a.d.) %			0.7						
Ash %			6.5						
Volatiles %			26.0						
Fixed Carbon %			66.8						
FSI			7						
Sulphur %			0.56						
P_2O_5 %									
Recovery of clean coal %			66.1						

* Actual analyses of product shown by "A", weighted average analyses of +28 mesh and -28 mesh components by "C".

MONKMAN COAL PROJECT

Summary of Analytical Data - B-5

Source of Sample	MDD81-01	MDD81-01	MDD81-02	MUD81-03	MUD81-05
Interval (m): from	305.58	310.87	263.53	287.71	184.45
to	308.80	313.09	269.73	290.93	186.63
True Seam Thickness (m)	3.03	2.19	6.19	3.12	2.18
Core Recovery %	92	71	93	63	54

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.65		.70		.65		.77		.85	
Ash %	33.23		21.04		40.08		9.07		34.65	
Volatiles %	17.51		22.61		17.29		23.00		18.54	
Fixed Carbon %	48.61		55.65		41.98		67.16		45.96	
FSI	2½		6½		2½		5		3½	
Sulphur %	.40		.36		.33		.39		.67	
Calorific Value (kJ/kg)	23,013		27,390		20,396		32,328		22,172	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	88.04	35.05	85.05	22.79	88.18	39.81	73.13	8.31	78.60	37.88
28 x 65 mesh	7.61	23.58	9.44	11.71	7.43	35.79	14.77	6.07	11.30	27.59
-65 mesh	4.35	29.30	5.51	20.04	4.39	35.40	12.10	6.66	10.10	25.46
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	44.92	59.61	65.32	75.10	37.61	54.00	86.39	98.40	26.61	49.30
28 x 65 mesh product %	66.87	73.51	84.39	90.20	50.05	59.89	91.17	97.92	51.91	64.76
Analysis of +28 mesh product:										
Ash (dry basis) %	7.57	11.08	6.58	8.71	8.41	12.06	5.66	7.88	9.24	14.40
FSI	5½	-	8	-	7	-	6½	-	6½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	5.76	7.55	4.74	5.92	6.18	8.52	4.07	5.34	7.14	10.76
FSI	8	-	8½	-	8½	-	8½	-	8	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	92.03	93.07	96.10	97.29	85.81	90.02	99.81	99.98	90.24	92.98
Analysis of product:										
Ash (dry basis) %	25.01	25.37	18.20	18.53	27.50	30.15	6.68	6.70	20.38	21.30
FSI	5½	-	7½	-	4	-	6	-	4½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.49		.47		.84		.77		.79
Ash %		11.56		9.03		13.34		6.90		14.47
Volatiles %		24.99		26.05		23.00		23.99		22.88
Fixed Carbon %		62.96		64.45		62.82		68.34		61.86
FSI		5		8½		6		6½		5
Sulphur %		.50		.42		.48		.39		.85
P205 %		.16		.05		.02		.41		.16
Hardgrove Index		72		77		79		89		73
Recovery of clean coal %		62.13		77.75		56.02		98.52		55.46
Calorific Value (kJ/kg)		31,250		32,450		30,545		32,870		29,905

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-5

Source of Sample	MUD81-05	MUD81-09	MDD80-10	MDD80-10	MUD78-14
Interval (m): from	189.08	243.03	224.46	227.38	121.55
to	193.27	243.97	226.39	230.07	125.15
True Seam Thickness (m)	4.19	0.94	1.36	1.90	3.50
Core Recovery %	38	95	84	94	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.86		.78		0.94		0.77		1.0	
Ash %	28.27		33.91		33.27		11.74			
Volatiles %	18.82		21.76		17.75		23.60		38.9	
Fixed Carbon %	52.05		43.55		48.04		63.89		17.0	
FSI	1½		5		2½		6		43.1	
Sulphur %	.46		.42		0.58		0.41		1½	
Calorific Value (kJ/kg)	24,938		22,781						0.47	
					(upper)		(lower)			
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	78.67	30.15	87.80	35.99	80.48	34.19	15.01	12.46	87.6	39.6
28 x 65 mesh	12.01	22.34	7.76	18.24	10.64	30.60	9.20	9.33	7.0	27.1
-65 mesh	9.32	22.48	4.44	16.82	8.88	33.05	5.79	10.14	5.4	26.7
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	55.42	68.42	47.44	56.71	46.46	55.53	76.48	90.06	40.4	53.0
28 x 65 mesh product %	62.90	74.45	78.79	82.70	51.79	60.26	35.60	92.88	60.8	70.1
Analysis of +28 mesh product:										
Ash (dry basis) %	7.54	10.41	7.25	10.62	6.48	9.81	6.13	9.07	7.4	11.7
FSI	4		8½		7		7½		7	
Analysis of 28 x 65 product:										
Ash (dry basis) %	5.90	8.58	6.34	7.21	6.34	9.38	4.70	6.26	5.4	7.9
FSI	7½		8½		7½		8½		8½	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	90.99	92.52	98.10	98.96	90.54	92.61	97.74	99.13	73.3	79.4
Analysis of product:										
Ash (dry basis) %	17.28	17.77	16.02	16.31	25.51	29.57	9.16	9.61	13.3	15.4
FSI	5		8		2½		6½		6½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.95		.92		.81		.82		0.7
Ash %		11.34		11.17		12.07		8.49		11.5
Volatiles %		22.05		22.31		22.27		24.03		22.1
Fixed Carbon %		65.66		65.60		65.05		66.66		65.7
FSI		4½		8		5½		7		6
Sulphur %		.49		.57		.64		.41		0.59
P205 %		.68		.15		-		.18		
Hardgrove Index		92		81		-		102		
Recovery of clean coal %		71.39		60.61		59.32		90.84		55.6
Calorific Value (kJ/kg)		31,250		30,073						

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-4

Source of Sample	MDD81-02	MDD81-02	MUD81-03	MUD81-03	MUD81-03
Interval (m): from	298.14	302.50	322.72	326.16	331.00
to	300.66	304.95	325.14	329.31	333.30
True Seam Thickness (m)	2.52	2.45	2.37	3.12	2.20
Core Recovery %	90	100	79	88	75

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.49		.58		.59		.80		.82	
Ash %	25.99		13.72		25.70		26.06		9.10	
Volatiles %	19.97		22.84		21.80		20.45		22.99	
Fixed Carbon %	53.55		62.86		51.91		52.69		67.09	
FSI	5½		6½		7		6½		6½	
Sulphur %	.31		.37		.27		.20		.34	
Calorific Value (kJ/kg)	25,952		30,940		26,241		25,978		32,566	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	86.31	26.95	84.55	14.53	81.94	28.25	84.33	27.27	73.27	10.30
28 x 65 mesh	8.76	17.79	9.73	8.70	11.04	17.77	10.12	18.08	15.41	7.14
-65 mesh	4.93	20.47	5.72	10.91	7.02	18.22	5.55	19.45	11.32	8.76
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery: +28 mesh product %	59.76	72.70	77.67	87.46	54.66	67.61	54.25	72.42	85.88	94.52
28 x 65 mesh product %	76.21	82.73	91.22	94.36	77.94	82.43	74.85	82.87	92.26	96.50
Analysis of +28 mesh product: Ash (dry basis) %	6.03	9.12	6.61	8.45	6.51	8.53	6.46	9.56	6.74	8.22
FSI	8	-	7½	-	8	-	8	-	7	-
Analysis of 28 x 65 product: Ash (dry basis) %	5.23	6.67	5.29	5.84	4.73	5.88	5.54	7.40	5.02	5.77
FSI	8½	-	8½	-	9	-	8½	-	8	-
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	92.23	94.13	98.81	99.32	93.15	94.86	94.37	96.08	96.79	98.31
Analysis of product: Ash (dry basis) %	15.27	16.54	10.42	10.61	13.63	14.76	16.15	17.00	7.46	7.88
FSI	7	-	7½	-	8	-	7½	-	8	-
Analysis of total clean coal product:										
Moisture (a.d.) %		.75		.94		1.32		1.18		1.44
Ash %		9.46		7.87		8.42		9.43		7.25
Volatiles %		23.69		24.23		24.27		23.81		23.74
Fixed Carbon %		66.10		66.96		65.99		65.58		67.57
FSI		7½		7½		8		7		7
Sulphur %		.36		.41		.31		.22		.34
P205 %		.29		.27		.12		.09		.15
Hardgrove Index		94		76		80		79		89
Recovery of clean coal %		74.63		88.81		71.16		74.79		95.25
Calorific Value (kJ/kg)		32,337		33,064		32,639		32,255		33,056

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-4

Source of Sample	MUD81-05		MUD81-05		MUD81-06		MUD81-09		MUD81-14	
Interval (m): from	231.26		239.85		116.77		258.42		81.64	
to	237.88		242.34		126.66		260.90		84.58	
True Seam Thickness (m)	6.38		2.43		7.78		2.43		2.80	
Core Recovery %	85		56		96		84		74	
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.96		.42		1.80		.56		.75	
Ash %	31.16		14.13		21.63		20.79		25.10	
Volatiles %	19.88		21.64		19.12		21.29		21.76	
Fixed Carbon %	48.40		63.81		57.45		57.36		52.39	
FSI	4		6½		4		5		6	
Sulphur %	.20		.35		.33		.40		.27	
Calorific Value (kJ/kg)	24,112		30,678		27,593		27,876		26,336	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	82.08	33.23	84.29	15.15	85.42	23.44	87.58	21.12	76.68	27.95
28 x 65 mesh	10.82	20.80	8.54	9.79	8.94	12.47	7.69	11.39	13.79	16.12
-65 mesh	7.10	21.28	7.17	10.53	5.64	16.07	4.73	17.52	9.53	18.23
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	46.54	62.10	69.44	86.68	64.31	76.15	75.42	79.77	56.90	70.37
28 x 65 mesh product %	71.11	76.95	87.75	93.09	82.99	90.60	89.00	91.18	85.39	90.97
Analysis of +28 mesh product:										
Ash (dry basis) %	6.28	8.93	6.16	9.89	7.60	10.43	5.18	6.48	11.70	14.08
FSI	8		8		8		6½		7	
Analysis of 28 x 65 product:										
Ash (dry basis) %	5.29	6.80	5.77	6.76	5.57	7.23	4.45	4.94	10.69	11.71
FSI	9		8		8½		8½		8½	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	92.31	93.50	97.89	98.25	94.97	99.31	93.30	93.99	97.79	98.30
Analysis of product:										
Ash (dry basis) %	16.88	17.44	9.69	9.79	13.98	15.77	12.67	13.07	17.00	17.23
FSI	7½		6½		7½		6		8	
Analysis of total clean coal product:										
Moisture (a.d.) %		1.10		.88		1.18		.82		.88
Ash %		9.28		10.02		10.05		7.05		13.70
Volatiles %		23.86		22.69		23.01		22.57		24.55
Fixed Carbon %		65.76		66.41		65.76		69.56		60.87
FSI		7½		7		7½		7		7½
Sulphur %		.25		.37		.35		.46		.30
P205 %		.13		.04		.39		.23		.31
Hardgrove Index		86		84		75		77		95
Recovery of clean coal %		65.94		88.06		78.75		81.32		75.87
Calorific Value (kJ/kg)		32,290		31,869		32,083		32,222		30,992

A. L. McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-4

Source of Sample	MUD81-14	MUD81-14	MDD80-10	MDD80-10	MRC80-75
Interval (m): from	85.54	88.98	282.43	292.05	30.39
to	87.86	90.98	289.79	296.46	31.78
True Seam Thickness (m)	2.02	1.79	3.68	2.20	1.24
Core Recovery %	53	100	62	55	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.70		.54		.64		.82		0.73	
Ash %	34.35		32.24		21.24		12.03		4.91	
Volatiles %	20.12		20.44		21.19		22.03		23.06	
Fixed Carbon %	44.83		46.78		56.93		65.12		71.30	
FSI	4		5½		5½		5½		7½	
Sulphur %	.25		.21		.25		.41		0.46	
Calorific Value (kJ/kg)	21,977		22,967							
					(upper)		(lower)			
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	76.79	38.67	77.31	36.23	82.51	23.38	83.74	11.71	84.99	5.39
28 x 65 mesh	12.74	15.97	12.78	17.34	10.84	11.49	10.21	9.72	8.94	4.01
-65 mesh	10.47	16.02	9.91	18.11	6.65	13.35	6.06	13.49	6.07	3.97
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	45.63	51.20	47.88	63.31	64.53	75.50	83.76	91.74	93.68	98.09
28 x 65 mesh product %	77.57	81.46	75.35	85.04	85.00	90.75	88.45	92.55	95.63	98.21
Analysis of +28 mesh product:										
Ash (dry basis) %	6.66	8.03	8.80	11.49	6.14	9.06	6.13	7.87	3.68	4.35
FSI	6½		8		9		7		7½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	3.88	4.91	6.09	8.32	5.39	6.66	4.61	5.54	2.82	3.30
FSI	7½		8½		9		8		7½	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	94.95	96.13	93.89	95.25	96.09	97.62	93.29	95.87	97.56	99.83
Analysis of product:										
Ash (dry basis) %	12.87	13.56	15.98	16.69	11.14	11.90	8.93	10.47	3.67	3.92
FSI	5		7½		6½		4½		5½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.62		.97		.77		.79		0.70
Ash %		8.68		11.50		9.06		7.52		4.10
Volatiles %		24.84		25.31		24.26		23.36		23.40
Fixed Carbon %		65.86		62.22		65.91		68.33		71.80
FSI		6½		7½		7½		7		7½
Sulphur %		.34		.29		.30		.45		0.46
P205 %		.06		.57		.14		.08		
Hardgrove Index		97		95		75		85		
Recovery of clean coal %		59.76		69.25		78.63		92.07		98.21
Calorific Value (kJ/kg)		31,773		31,369						

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data -B-4

Source of Sample	MRC80-75	MUD78-14	MUD78-14	MUD78-16	MUD78-20
Interval (m): from	32.53	165.57	173.15	215.53	287.50
to	33.78	171.39	175.38	221.10	290.89
True Seam Thickness (m)	1.09	5.65	2.16	4.01	2.97
Core Recovery %	71	96	100	92	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	0.71		0.9		0.8		0.8		0.8	
Ash %	13.79		32.4		11.3		22.9		21.8	
Volatiles %	21.52		18.7		23.0		20.1		20.7	
Fixed Carbon %	63.98		48.0		64.9		56.2		56.7	
FSI	6½		4½		7½		5½		6	
Sulphur %	0.46		0.28		0.59		0.57		0.48	
Calorific Value (kJ/kg)										
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	85.45	14.43	89.8	33.7	84.6	11.2	82.4	23.8	87.0	23.0
28 x 65 mesh	9.44	10.47	6.0	21.0	8.9	10.9	10.2	15.8	8.0	15.3
-65 mesh	5.11	10.99	4.2	21.5	6.5	12.9	7.4	20.4	5.0	16.9
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	76.30	81.94	55.3	63.1	86.8	92.6	71.9	77.8	74.5	77.9
28 x 65 mesh product %	84.96	88.84	72.4	78.0	87.0	91.7	80.0	85.3	82.7	86.4
Analysis of +28 mesh product:										
Ash (dry basis) %	5.23	6.33	7.4	9.6	6.4	7.6	5.3	6.7	5.0	5.7
FSI	6½		8½		7½		7		7½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	3.90	4.73	5.4	6.7	5.3	6.4	4.1	5.1	3.8	4.6
FSI	7½		8½		8½		8		8	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	95.23	99.66	80.9	86.0	76.9	88.6	77.8	83.8	80.9	87.8
Analysis of product:										
Ash (dry basis) %	9.47	10.80	11.6	13.4	7.7	9.1	9.4	11.3	7.3	8.8
FSI	7½		8		7½		7½		7½	
Analysis of total clean coal product:										
Moisture (a.d.) %		0.83		0.8		0.7		0.8		0.5
Ash %		6.22		9.5		7.5		7.0		7.8
Volatiles %		23.10		23.8		23.8		23.1		23.0
Fixed Carbon %		69.85		65.9		68.0		69.1		68.7
FSI		7		7½		7½		7		7
Sulphur %		0.45		0.35		0.57		0.44		0.42
P205 %				0.18						
Hardgrove Index				78						
Recovery of clean coal %		83.50		65.0		92.3		79.0		62.0

Calorific Value (kJ/kg)

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-4

Source of Sample	MUD78-21		MUD78-21							
Interval (m): from	196.65		203.06							
to	201.17		206.21							
True Seam Thickness (m)	4.50		2.10							
Core Recovery %	85		100							
Weighted Average Analysis Raw Coal (Air Dried Basis): Moisture %	0.4		0.4							
Ash %	34.2		35.2							
Volatiles %	20.4		18.7							
Fixed Carbon %	45.0		45.7							
FSI	4½		5½							
Sulphur %	0.23		0.52							
Calorific Value (kJ/kg)										
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	%	Ash %	Wt %	Ash %
¼ x 28 mesh	87.3	35.2	88.4	37.2						
28 x 65 mesh	7.7	25.2	7.0	18.5						
-65 mesh	5.0	26.1	4.6	17.4						
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	45 x1.60		1.45	1.60
Recovery: +28 mesh product %	49.5	62.8	52.4	59.8						
28 x 65 mesh product %	67.7	75.2	79.1	82.1						
Analysis of +28 mesh product: Ash (dry basis) %	8.4	11.7	6.6	9.0						
FSI	6½		6½				1			
Analysis of 28 x 65 product: Ash (dry basis) %	7.3	8.5	6.2	6.7						
FSI	7		7				1			
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	x 180		90	180
Rec. of -65 mesh portion %	51.7	80.9	87.8	95.1						
Analysis of product: Ash (dry basis) %	15.7	17.8	11.3	14.0						
FSI	7						1			
Analysis of total clean coal product: Moisture (a.d.) %		0.4		0.4						
Ash %		12.1		9.3						
Volatiles %		24.6		24.1						
Fixed Carbon %		62.9		66.2						
FSI		6½		7						
Sulphur %		0.30		0.54						
P205 %		0.24		0.06						
Hardgrove Index		77		117						
Recovery of clean coal %		64.7		63.0						

Calorific Value (kJ/kg)

C L McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-3

Source of Sample	MDD81-02	MUD81-03	MUD81-05	MUD81-06	MUD81-09
Interval (m): from	321.55	349.40	258.60	141.95	296.10
to	323.76	351.50	260.93	144.29	298.10
True Seam Thickness (m)	2.21	2.00	2.33	1.62	2.00
Core Recovery %	57	76	96	23	75

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.48		.78		.83		.72		.76	
Ash %	20.63		23.14		34.96		8.92		21.98	
Volatiles %	20.35		20.26		17.32		22.05		20.94	
Fixed Carbon %	58.54		55.82		46.89		68.31		56.32	
FSI	6½		7		3½		7½		5	
Sulphur %	.49		.58		.57		.66		.51	
Calorific Value (kJ/kg)	27,723		27,375		22,485		32,764		27,889	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	83.96	21.26	77.07	26.46	81.81	35.92	88.12	9.12	88.25	24.04
28 x 65 mesh	9.53	12.25	14.18	12.84	10.41	28.81	8.08	8.95	7.53	14.18
-65 mesh	6.51	12.72	8.75	12.70	7.78	25.62	3.80	8.77	4.22	16.74
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery: +28 mesh product %	70.97	77.97	57.73	69.99	52.40	57.00	89.23	92.76	58.90	73.21
28 x 65 mesh product %	84.76	85.20	84.28	87.36	63.42	66.67	85.33	94.92	82.14	88.27
Analysis of +28 mesh product: Ash (dry basis) %	4.97	6.94	5.55	7.04	7.04	8.45	5.26	6.04	6.35	10.02
FSI	8	-	8	-	7½		7½		7½	
Analysis of 28 x 65 product: Ash (dry basis) %	3.80	3.90	4.07	4.77	6.94	7.83	4.96	6.92	5.97	7.32
FSI	7	-	9	-	8½		8½		8½	
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	98.71	98.78	97.60	98.29	81.82	90.91	95.57	99.07	92.42	96.67
Analysis of product: Ash (dry basis) %	12.02	12.06	11.13	11.56	19.23	20.21	7.74	8.44	13.90	14.55
FSI	7	-	8	-	8		7½		6½	
Analysis of total clean coal product:										
Moisture (a.d.) %		1.11		1.68		.92		.89		.86
Ash %		7.38		6.85		10.04		6.05		9.80
Volatiles %		23.29		23.80		22.31		23.58		23.38
Fixed Carbon %		68.22		67.67		66.73		69.48		65.96
FSI		7½		8		7½		8		7
Sulphur %		.53		.66		.71		.67		.64
P2O5 %		.07		.27		.31		.28		Trace
Hardgrove Index		85		90		80		85		72
Recovery of clean coal %		80.02		74.93		60.64		93.18		75.34
Calorific Value (kJ/kg)		33,011		33,380		31,753		33,781		31,789

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-3

Source of Sample	MUD81-14	MUD81-14	MDD80-10	MRC80-76	MUD78-14
Interval (m): from	124.17	126.14	328.97	55.65	189.12
to	125.45	126.96	331.99	58.52	191.44
True Seam Thickness (m)	0.89	0.63	2.06	2.54	2.18
Core Recovery %	82	100	50	76	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.38		.46		.85		0.68		0.8	
Ash %	5.21		8.16		29.48		21.27		39.0	
Volatiles %	25.31		24.80		18.15		21.30		15.9	
Fixed Carbon %	69.10		66.58		51.52		56.75		44.3	
FSI	7½		7½		3		6½		3½	
Sulphur %	.54		.53		.52		0.47		0.48	
Calorific Value (kJ/kg)	33,882		32,365							
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	83.73	5.32	86.14	8.64	88.84	30.85	85.10	23.17	87.5	40.6
28 x 65 mesh	10.54	4.61	9.06	6.43	7.19	22.61	9.03	12.05	7.2	21.6
-65 mesh	5.73	7.55	4.80	6.95	3.97	21.29	5.87	11.81	5.3	24.7
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	95.58	97.84	87.72	98.50	61.25	65.16	65.21	71.56	52.6	60.3
28 x 65 mesh product %	96.86	98.34	93.23	98.28	72.25	76.39	85.07	89.30	74.3	79.0
Analysis of +28 mesh product:										
Ash (dry basis) %	3.89	4.31	6.10	8.07	5.96	7.01	5.97	7.67	6.2	8.8
FSI	7½		8		7½		7		8	
Analysis of 28 x 65 product:										
Ash (dry basis) %	3.39	3.65	4.80	5.74	5.22	6.21	4.88	5.89	4.8	6.0
FSI	8½		8		8½		8		8½	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	98.14	98.65	99.46	99.82	80.38	91.98	88.87	98.97	76.0	81.7
Analysis of product:										
Ash (dry basis) %	6.48	6.69	6.78	6.87	13.61	15.33	8.91	11.12	10.8	12.8
FSI	8½		8½		4		8½		8	
Analysis of total clean coal product:										
Moisture (a.d.) %		.67		.53		.80		0.70		0.7
Ash %		4.11		7.78		7.31		7.87		8.8
Volatiles %		25.70		25.06		22.20		23.70		22.1
Fixed Carbon %		69.52		66.63		69.69		67.73		68.4
FSI		7½		8		7½		8		7½
Sulphur %		.54		.53		.63		0.54		0.70
P205 %		.05		.59		.28				
Hardgrove Index		85		82		69				
Recovery of clean coal %		97.94		98.54		67.03		74.77		62.8
Calorific Value (kJ/kg)		34,179		32,923						

C. L. McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B-3

Source of Sample	MUD78-20	MUD78-21			
Interval (m): from	321.59	219.40			
to	325.74	221.49			
True Seam Thickness (m)	3.73	2.03			
Core Recovery %	100	100			

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	0.7		0.4							
Ash %	33.2		36.9							
Volatiles %	18.2		18.1							
Fixed Carbon %	47.9		44.6							
FSI	5		3							
Sulphur %	0.55		0.48							
Calorific Value (kJ/kg)										
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	86.5	35.2	90.3	36.2						
28 x 65 mesh	8.1	18.8	5.9	37.7						
-65 mesh	5.4	22.1	3.8	44.8						
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	x1.60	1.45	x1.60	1.45	1.60
Recovery: +28 mesh product %	54.0	59.0	56.9	64.0						
28 x 65 mesh product %	72.7	79.0	52.0	60.0						
Analysis of +28 mesh product: Ash (dry basis) %	5.9	7.4	5.8	7.5						
FSI	7½		6½			1		1		
Analysis of 28 x 65 product: Ash (dry basis) %	4.6	6.1	6.4	7.4						
FSI	8½		7			1		1		
Froth Flotation: Duration (secs.)	90	180	90	180	90	x 180	90	x 180	90	180
Rec. of -65 mesh portion %	79.1	83.3	56.2	68.8						
Analysis of product: Ash (dry basis) %	11.7	13.7	19.4	25.9						
FSI	8		5			1		1		
Analysis of total clean coal product: Moisture (a.d.) %		0.5		0.2						
Ash %		7.8		8.8						
Volatiles %		23.0		23.1						
Fixed Carbon %		68.7		67.9						
FSI		7		6½						
Sulphur %		0.42		0.6						
P205 %										
Hardgrove Index										
Recovery of clean coal %		62.0		63.9						

Calorific Value (kJ/kg)

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MONKMAN COAL PROJECT

Summary of Analytical Data - B2-B1

Source of Sample	MDD81-02	MDD81-02	MUD81-03	MUD81-03	MUD81-05
Interval (m): from	341.84	360.90	376.09	384.98	291.13
to	343.92	362.20	378.03	386.31	293.23
True Seam Thickness (m)	2.08	1.30	1.77	1.32	1.98
Core Recovery %	100	100	86	100	94

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.43		.53		.93		.45		.45	
Ash %	23.33		6.18		19.95		5.92		12.90	
Volatiles %	18.22		24.41		20.02		23.89		21.26	
Fixed Carbon %	48.02		68.88		59.10		69.74		65.39	
FSI	3½		8½		7		8½		5½	
Sulphur %	.34		.49		.38		.44		.34	
Calorific Value (kJ/kg)	23,416		33,958		28,728		34,148		31,331	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	87.09	35.21	86.28	7.02	77.96	21.99	69.40	6.08	84.21	12.94
28 x 65 mesh	8.17	26.11	8.64	5.11	12.93	11.85	18.08	4.22	9.96	9.08
-65 mesh	4.74	26.56	5.08	4.85	9.11	10.60	12.52	4.18	5.83	11.39
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	51.69	57.46	94.65	98.02	73.20	78.69	94.73	97.13	81.31	87.58
28 x 65 mesh product %	64.39	72.57	95.39	97.63	85.54	90.14	96.71	98.48	86.90	91.82
Analysis of +28 mesh product:										
Ash (dry basis) %	6.43	7.75	5.49	5.97	6.13	7.48	4.28	4.77	5.63	7.04
FSI	7	-	9	-	7½	-	8½	-	7½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	5.50	7.09	3.58	4.02	4.72	5.78	3.11	3.46	4.04	5.13
FSI	8½	-	9	-	9	-	9	-	9	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	91.02	93.26	98.81	99.83	99.15	99.49	99.88	99.91	98.65	98.82
Analysis of product:										
Ash (dry basis) %	21.14	22.45	4.73	4.80	10.16	10.33	4.17	4.18	10.68	10.73
FSI	5	-	8	-	8½	-	9	-	8	
Analysis of total clean coal product:										
Moisture (a.d.) %		.61		.97		1.06		1.13		.93
Ash %		9.02		5.50		7.07		4.32		7.52
Volatiles %		23.10		24.36		22.84		24.51		22.86
Fixed Carbon %		67.27		69.17		69.03		70.04		68.69
FSI		7		9		8		9		7½
Sulphur %		.48		.55		.46		.46		.36
P205 %		.18		.31		.02		.01		.03
Hardgrove Index		75		83		96		91		85
Recovery of clean coal %		60.39		98.08		82.07		97.73		88.66
Calorific Value (kJ/kg)		32,332		34,056		33,578		34,382		33,078

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B2-B1

Source of Sample	MUD81-05	MUD81-09	MDD80-10	MDD80-10	MDD80-10
Interval (m): from	298.50	304.72	376.18	380.76	383.90
to	300.00	307.42	378.86	382.85	385.45
True Seam Thickness (m)	1.50	2.69	2.27	1.78	1.33
Core Recovery %	62	80	100	81	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.37		.64		.79		.80		.89	
Ash %	9.48		12.53		17.44		27.86		5.84	
Volatiles %	22.95		22.61		20.37		18.44		23.37	
Fixed Carbon %	67.20		64.22		61.40		52.90		69.90	
FSI	8½		7½		5½		3½		8½	
Sulphur %	.44		.42		.34		.30		.45	
Calorific Value (kJ/kg)	32,583		31,722							
							(upper)		(lower)	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	75.50	9.08	83.50	13.45	88.15	18.53	83.40	30.53	83.50	5.42
28 x 65 mesh	13.98	9.88	9.98	8.20	7.63	13.54	9.83	20.95	10.73	4.55
-65 mesh	10.52	9.91	6.52	9.53	4.22	14.95	6.77	20.95	5.77	5.72
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	87.89	92.87	82.12	86.86	76.78	83.11	47.95	59.04	94.93	98.61
28 x 65 mesh product %	87.92	91.90	91.06	93.52	32.58	88.55	67.29	74.83	95.97	98.05
Analysis of +28 mesh product:										
Ash (dry basis) %	4.28	5.37	5.71	6.67	6.40	7.88	5.98	10.05	3.85	4.58
FSI	8½		7½		7½		7½		8½	
Analysis of 28 x 65 product:										
Ash (dry basis) %	4.41	5.31	4.12	4.61	5.38	6.74	5.78	7.96	3.29	3.70
FSI	8½		8½		8½		8½		9	
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	92.69	97.79	97.48	97.84	91.68	96.28	94.02	96.58	98.81	99.49
Analysis of product:										
Ash (dry basis) %	8.64	8.78	8.17	8.23	11.08	12.89	17.17	18.97	5.18	5.40
FSI	8		8		7		6		7½	
Analysis of total clean coal product:										
Moisture (a.d.) %		.92		.47		.64		.68		.60
Ash %		5.83		6.95		8.03		11.02		4.50
Volatiles %		24.13		25.22		22.16		21.24		23.81
Fixed Carbon %		69.12		67.36		69.17		67.06		71.09
FSI		8		8		7½		7		8½
Sulphur %		.44		.48		.37		.37		.45
P205 %		.09		Trace		.13		.03		.01
Hardgrove Index		92		78		68		68		74
Recovery of clean coal %		93.25		88.24		84.08		65.15		98.60
Calorific Value (kJ/kg)		33,756		33,448						

A L McJoan

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - B2-B1

Source of Sample	MUD78-14	MUD78-14	MUD78-20	MUD78-21	
Interval (m): from	223.10	228.23	336.21	258.98	
to	225.73	231.94	338.33	266.00	
True Seam Thickness (m)	2.43	3.41	1.90	6.85	
Core Recovery %	100	100	92	96	

Weighted Average Analysis										
Raw Coal (Air Dried Basis):										
Moisture %	0.6		0.9		0.8		0.5			
Ash %	19.3		30.6		33.8		30.5			
Volatiles %	22.1		18.4		17.4		19.6			
Fixed Carbon %	58.0		50.1		48.0		49.4			
FSI	7		6½		5		5			
Sulphur %	0.36		0.36		0.75		0.33			
Calorific Value (kJ/kg)										
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	87.7	20.4	87.6	32.8	78.5	36.0	86.8	29.7		
28 x 65 mesh	7.3	10.8	7.4	17.3	12.8	28.3	8.5	24.1		
-65 mesh	5.0	14.2	5.0	18.0	8.7	27.5	4.7	27.9		
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery:										
+28 mesh product %	72.9	79.0	58.8	62.7	56.7	62.6	63.0	69.0		
28 x 65 mesh product %	87.7	90.2	79.1	82.5	67.2	72.8	72.2	75.3		
Analysis of +28 mesh product:										
Ash (dry basis) %	6.2	7.6	5.6	6.9	7.2	8.6	6.2	7.7		
FSI	7½		8		8		5½			
Analysis of 28 x 65 product:										
Ash (dry basis) %	4.2	4.7	4.2	4.9	5.6	7.0	5.3	6.0		
FSI	8½		9		8		6½			
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	88.4	92.5	79.8	86.8	71.3	78.4	41.7	75.0		
Analysis of product:										
Ash (dry basis) %	8.2	9.4	8.2	10.1	10.6	13.6	11.2	14.0		
FSI	8		8		7½		7½			
Analysis of total clean coal product:										
Moisture (a.d.) %		0.7		0.8		0.7		0.3		
Ash %		7.3		7.0		9.1		8.4		
Volatiles %		23.9		22.1		22.2		24.6		
Fixed Carbon %		68.1		70.1		63.0		66.7		
FSI		7½		8		8		5½		
Sulphur %		0.40		0.51		0.59		0.37		
P205 %		0.05								
Hardgrove Index		78		65.4						
Recovery of clean coal %		80.5				65.3		69.8		

Calorific Value (kJ/kg)

C. L. McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - Gething

Source of Sample	MUD81-04	MUD81-04	MUD81-04	MUD81-04	MUD81-04
Interval (m): from	212.70	241.38	250.10	259.32	262.93
to	213.98	246.56	252.96	261.23	264.93
True Seam Thickness (m)	1.28	3.77	2.62	1.73	1.97
Core Recovery %	73	61	66	80	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.56		.47		.10		.28		.44	
Ash %	26.36		8.79		8.07		6.92		22.78	
Volatiles %	16.93		21.53		24.38		22.81		18.33	
Fixed Carbon %	56.15		69.21		67.45		69.99		58.45	
FSI	1½		4		6½		7½		2	
Sulphur %	2.21		.43		.34		.39		.36	
Calorific Value (kJ/kg)	26,573		33,007		33,014		34,062		28,096	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	89.21	27.85	79.51	9.24	80.29	7.32	70.42	7.36	82.59	25.19
28 x 65 mesh	6.41	17.92	11.81	5.06	12.98	5.25	15.87	3.94	10.90	13.29
-65 mesh	4.38	19.06	8.68	5.50	6.73	8.11	13.71	4.71	6.51	13.56
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery: +28 mesh product %	55.59	72.69	85.46	91.37	90.07	91.77	90.51	92.63	60.24	76.45
28 x 65 mesh product %	75.91	85.50	92.79	96.22	93.81	95.09	94.33	96.36	77.40	89.23
Analysis of +28 mesh product: Ash (dry basis) %	9.89	13.67	3.86	5.32	2.78	3.18	1.76	2.30	3.69	7.49
FSI	3½		3½		7½		7½		3½	
Analysis of 28 x 65 product: Ash (dry basis) %	8.11	9.99	2.47	3.13	2.02	2.29	1.41	1.78	3.19	5.76
FSI	7		5½		8		6½		6	
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	75.16	95.54	96.92	99.14	95.08	98.30	97.95	99.32	93.83	98.11
Analysis of product: Ash (dry basis) %	13.43	16.21	4.49	4.90	5.57	6.88	3.80	4.19	9.88	12.38
FSI	5½		4½		7½		5½		4	
Analysis of total clean coal product:										
Moisture (a.d.) %		.61		1.11		1.18		2.51		1.94
Ash %		12.81		5.19		3.21		2.34		7.20
Volatiles %		20.73		21.82		24.30		23.27		19.14
Fixed Carbon %		65.85		71.88		71.31		71.88		71.72
FSI		2½		3½		7½		6½		4
Sulphur %		.59		.43		.39		.43		.43
P205 %		.02		.01		.01		.01		.01
Hardgrove Index		74		90		92		88		75
Recovery of clean coal %		74.51		92.61		92.64		94.13		79.25
Calorific Value (kJ/kg)		31,318		34,050		34,820		34,599		33,332

B R McIsaac

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - Gething

Source of Sample	MUD81-04	MUD81-04	MUD81-07	MUD81-07	MUD81-07
Interval (m): from	277.93	307.50	112.85	137.12	141.06
to	282.54	309.65	114.14	139.53	141.87
True Seam Thickness (m)	4.45	1.95	1.28	2.35	0.80
Core Recovery %	82	24	83	95	100

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.59		.25		.41		.32		.70	
Ash %	17.26		19.12		29.03		29.01		15.11	
Volatiles %	17.79		18.19		17.78		18.16		19.89	
Fixed Carbon %	64.36		62.44		52.78		52.51		64.30	
FSI	1		2½		1½		2		6½	
Sulphur %	.32		.44		.36		.45		.38	
Calorific Value (kJ/kg)	29,118		28,259		25812		25722		29542	
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	85.49	19.05	52.21	30.47	82.41	31.12	86.10	30.54	81.39	18.23
28 x 65 mesh	8.33	8.73	26.24	9.05	10.83	19.96	8.63	18.04	12.17	5.65
-65 mesh	6.18	10.12	21.55	8.41	6.76	18.59	5.27	22.14	6.44	6.21
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60	1.45	1.60
Recovery: +28 mesh product %	67.34	79.95	52.04	59.16	57.30	74.11	56.05	62.25	75.97	79.59
28 x 65 mesh product %	88.30	93.96	89.66	94.00	75.83	82.67	75.18	79.21	94.93	96.03
Analysis of +28 mesh product: Ash (dry basis) %	5.69	8.07	5.22	7.73	7.91	11.16	3.58	5.83	1.81	2.89
FSI	1		4½		3		4½		7½	
Analysis of 28 x 65 product: Ash (dry basis) %	4.47	5.50	4.68	5.51	5.22	6.74	4.12	5.15	2.36	2.58
FSI	2		1		7½		6½		8½	
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	180	90	180
Rec. of -65 mesh portion %	97.39	98.53	99.49	99.66	85.55	94.18	88.85	97.60	95.76	99.32
Analysis of product: Ash (dry basis) %	8.44	9.09	8.12	8.20	10.10	14.38	16.31	20.74	4.37	5.69
FSI	2½		3		7½		4½		8	
Analysis of total clean coal product:										
Moisture (a.d.) %		1.07		3.38		.31		.51		.63
Ash %		7.46		6.83		10.12		6.42		2.84
Volatiles %		18.51		19.61		20.64		22.05		23.40
Fixed Carbon %		72.96		70.18		68.93		71.02		73.13
FSI		1½		2½		3½		4		8
Sulphur %		.39		.44		.43		.57		.41
P205 %		.01		.01		.01		Trace		Trace
Hardgrove Index		68		80		72		67		77
Recovery of clean coal %		82.27		77.03		76.39		65.57		82.86
Calorific Value (kJ/kg)		33,020		32,799		32209		33603		34878

A. L. McFarlane

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - Gething

Source of Sample	MUD81-07				
Interval (m): from	145.11				
to	145.76				
True Seam Thickness (m)	0.63				
Core Recovery %	100				

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.72									
Ash %	11.94									
Volatiles %	18.91									
Fixed Carbon %	68.43									
FSI	3									
Sulphur %	.45									
Calorific Value (kJ/kg)	30486									
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	88.23	14.88								
28 x 65 mesh	7.66	12.18								
-65 mesh	4.11	13.85								
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	x1.60	1.45	1.60
Recovery: +28 mesh product %	65.87	89.42								
28 x 65 mesh product %	79.91	90.91								
Analysis of +28 mesh product: Ash (dry basis) %	6.47	11.28								
FSI	3							1		
Analysis of 28 x 65 product: Ash (dry basis) %	5.76	8.05								
FSI	6½							1		
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	x 180	90	180
Rec. of -65 mesh portion %	74.22	96.03								
Analysis of product: Ash (dry basis) %	11.02	11.72								
FSI	3½							1		
Analysis of total clean coal product:										
Moisture (a.d.) %		.47								
Ash %		10.68								
Volatiles %		19.55								
Fixed Carbon %		69.30								
FSI		3½								
Sulphur %		.47								
P205 %		Trace								
Hardgrove Index		73								
Recovery of clean coal %		89.81								

Calorific Value (kJ/kg) 32177

C L McJonas

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - NEKIK B3

Source of Sample	MND81-01									
Interval (m): from	66.87									
to	71.30									
True Seam Thickness (m)	4.18									
Core Recovery %	96									
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	1.73									
Ash %	15.29									
Volatiles %	27.30									
Fixed Carbon %	55.68									
FSI	2½									
Sulphur %	.30									
Calorific Value (kJ/kg)	28,240									
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	91.11	15.39								
28 x 65 mesh	5.56	12.21								
-65 mesh	3.33	12.00								
Sink-Float Tests: Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	x1.60	1.45	1.60
Recovery: +28 mesh product %	80.04	90.44								
28 x 65 mesh product %	86.86	92.63								
Analysis of +28 mesh product: Ash (dry basis) %	7.80	9.65								
FSI	3½							1		
Analysis of 28 x 65 product: Ash (dry basis) %	7.16	7.78								
FSI	5							1		
Froth Flotation: Duration (secs.)	90	180	90	180	90	180	90	x 180	90	180
Rec. of -65 mesh portion %	78.54	92.69								
Analysis of product: Ash (dry basis) %	8.14	8.59								
FSI	4½							4		
Analysis of total clean coal product:										
Moisture (a.d.) %		1.14								
Ash %		9.79								
Volatiles %		29.95								
Fixed Carbon %		59.12								
FSI		3								
Sulphur %		.30								
P205 %										
Hardgrove Index										
Recovery of clean coal %		90.64								

Calorific Value (kJ/kg) 30.547

D. Enebo

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - NEKIK GETHING A

Source of Sample	MND81-01		MND81-02							
Interval (m): from	202.49		83.39							
to	205.68		86.45							
True Seam Thickness (m)	2.98		2.88							
Core Recovery %	100		65							
Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	1.53		1.46							
Ash %	22.03		22.81							
Volatiles %	26.27		26.83							
Fixed Carbon %	50.17		48.90							
FSI	2		1½							
Sulphur %	.31		.32							
Calorific Value (kJ/kg)	26,407		26,625							
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	86.11	22.04	88.37	23.87						
28 x 65 mesh	8.50	14.49	6.75	14.96						
-65 mesh	5.39	19.54	4.88	14.44						
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	x1.60	1.45	1.60
Recovery:										
+28 mesh product %	72.63	79.61	61.36	67.00						
28 x 65 mesh product %	73.07	83.12	78.16	84.14						
Analysis of +28 mesh product:										
Ash (dry basis) %	8.64	9.93	7.96	9.01						
FSI	3		3					1		
Analysis of 28 x 65 product:										
Ash (dry basis) %	4.67	6.43	4.85	6.21						
FSI	5½		3½					1		
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	x 180	90	180
Rec. of -65 mesh portion %	89.09	93.43	69.71	91.86						
Analysis of product:										
Ash (dry basis) %	14.88	15.75	10.33	11.22						
FSI	4½		4					4		
Analysis of total clean coal product:										
Moisture (a.d.) %		1.11		1.27						
Ash %		9.91		9.15						
Volatiles %		29.89		30.05						
Fixed Carbon %		59.09		59.53						
FSI		3		2½						
Sulphur %		.34		.37						
P205 %										
Hardgrove Index										
Recovery of clean coal %		80.66		69.37						
Calorific Value (kJ/kg)		30,900		31,071						

D. Enlet

Assayer

MONKMAN COAL PROJECT

Summary of Analytical Data - GETHING - UNNAMED

Source of Sample	MND81-01	MND81-02			
Interval (m): from	208.97	105.74			
to	209.85	107.27			
True Seam Thickness (m)	0.83	1.45			
Core Recovery %	92	88			

Weighted Average Analysis Raw Coal (Air Dried Basis):										
Moisture %	.92		1.46							
Ash %	23.42		30.12							
Volatiles %	23.01		27.27							
Fixed Carbon %	52.65		41.15							
FSI	2		3½							
Sulphur %	.45		.51							
Calorific Value (kJ/kg)	26,318		25,099							
Screen Analysis: (A.D.)	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %	Wt %	Ash %
¼ x 28 mesh	92.20	24.21	93.87	30.26						
28 x 65 mesh	4.78	20.07	3.98	20.49						
-65 mesh	3.02	22.00	2.15	22.63						
Sink-Float Tests:										
Specific Gravity of Flotation	1.45	1.60	1.45	1.60	1.45	1.60	1.45	x1.60	1.45	1.60
Recovery:										
+28 mesh product %	52.08	58.31	51.21	59.07						
28 x 65 mesh product %	72.26	77.62	66.97	77.52						
Analysis of +28 mesh product:										
Ash (dry basis) %	5.43	7.97	7.00	8.81						
FSI	5		5½					1		
Analysis of 28 x 65 product:										
Ash (dry basis) %	9.79	10.64	4.55	6.89						
FSI	6		6					1		
Froth Flotation:										
Duration (secs.)	90	180	90	180	90	180	90	x 180	90	180
Rec. of -65 mesh portion %	78.97	92.86	70.74	86.03						
Analysis of product:										
Ash (dry basis) %	17.99	19.66	13.76	14.69						
FSI	3		4½					4		
Analysis of total clean coal product:										
Moisture (a.d.) %		.97		1.33						
Ash %		8.95		9.36						
Volatiles %		28.88		30.22						
Fixed Carbon %		61.20		59.09						
FSI		4½		5						
Sulphur %		.55		.61						
P205 %										
Hardgrove Index										
Recovery of clean coal %		60.27		60.39						

Calorific Value (kJ/kg) 30,129 31,004

D. Enders

Assayer

Appendix B

Licence Groupings and Work Credits - 1981

Coal Licence Groups - 1981

1981 Drill Metreage by Licence and Group

Application of Work Credits - 1981

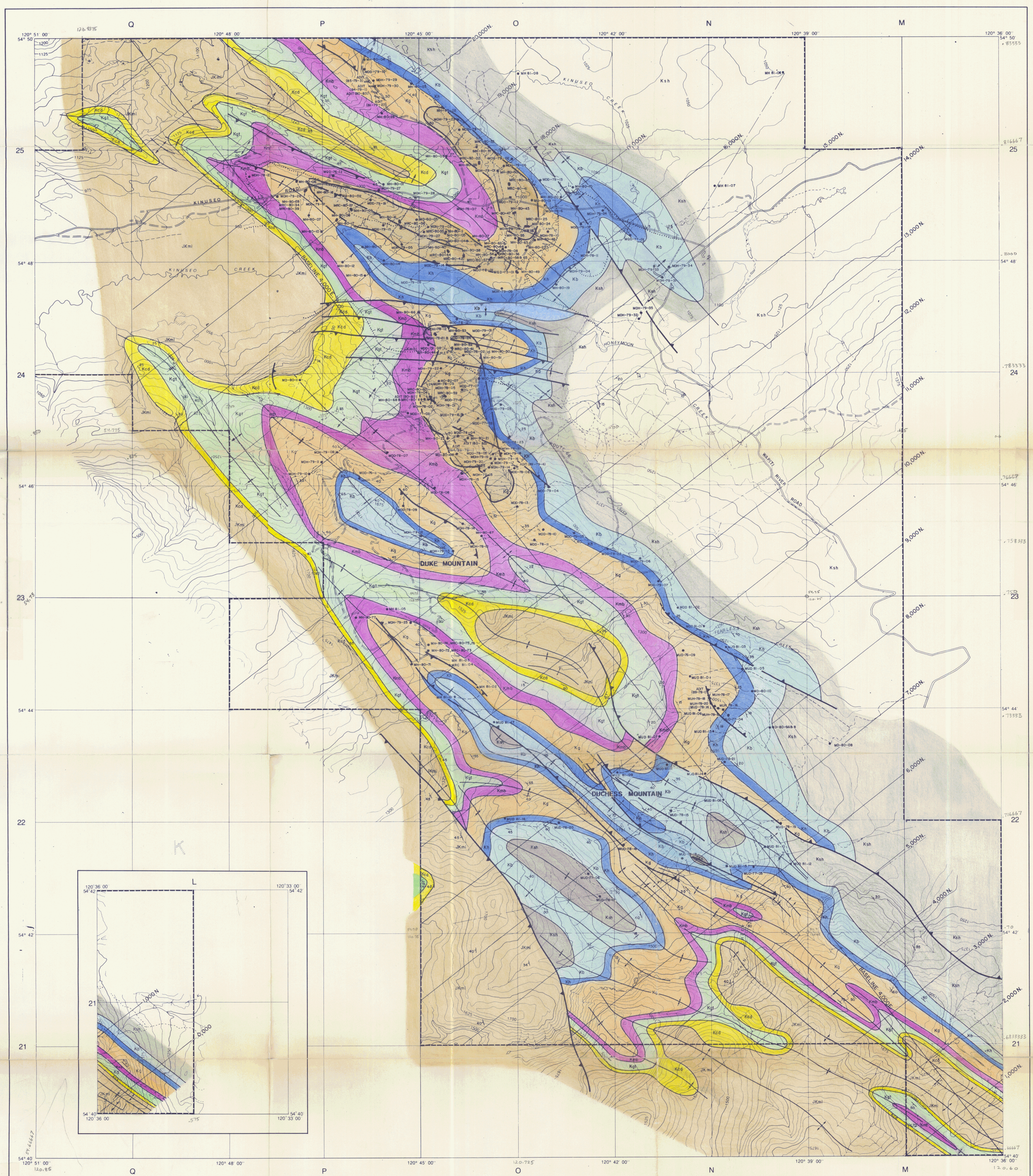
COAL LICENCE GROUPS

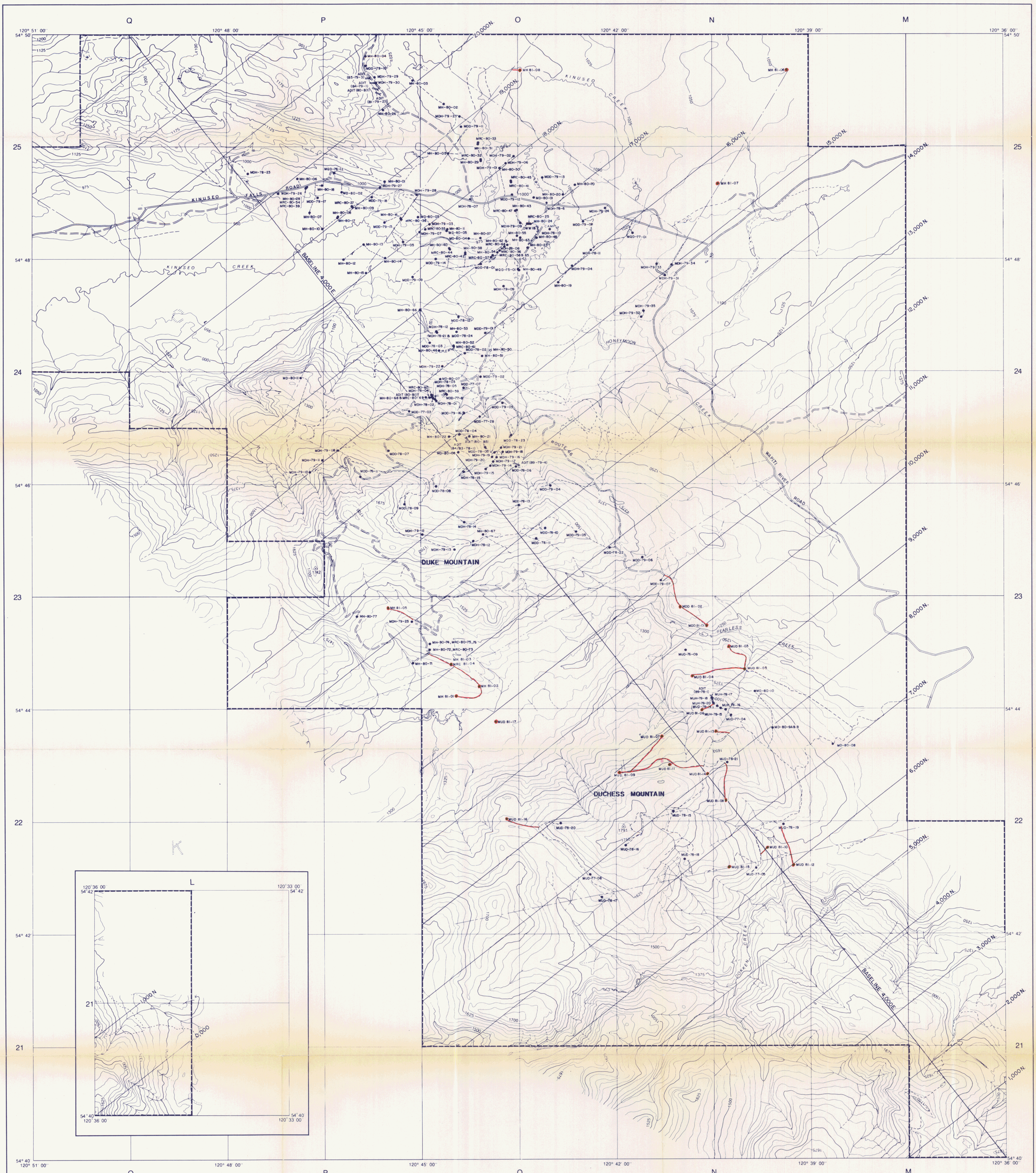
DECEMBER 31, 1981

Group	Licences	Work Hectares
66	3154, 3155, 3157-3164 incl.	2262
67	3145, 3148, 3149	906
68	3139, 3141-3144 incl., 3146, 3147, 3151-3153 incl.	2116
69	3132-3135 incl., 3138	910
163	3239, 3242, 3258-3264 incl.	1945
168	3213, 3217, 3218, 3223-3225 incl., 3235-3237 incl., 3253	2095
169	3199, 3200, 3202-3205 incl., 3209-3212 incl.	2096
170	3183, 3184, 3187-3190 incl., 3198, 3201, 3206, 3207	2098
171	3177-3182 incl., 3193, 3195, 3196, 3197	2848
172	3131, 3166-3168 incl., 3170-3174 incl.	2034
220	4518-4520 inclusive	607
269	3233, 3234, 3245, 3248, 3947, 3949, 3955, 5160-5163 incl., 5165-5167	3889
270	3238, 3240, 3241, 3243, 3244, 3246, 3247, 3249-3251 incl., 5168-5170 incl.	2620
271	3228-3232 incl., 3948, 3953, 3954, 3956-3960 incl.	2679
272	3226, 3227, 3940-3946 incl., 3950-3952 incl., 4521-4523 incl.	4044
273	3254-3257 inclusive	528
274	3214-3216 inc., 3219-3222 incl., 3252, 5164	2692
Ungrouped	3936-3939 incl., 5159, 6863-6865 incl., 7295-7298 incl.	3218
	TOTAL	39,587

1981 DRILLING METREAGE BY LICENCE AND GROUP

GROUP	LICENCE	HOLE NO.	DEPTH	TOTAL BY LICENCE	BY GROUP
69	3132	MND81-02	176	176	176
168	3217	MH81-05	182	182	182
169	3199	MUD81-08	316		
		MUD81-13	108	424	
	3200	MUD81-07	147		
		MUD81-09	325		
		MUD81-11	235		
		MUD81-14	239	946	
	3202	MUD81-17	229	229	
	3203	MUD81-01	320		
		MDD81-02	369		
		MUD81-04	347		
		MUD81-06	257	1293	
	3205	MH81-01	201		
		MH81-02	262		
		MH81-03	219		
		MRC81-04	128	810	3702
171	3196	MUD81-10	227		
		MUD81-12	142		
		MUD81-15	263	632	632
220	4519	MND81-01	214	214	214
271	3959	MH81-07	302	302	302
272	3944	MUD81-03	397		
		MUD81-05	319	716	
	4522	MUD81-16	194	194	910
Ungrouped	6863	MH81-06	292	292	
	6865	MH81-08	302	302	594
					6712


DUKE MOUNTAIN
DUCHESS MOUNTAIN
KINUSEO CREEK
HONEYMOON CREEK
WAPITI RIVER ROAD
ROUTE 66
FEARLESS CREEK
BASELINE 4,000 E.
Q
P
O
N
M
L
TOPOGRAPHIC LEGEND
MAIN ACCESS ROAD — DRY WEATHER
EXPLORATION ROAD
EXPLORATION TRAIL
AIR STRIP
SEISMIC LINE, CUT LINE
POWER TRANSMISSION LINE
RIVER
STREAM
LAKE
SWAMP
CONTOURS
DEPRESSION CONTOUR
GEOLOGICAL LEGEND
LOWER CRETACEOUS
Ks SHAFTESBURY FORMATION
Kb BOULDER CREEK FORMATION
Kh HULCROSS FORMATION
Kg GATES FORMATION
Kmb MOOSEBAR FORMATION
Kg GETHING FORMATION
Kcd CADOMIN FORMATION
FORT ST. JOHN GROUP
BULLHEAD GROUP
JURASSIC — CRETACEOUS
JKmi MINNES GROUP
SYMBOLS
PROPERTY BOUNDARY
GEOLOGICAL CONTACT
DIP AND STRIKE: REGULAR
VERTICAL
HORIZONTAL
OVERTURNED
THRUST: FLAGS SHOW DIP DIRECTION
AREA OF 20m+ OVERBURDEN
ANTICLINE, SYNCLINE
DRILL HOLE COLLAR
ADIT
PIT AREAS
KEY MAP
SURVEY NOTE
Control Survey was carried out for Photogrammetric Mapping to cover MONKMAN COAL PROJECT COAL LEASES. Mapping outside of the Coal Leases was taken from existing N.T.S. maps, and 25 metre contour intervals were interpolated.
CONTOUR INTERVAL 25m
R.M.HARDY & ASSOCIATES LTD.
1978
500 0 500 1000 1,500 2,000
SCALE
547
PETRO-CANADA
COAL DIVISION
DATE DECEMBER, 1981
REVISED
AUTHOR
DRAFTED S.R.T., S.K.
SCALE 1:25,000
MONKMAN COAL PROJECT
DUKE MOUNTAIN BLOCK
GEOLOGY
MAP I



TOPOGRAPHIC LEGEND

- MAIN ACCESS ROAD — DRY WEATHER
- EXPLORATION ROAD
- EXPLORATION TRAIL
- AIR STRIP
- SEISMIC LINE, CUT LINE
- POWER TRANSMISSION LINE
- RIVER
- STREAM
- LAKE
- SWAMP
- CONTOURS (1625, 1500)
- DEPRESSION CONTOUR

GEOLOGICAL LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC — CRETACEOUS

JKmi	MINNES GROUP

SYMBOLS

- PROPERTY BOUNDARY
- GEOLOGICAL CONTACT
- DIP AND STRIKE: REGULAR (5)
- VERTICAL
- HORIZONTAL
- OVERTURNED (80)
- THRUST: FLAGS SHOW DIP DIRECTION
- AREA OF 20m+ OVERBURDEN
- ANTICLINE, SYNCLINE
- DRILL HOLE COLLAR
- ADIT
- PIT AREAS

KEY MAP

SURVEY NOTE

Control Survey was carried out for Photogrammetric Mapping to cover MONKMAN COAL PROJECT COAL LEASES. Mapping outside of the Coal Leases was taken from existing N.T.S. maps, and 25 metre contour intervals were interpolated.

CONTOUR INTERVAL 25m

R.M.HARDY & ASSOCIATES LTD.

1978

500 0 500 1000 1,500 2,000

SCALE

547

PETRO-CANADA

COAL DIVISION

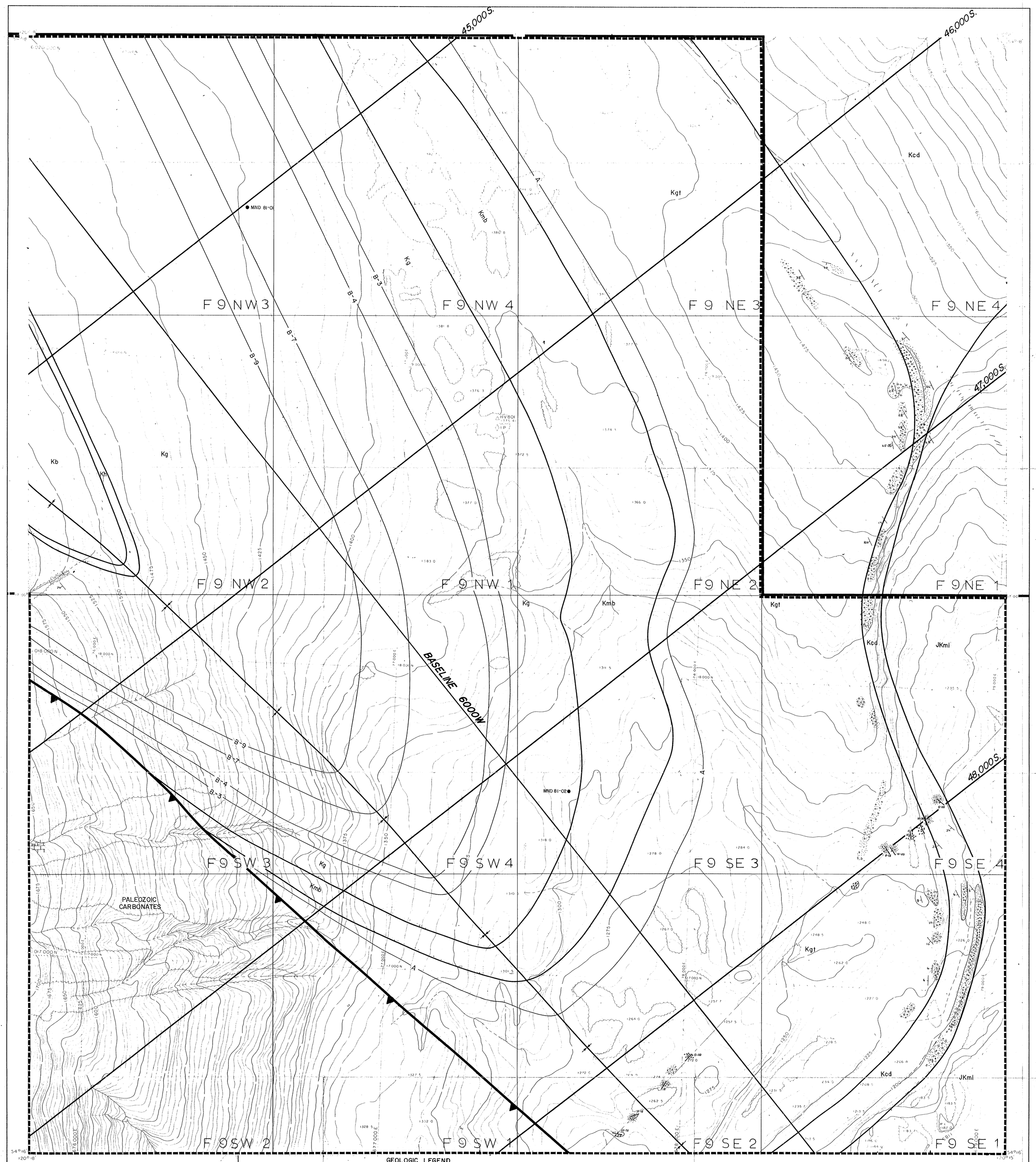
DATE	DECEMBER, 1981
REVISED	
AUTHOR	
DRAFTED	S.R.T., S.K.
SCALE	1:25,000

MAP 2

MONKMAN COAL PROJECT

DUKE MOUNTAIN BLOCK

1981 DRILL HOLES AND ACCESS



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- * COAL SEAM
- * GEOLOGIC CONTACT
- * THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned) — 20 / 15
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

* Approximate except where defined by outcrop

LEGEND

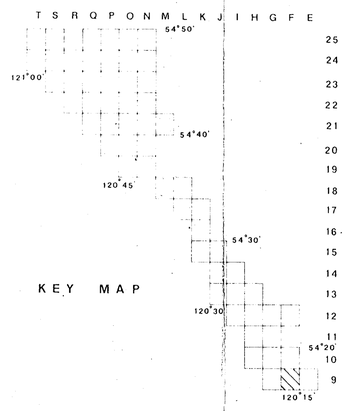
- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours — 1300
- Horizontal control — △ 390
- Vertical control — ○ V 1372
- Spot elevation — 1247 9
- Iron Pin — ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E, Quintette S.W., Marme, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.

KEY MAP



LEGEND

- SHELL CANADA BOUNDARY
- PETRO-CANADA BOUNDARY

Re- Monkman 81(2)A 547

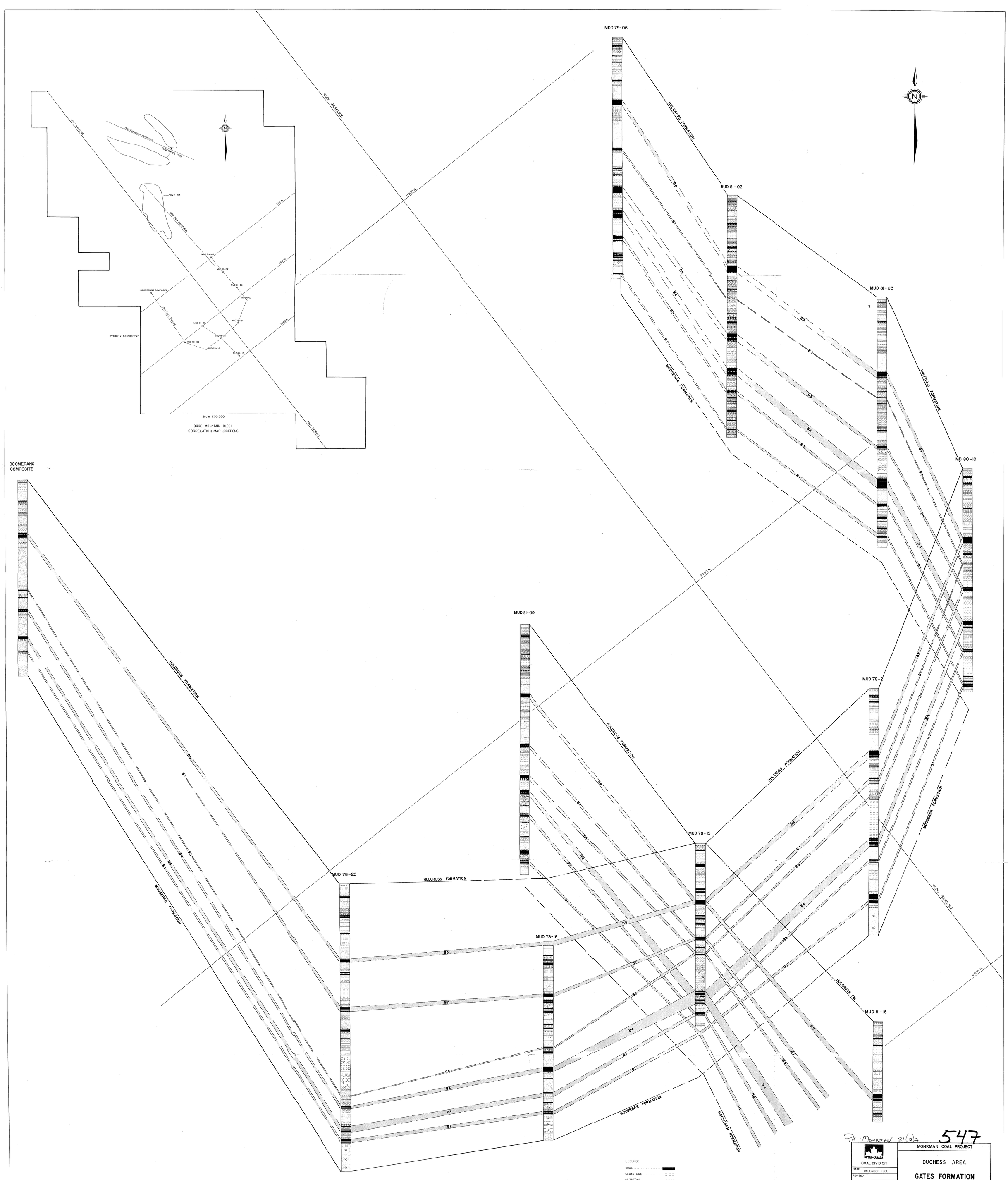
Petro-Canada
COAL DIVISION

MONKMAN COAL PROJECT	Date NOVEMBER 1981
	Revised
	Author F.B.G.
NEKIK BLOCK GEOLOGY MAP	Drafted P.J.H.
	Scale 1:5,000
	F 9

R.M. HARDY & ASSOCIATES LTD.

93-I-15
93-I-10
93-I-9
93-I-8
95-I-7
FIVE CABIN
ONION SYNCLINE
DUKE MOUNTAIN
NORTH WAPITI
SOUTH WAPITI
BELCOURT
SAXON EXTENSION
SECUS
NEKIK
Petro-Canada
COAL DIVISION
MONKMAN COAL PROJECT
COAL LICENCES
AND
GROUPINGS
AS OF DEC. 31, '81.
Date
Revised
Author
Drafted
scale 1:100000 approx

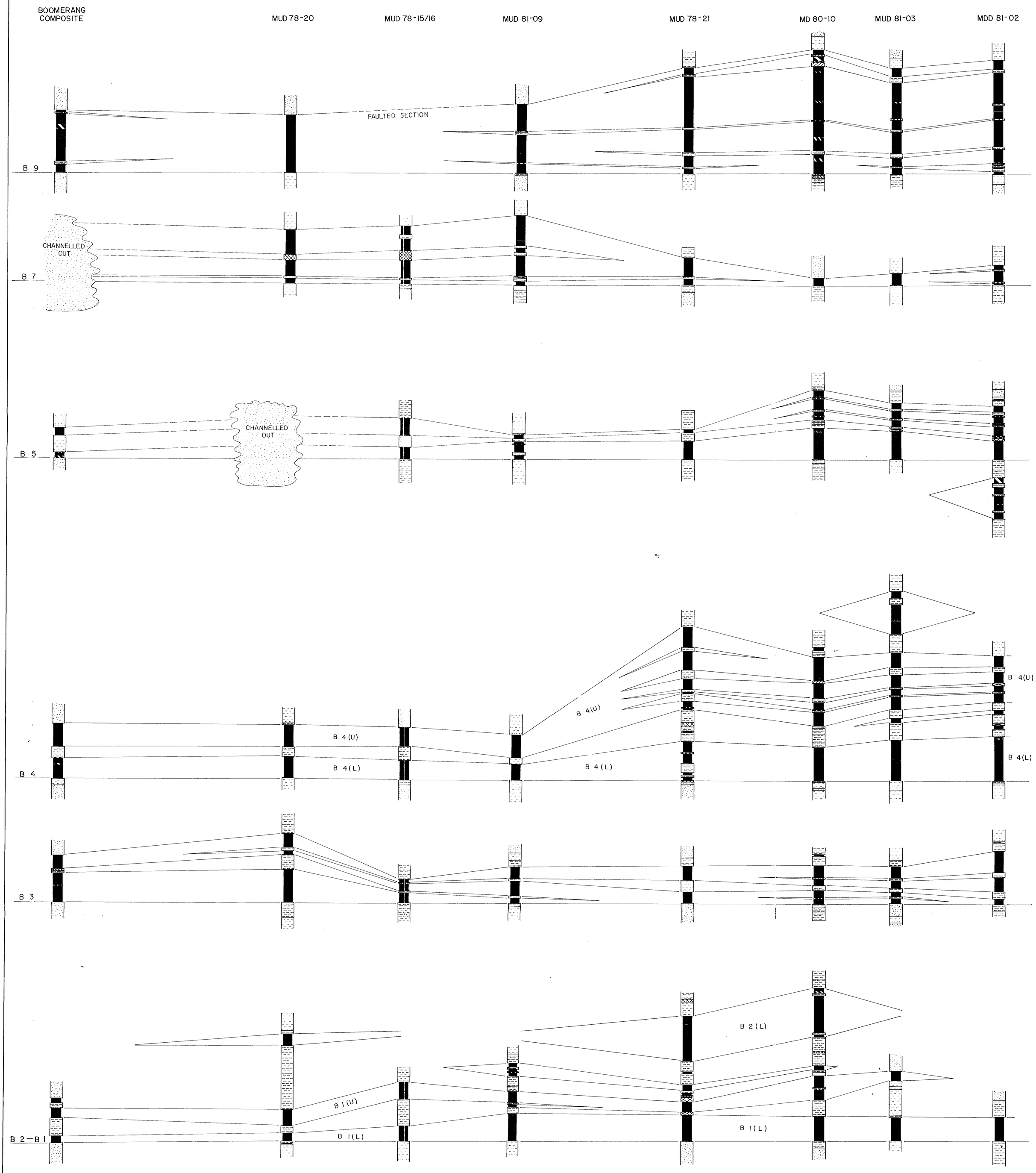
DUKE MOUNTAIN BLOCK
CORRELATION MAP LOCATIONS

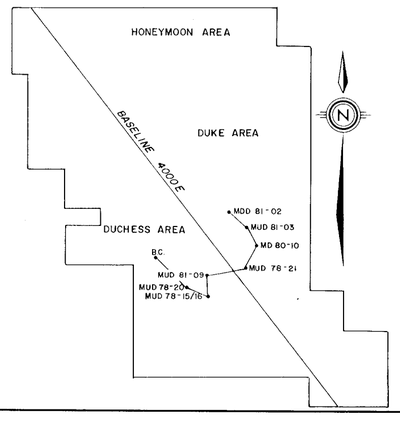


LEGEND:
COAL
CLAYSTONE
SILTSTONE
SANDSTONE

Pr-Monkman 81(a)A 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER 1981.	DUCHESS AREA
REVISED	GATES FORMATION FENCE DIAGRAM
AUTHOR E.P.	
DRAFTED edr	
SCALE 1:1,000 Vertical 1:5,000 Horizontal	





LEGEND

- COAL LOSS
- COAL
- BONEY
- STONEY
- CLAYSTONE
- SILTSTONE
- SANDSTONE
- ROCK LOSS

PR-MONKMAN 81 (2)A 547

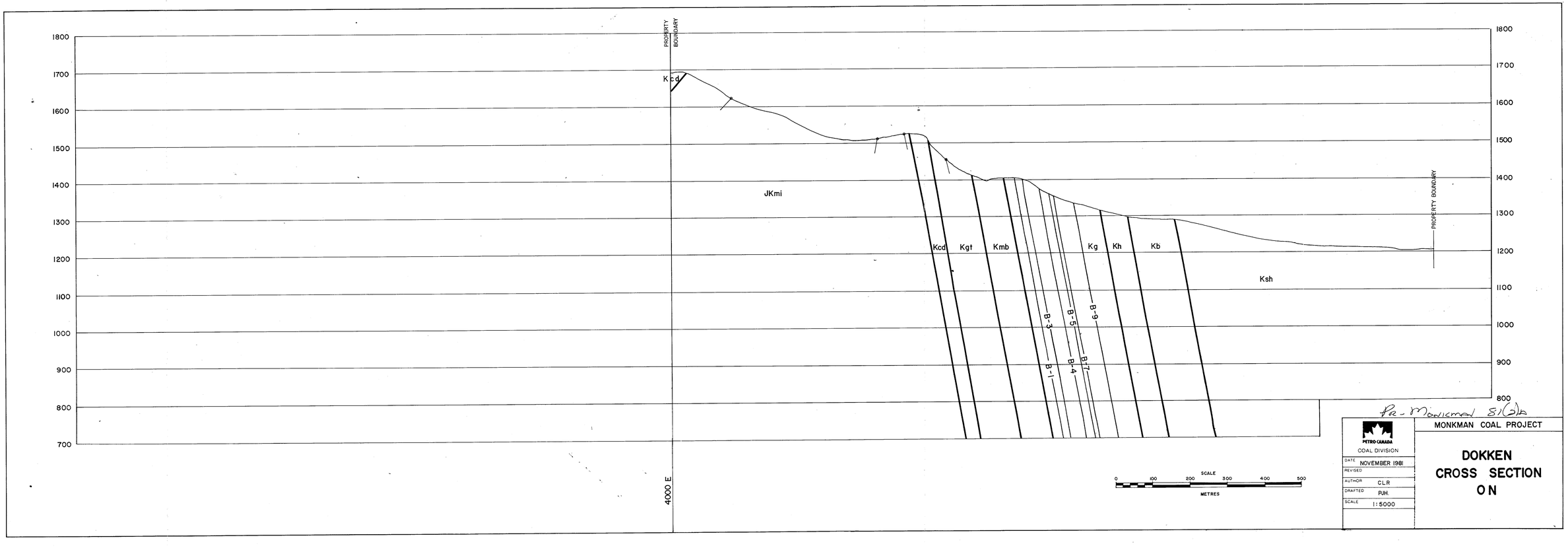
PETRO-CANADA
COAL DIVISION

DATE	DECEMBER 1981
REVISED	
AUTHOR	E.G.P.
DRAFTED	P.J.H.
SCALE	1:100 Vertical

MONKMAN COAL PROJECT

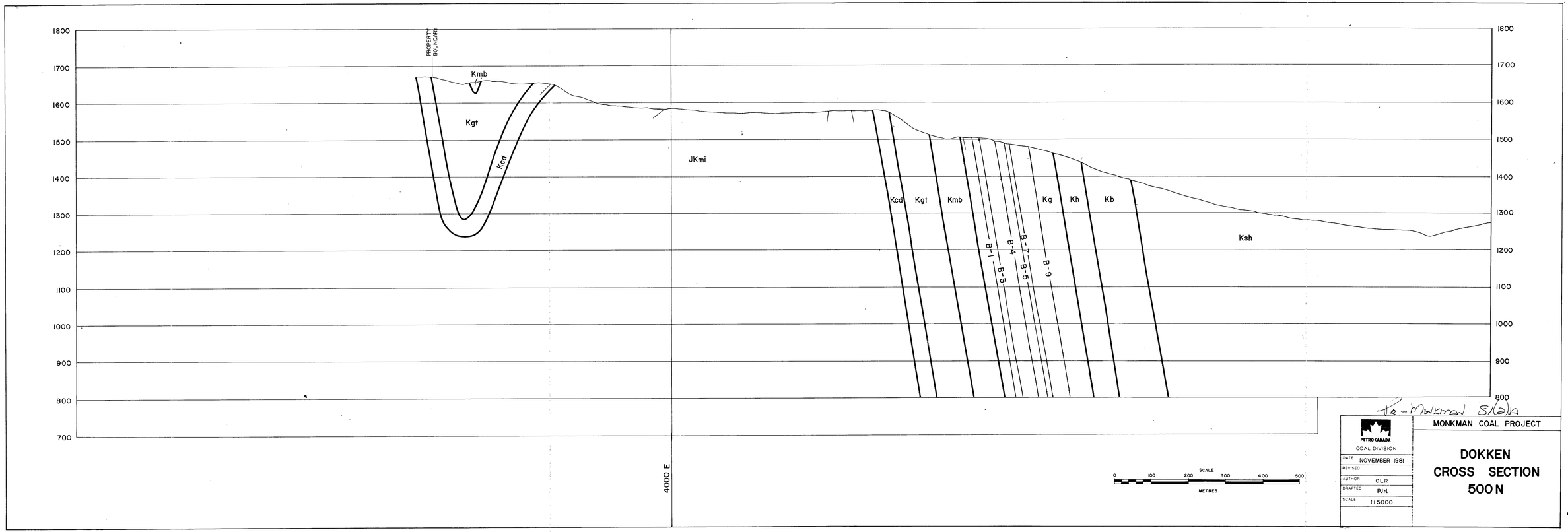
DUKE MOUNTAIN BLOCK

DUCHESS MINEABLE COAL SEAM CORRELATION CHART

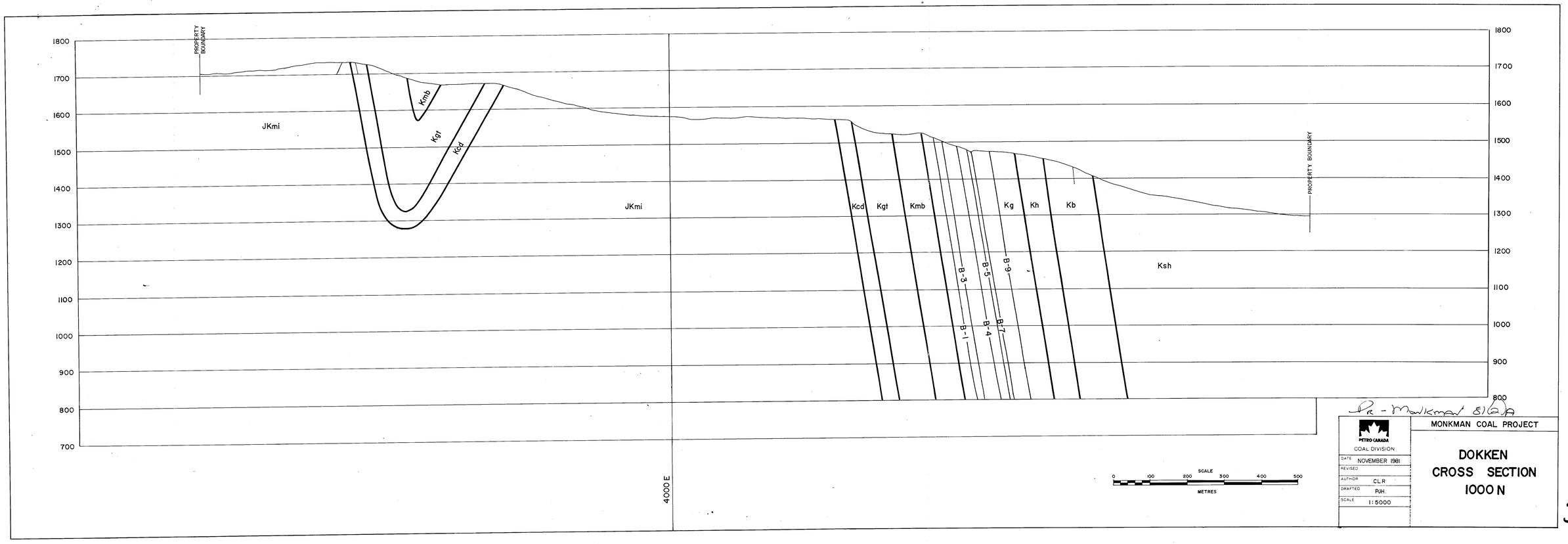


Re-Monkman 81(a)b

547


1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
PROPERTY BOUNDARY
Kmb
Kgt
Kcd
JKmi
Kcd
Kgt
Kmb
B-1
B-3
B-4
B-7
B-5
B-9
Kg
Kh
Kb
Ksh
4000 E
SCALE
0
100
200
300
400
500
METRES
PETRO CANADA
COAL DIVISION
DATE NOVEMBER 1981
REVISED
AUTHOR CLR
DRAFTED RJH
SCALE 1:5000
MONKMAN COAL PROJECT
DOKKEN
CROSS SECTION
500 N

547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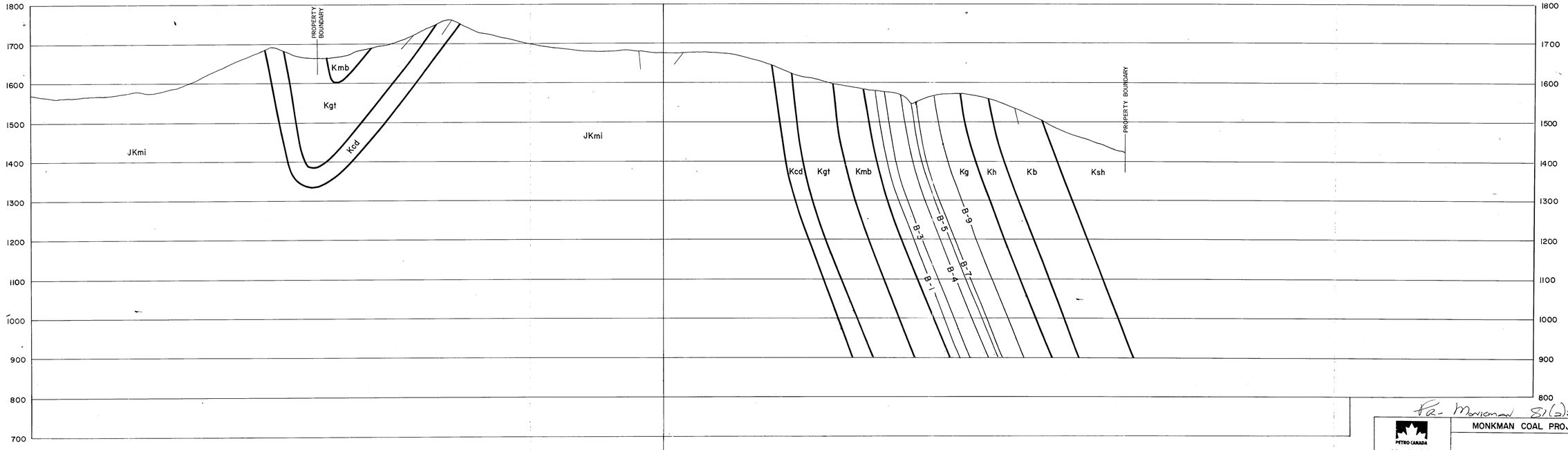
B-9
B-7
PROPERTY BOUNDARY
4000 E
SCALE
0
100
200
300
400
500
METRES
PETRO CANADA
COAL DIVISION
DATE NOVEMBER 1981
REVISED
AUTHOR CLR
DRAFTED PJH.
SCALE 1:5000
MONKMAN COAL PROJECT
DOKKEN
CROSS SECTION
1000 N

547



For Monkman Sil(2)a

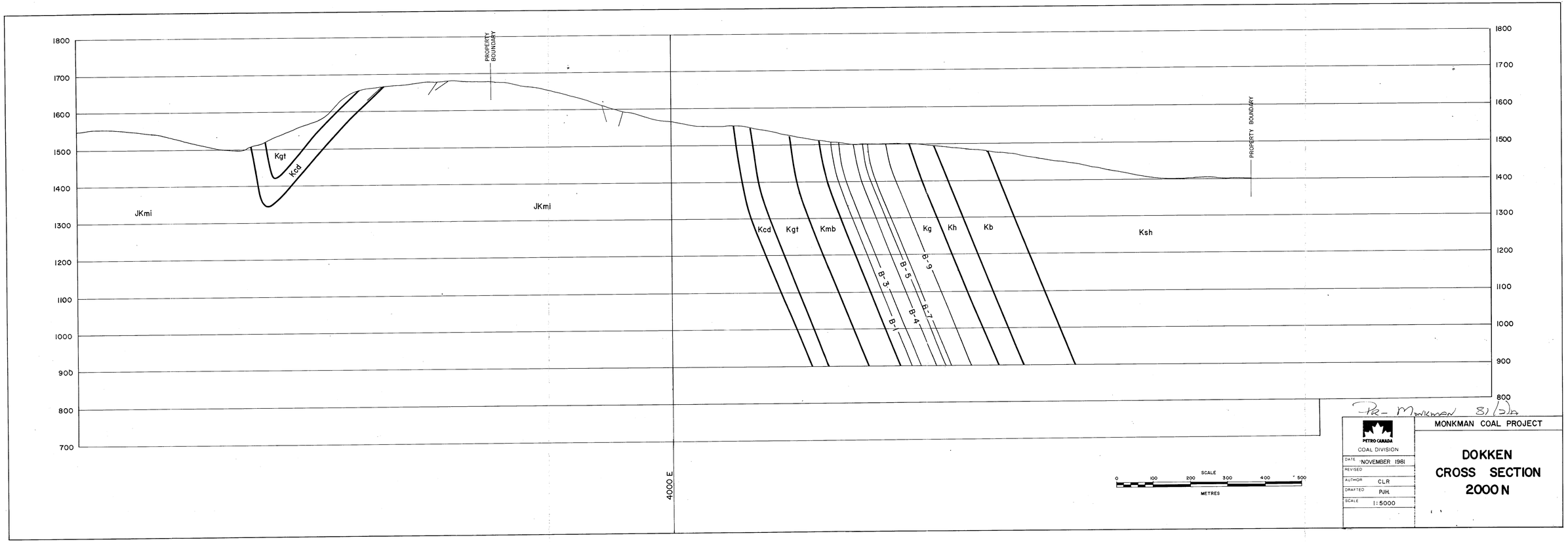
PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	C.L.R.
DRAFTED	R.J.H.
SCALE	1:5000

MONKMAN COAL PROJECT

DOKKEN CROSS SECTION 1500 N

547



Per - Monkman 81/02

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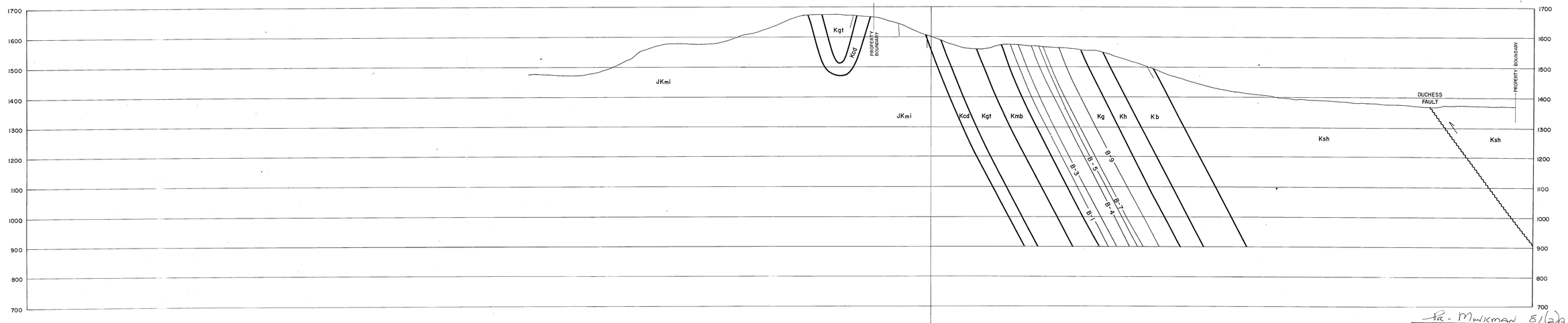

R. Monkman 8/12/82

PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	CLR
DRAFTED	RJH.
SCALE	1:8000

SCALE
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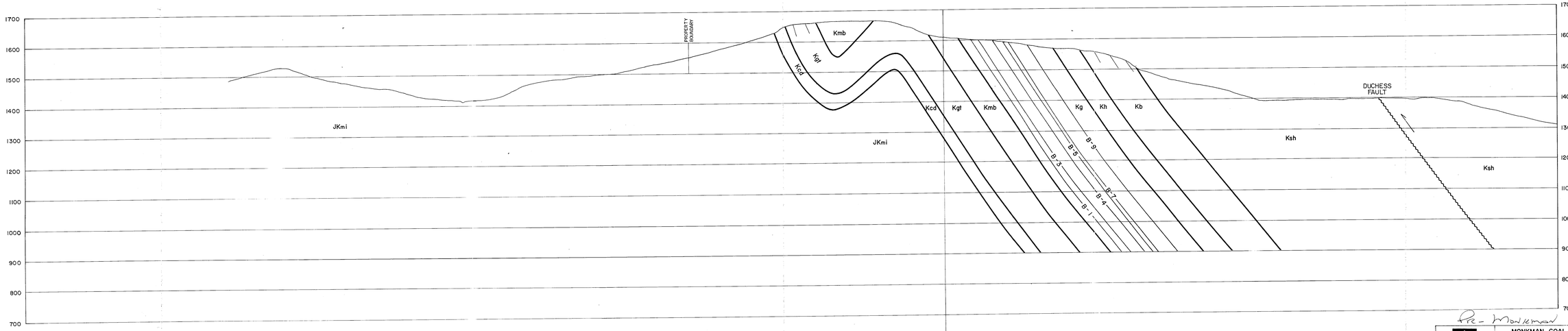
METRES

MONKMAN COAL PROJECT

DOKKEN CROSS SECTION 2500 N

547



Pre-Monkman 81/82

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SCALE
METRES

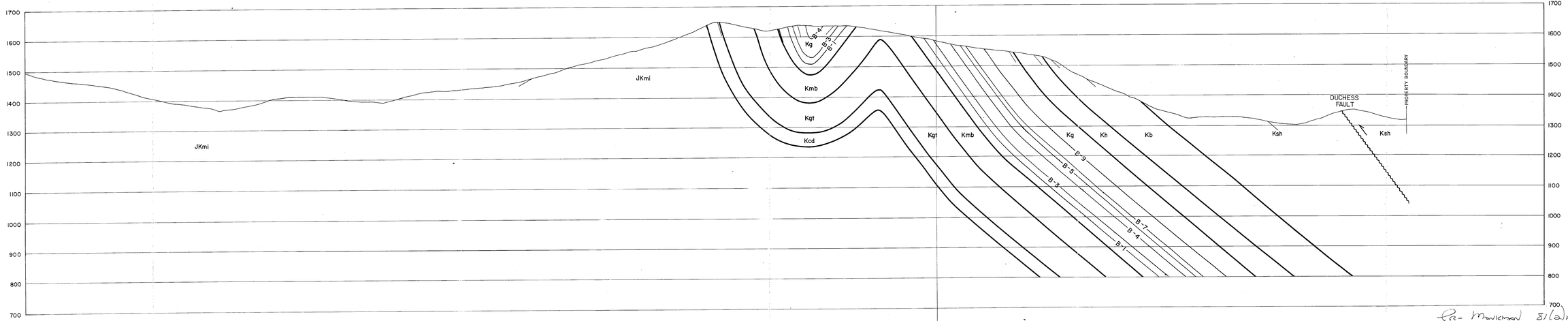
PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	CLR
DRAFTED	PJH.
SCALE	1:5000

MONKMAN COAL PROJECT

DOKKEN CROSS SECTION 3000N

547



Per Monkman 81/2/A

SCALE
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METRES

PETRO CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	CLR
DRAFTED	PJH.
SCALE	1 : 5000

MONKMAN COAL PROJECT

DOKKEN CROSS SECTION 3500 N

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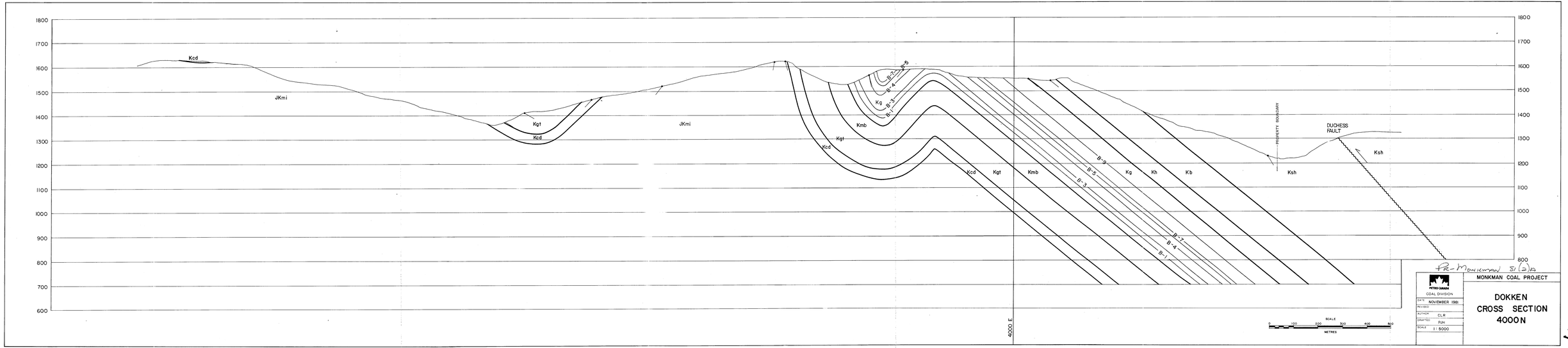
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B-1
PROPERTY BOUNDARY
Ksh
DUCHESS FAULT
Ksh
4000 E
SCALE
0 100 200 300 400 500
METRES
PETRO-CANADA
COAL DIVISION
DATE NOVEMBER 1981
REVISED
AUTHOR CLR
DRAFTED PJH
SCALE 1:5000
MONKMAN COAL PROJECT
DOKKEN
CROSS SECTION
4000N

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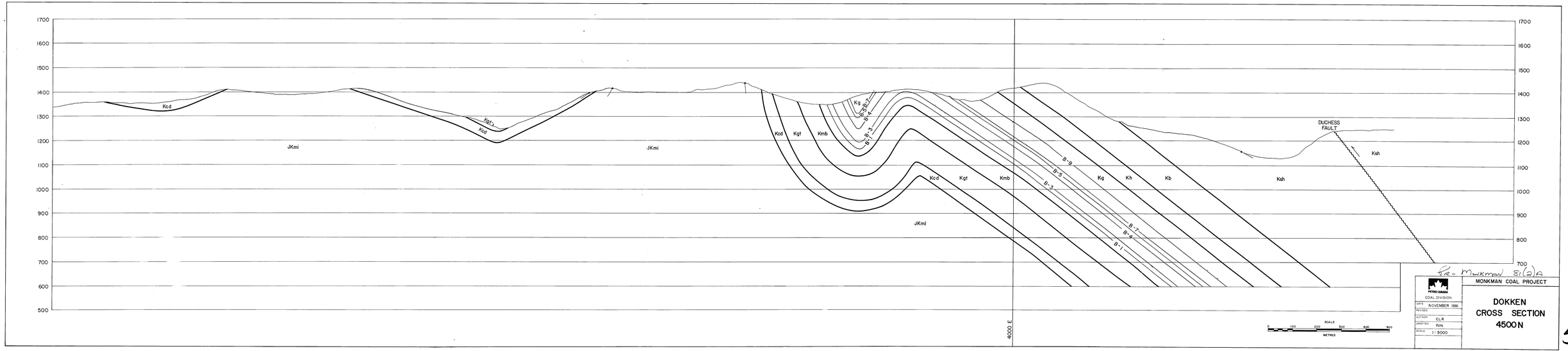
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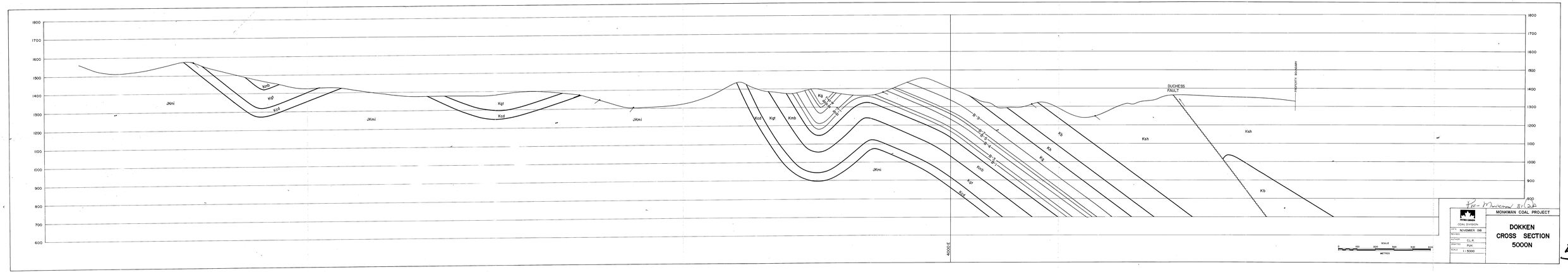
DUCHESS FAULT
Ksh
4000 E
Fr- Monkman 81(2)A
PETRO-CANADA
COAL DIVISION
DATE NOVEMBER 1981
REVISED
AUTHOR CLR
DRAFTED RJN
SCALE 1:5000
MONKMAN COAL PROJECT
DOKKEN
CROSS SECTION
4500N
SCALE
0 100 200 300 400 500
METRES

547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INFERRED BOUNDARY
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SCALE
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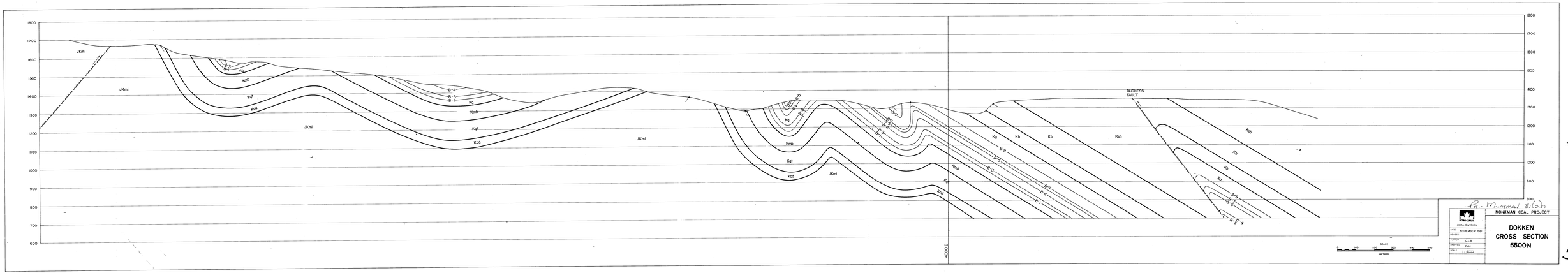
METRES
MONKMAN COAL PROJECT
COAL DIVISION
DATE NOVEMBER 1981
Revised
DRAWN C.L.R.
DRAFTED P.J.H.
SCALE 1:5000
DOKKEN
CROSS SECTION
5000N

547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DUCHESS FAULT
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SCALE
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METRES
MONKMAN COAL PROJECT
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CROSS SECTION
5500N
COAL DIVISION
NOVEMBER 1985
C.L.R.
P.J.N.
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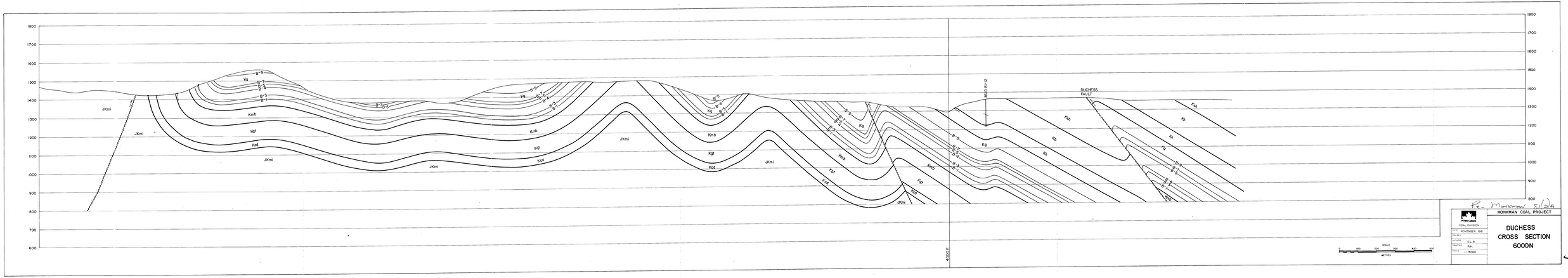
547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MUD B1-12
DUCHESS FAULT
Kss
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SCALE
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100
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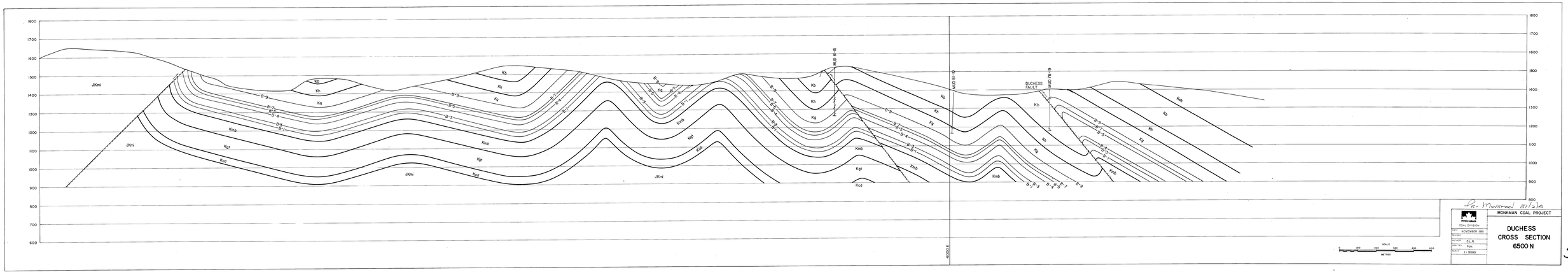
400
500
METRES
COAL DIVISION
DATE NOVEMBER 1988
REVISED
DRAWN E.L.R.
CHECKED Kah.
SCALE 1 : 5000
MONKMAN COAL PROJECT
DUCHESS
CROSS SECTION
6000N

547



Re-Measured 81/3/26

COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUCHESS CROSS SECTION 6500 N
REVISED	
DRAWN C.L.R.	
CHECKED Pub	
SCALE 1: 5000	

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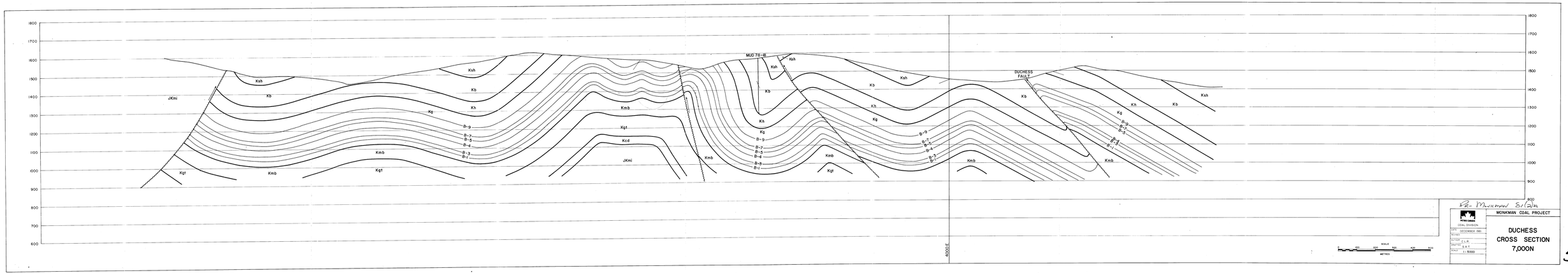
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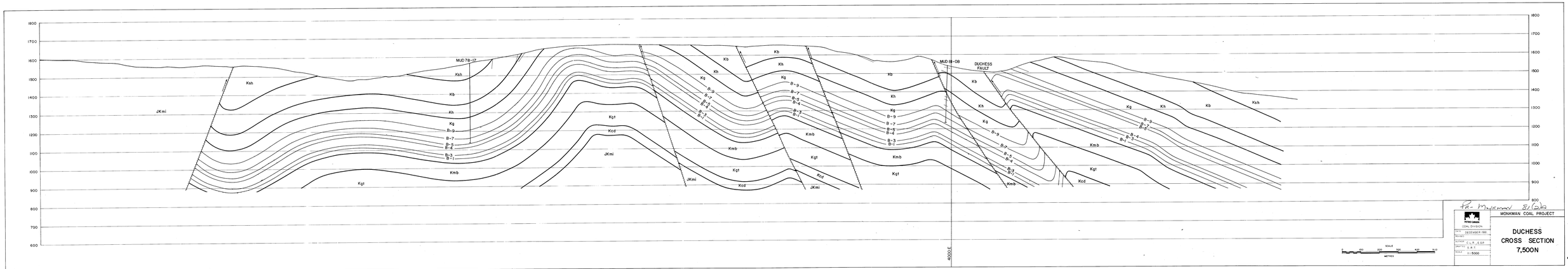
Kmb
Kgt
Kcd
MUG 78-8
DUCHESS FAULT
4000E
SCALE
0 100 200 300 400 500
METRES
COAL DIVISION
DATE DECEMBER 1981
REVISED
AUTHOR G.L.B.
DRAFT S.B.T.
SCALE 1:5000
MONKMAN COAL PROJECT
DUCHESS
CROSS SECTION
7,000N

547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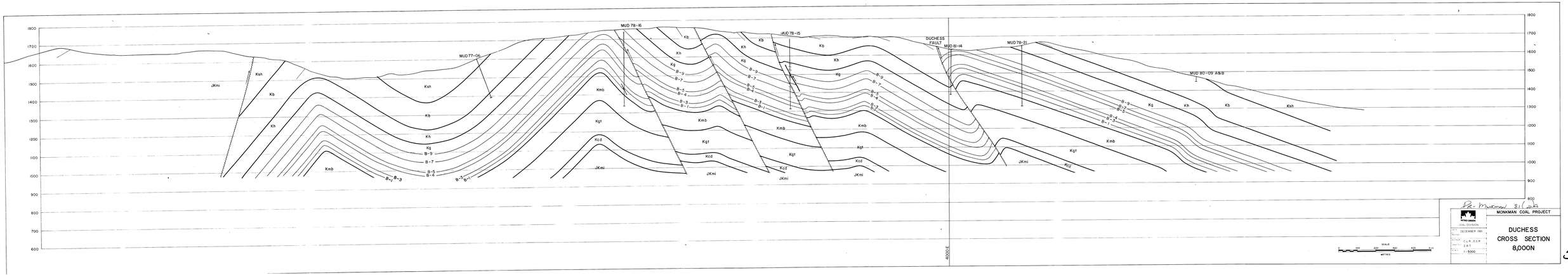
B-1
Kmb
Kgt
Kcd
JKmi
4000E
SCALE
0 100 200 300 400 500
METRES
MONKMAN COAL PROJECT
COAL DIVISION
DATE DECEMBER 1981
REVISED
AUTHOR C. L. R. / E.E.P.
DRAFTED S. R. T.
SCALE 1:5000
DUCHESS
CROSS SECTION
7,500N

547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COAL DIVISION
DECEMBER 1981
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DUCHESS
CROSS SECTION
8,000N

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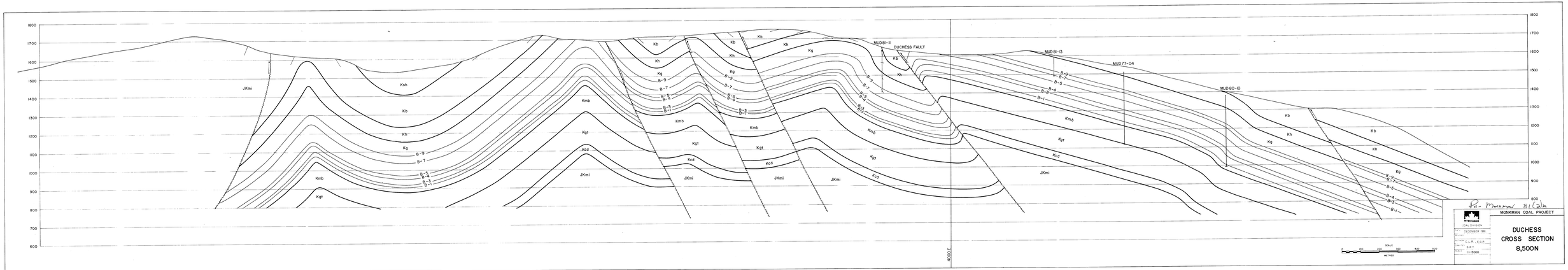
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DUCHESS FAULT
MUD 81-13
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DECEMBER 1980
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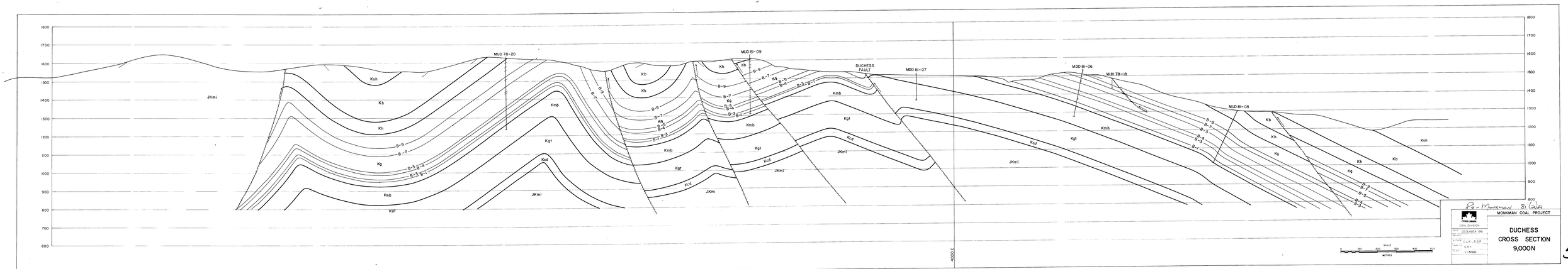
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SCALE
METRES
MONKMAN COAL PROJECT
COAL DIVISION
DECEMBER 1981
C.L.R., E.G.P.
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9,000N

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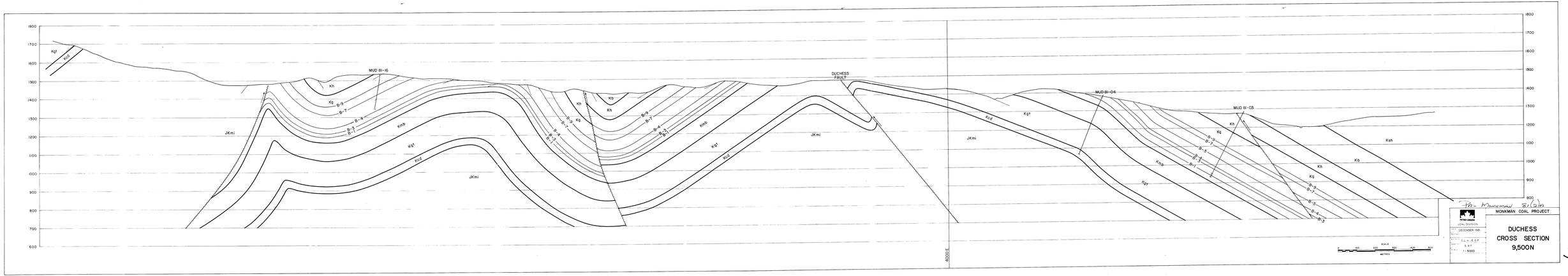
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SCALE
METRES
PETRO-CANADA
COAL DIVISION
DECEMBER 1981
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DUCHESS
CROSS SECTION
9,500N
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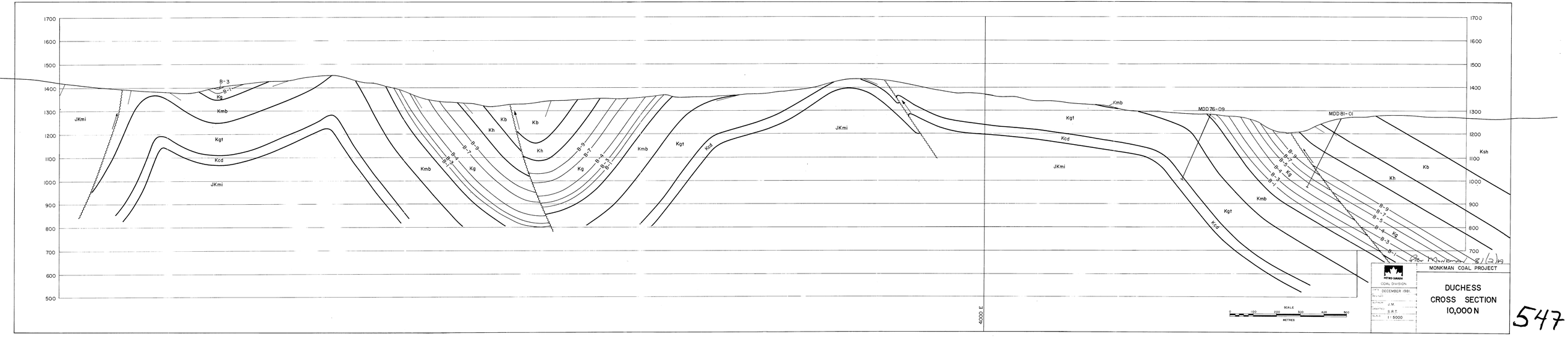
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4000 E
SCALE
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METRES
PETRO-CANADA
COAL DIVISION
DATE DECEMBER 1981
DRAWN J.M.
DRAFTED S.R.T.
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DUCHESS
CROSS SECTION
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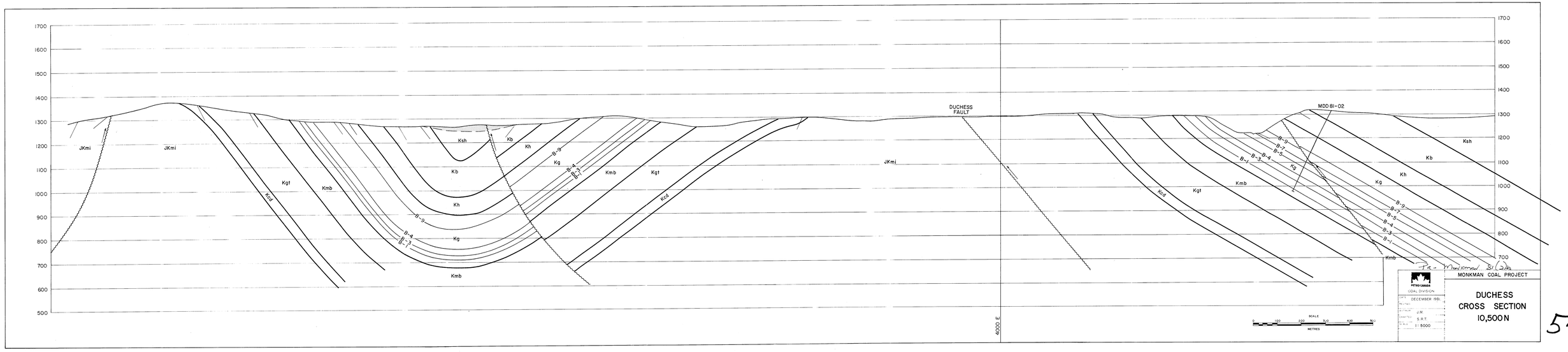
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PETRO-CANADA
COAL DIVISION
DATE DECEMBER 1981
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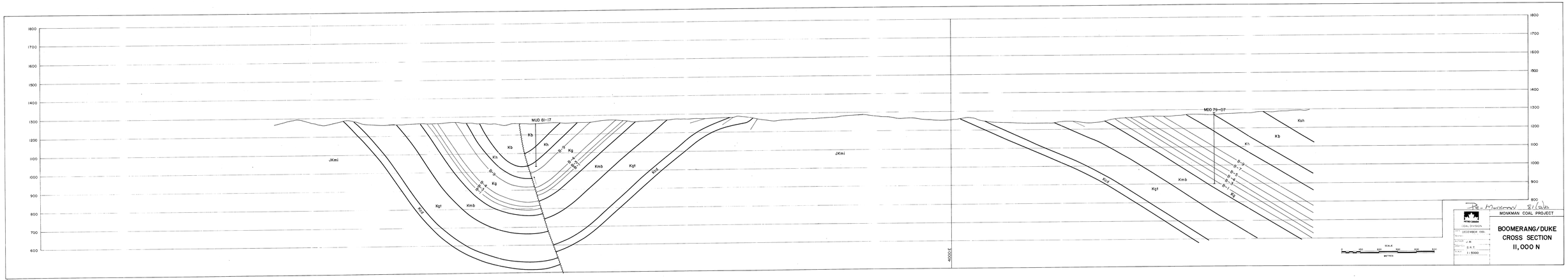
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MDD 79-07
Ksh
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B-5
SCALE
METRES
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
11,000 N
COAL DIVISION
DECEMBER 1981
DRAWN: J.M.
DRAFTED: S.R.T.
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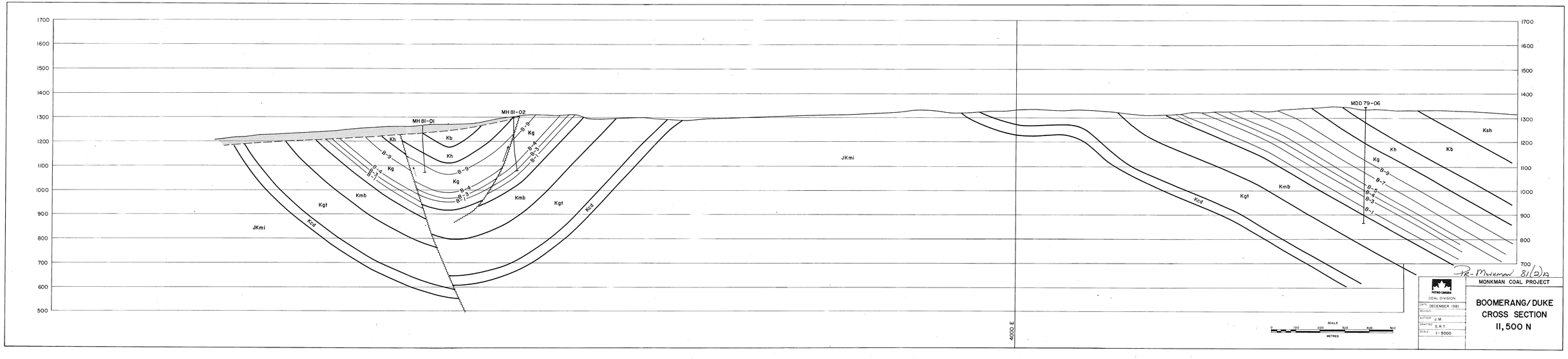
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JKmi
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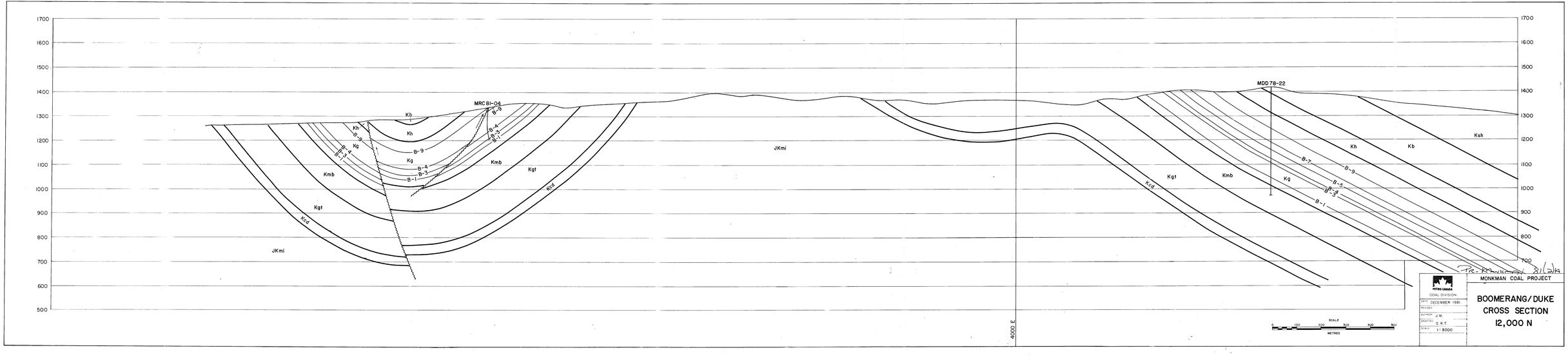
B-1
4000 E
SCALE
0 100 200 300 400 500
METRES
PETRO CANADA
COAL DIVISION
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
11,500 N
DATE DECEMBER 1981
REVISED
AUTHOR J.M.
DRAFTED S.R.T.
SCALE 1:5000

547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MDD 78-22
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JKmi
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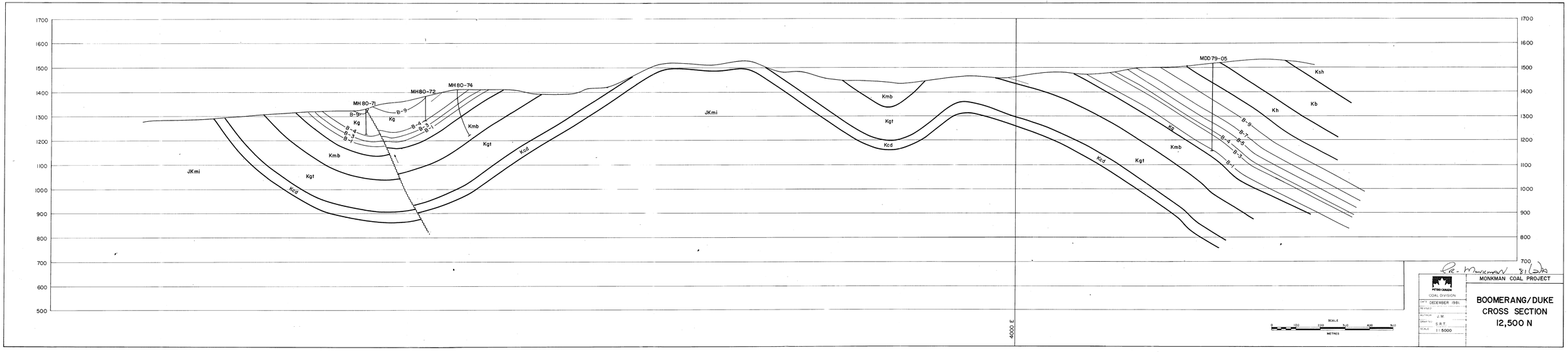
B-5
B-7
B-9
4000 E
SCALE
0 100 200 300 400 500
METRES
PETRO-CANADA
COAL DIVISION
DATE DECEMBER 1981
REVISED
AUTHOR J.M.
DRAFTED S.R.T.
SCALE 1:5000
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
12,000 N

547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Kb
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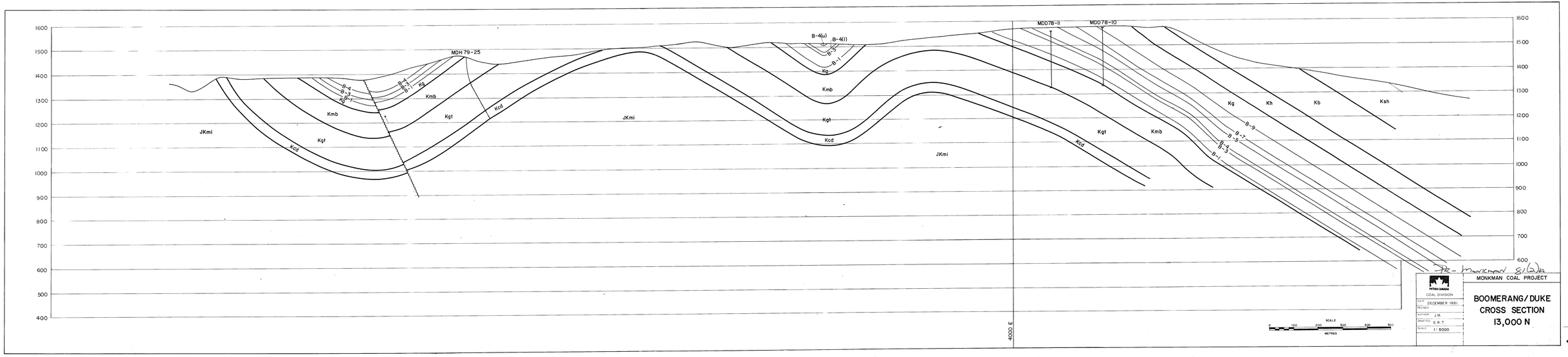
SCALE
0 100 200 300 400 500
METRES
PETRO-CANADA
COAL DIVISION
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
12,500 N
DATE DECEMBER 1981
REVISED
AUTHOR J. M.
DRAWN S. R. T.
SCALE 1 : 5000

547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400
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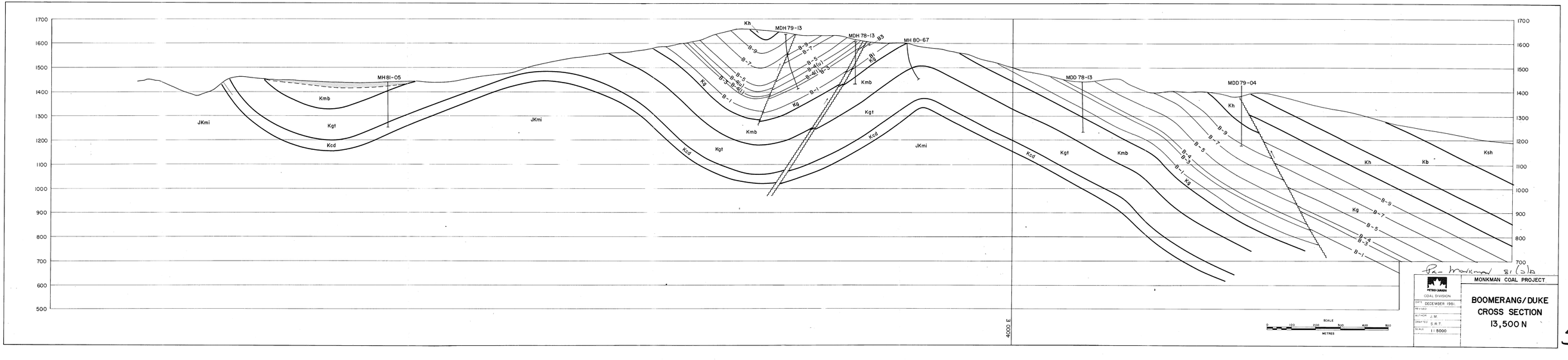
B-4
B-3
B-2
B-1
Kg
Kmb
Kgt
Kcd
JKmi
B-4(u)
B-4(l)
MDD78-11
MDD78-10
Kh
Kb
Ksh
B-9
B-7
B-5
4000 E
SCALE
METRES
PETRO CANADA
COAL DIVISION
DATE DECEMBER 1981
REVISED
AUTHOR J.M.
DRAFTED S.R.T.
SCALE 1:5000
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
13,000 N

547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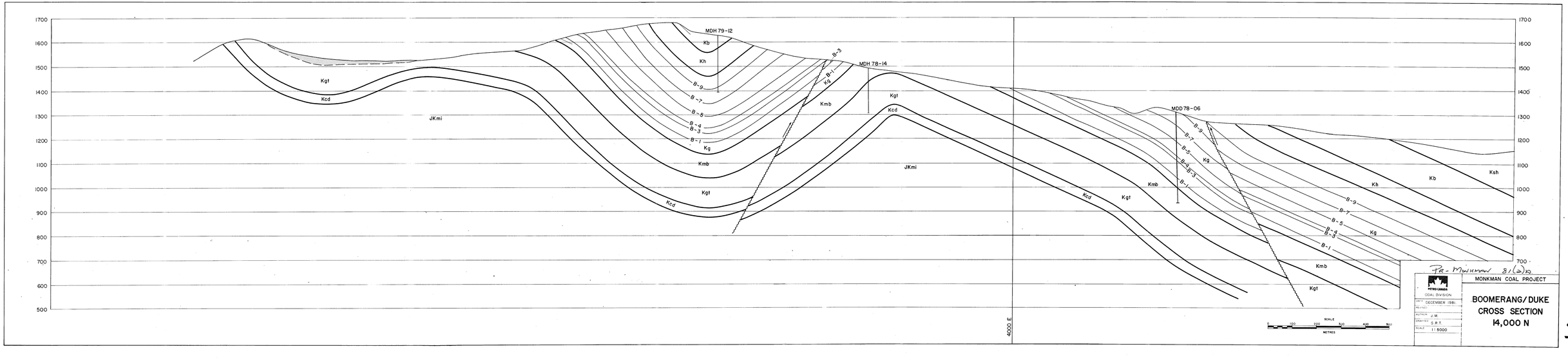
MDH 79-13
MDH 78-13
MH 80-67
MDD 78-13
MDD 79-04
Kh
Kb
Ksh
Kg
Kgt
Kcd
Kmb
JKmi
B-9
B-7
B-5
B-4
B-3
B-1
4000 E
SCALE
METRES
PETRO CANADA
COAL DIVISION
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
13,500 N
DATE DECEMBER 1985
REVISED
AUTHOR J.M.
DRAWN S.R.T.
SCALE 1:5000

547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700
600
500
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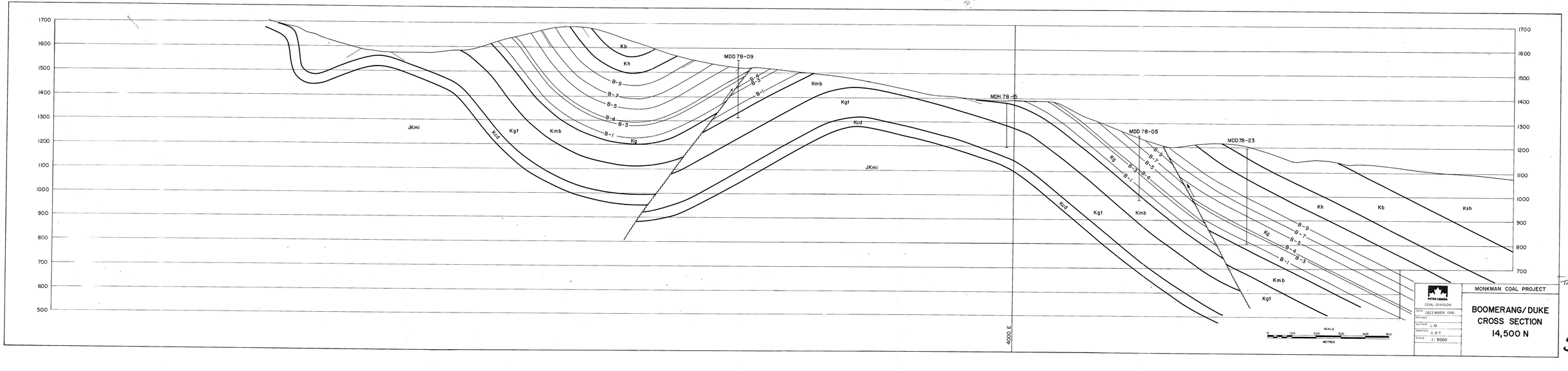
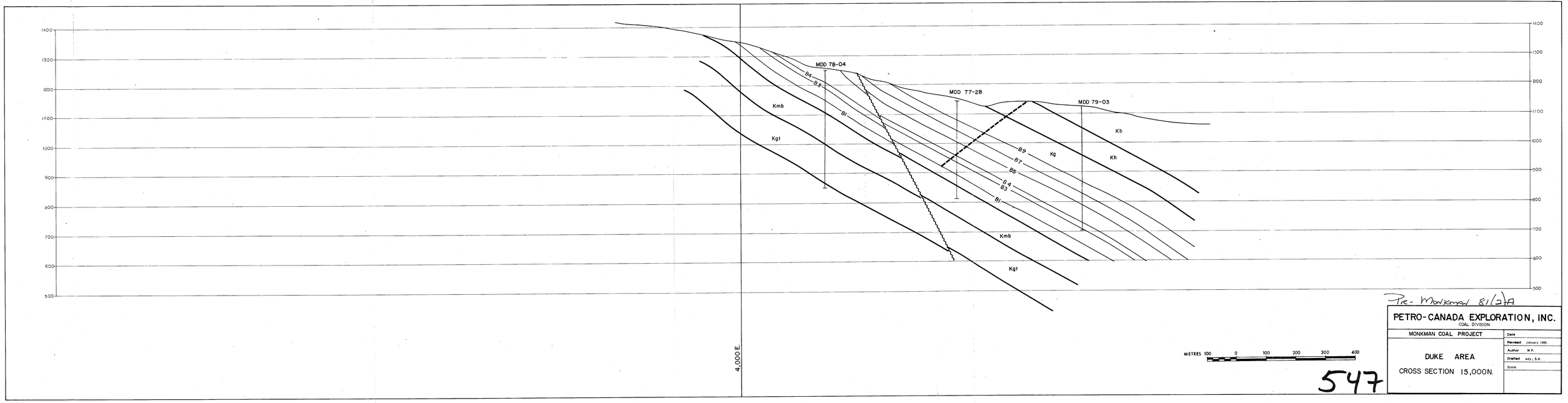
MDH 78-14
MDD 78-06
Kb
Kh
Kg
Kmb
Kgt
Kcd
JKmi
Ksh
B-9
B-7
B-5
B-4
B-3
B-1
4000 E
SCALE
0 100 200 300 400 500
METRES
Pre-Minimum 81(2)(a)
PETRO-CANADA
COAL DIVISION
DATE DECEMBER 1981
REVISED
AUTHOR J.M.
DRAWTO S.R.T.
SCALE 1:5000
MONKMAN COAL PROJECT
BOOMERANG/DUKE
CROSS SECTION
14,000 N

547



Pre-Movement Data

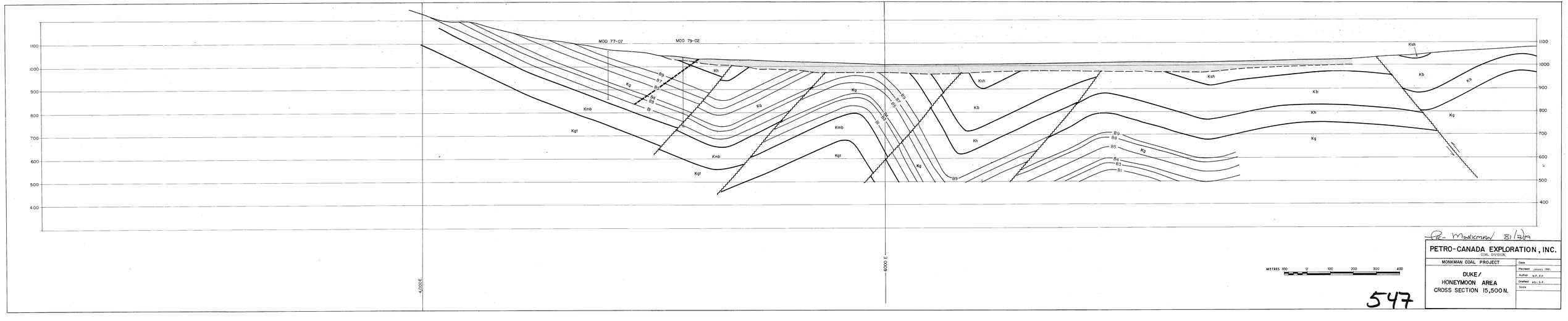
547



Pre-Monkman 81/27A

PETRO-CANADA EXPLORATION, INC.
COAL DIVISION

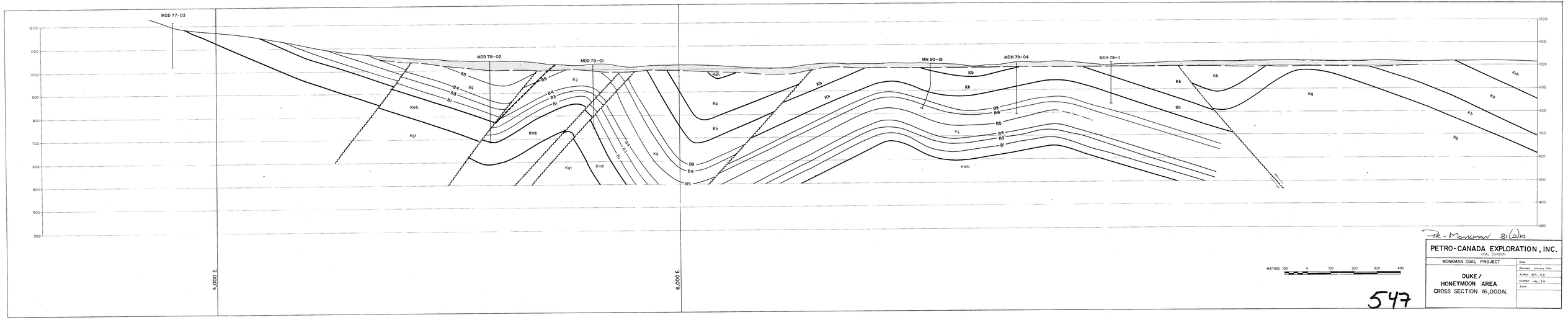
MONKMAN COAL PROJECT	
DUKE AREA CROSS SECTION 15,000N.	Date
	Revised January 1981
	Author W.P.
	Drafted Aug., S.K.
	Scale



R. Monkman 81/3/19

547

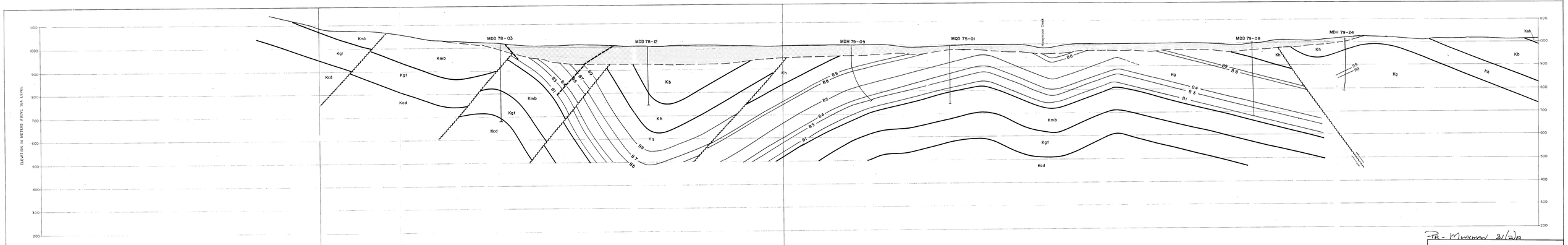
PETRO-CANADA EXPLORATION, INC. COAL DIVISION	
MONKMAN COAL PROJECT	Date
	Revised January 1981
DUKE / HONEYMOON AREA CROSS SECTION 15,500 N.	Author W.P. E.R.
	Drafted Mty. S.K.
	Scale



Pre-Monkman 81(2)a

547

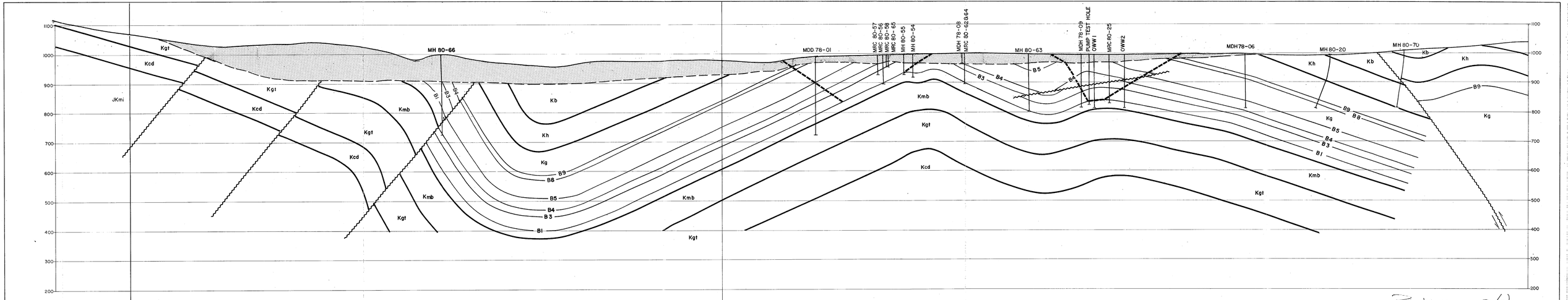
PETRO-CANADA EXPLORATION, INC. COAL DIVISION	
MONKMAN COAL PROJECT	Date
	Revised January 1981
DUKE / HONEYMOON AREA CROSS SECTION 16,000N.	Author W.H., E.P.
	Drafted W.B., S.K.
	Scale



Pa - Monkman 81/2/19

547

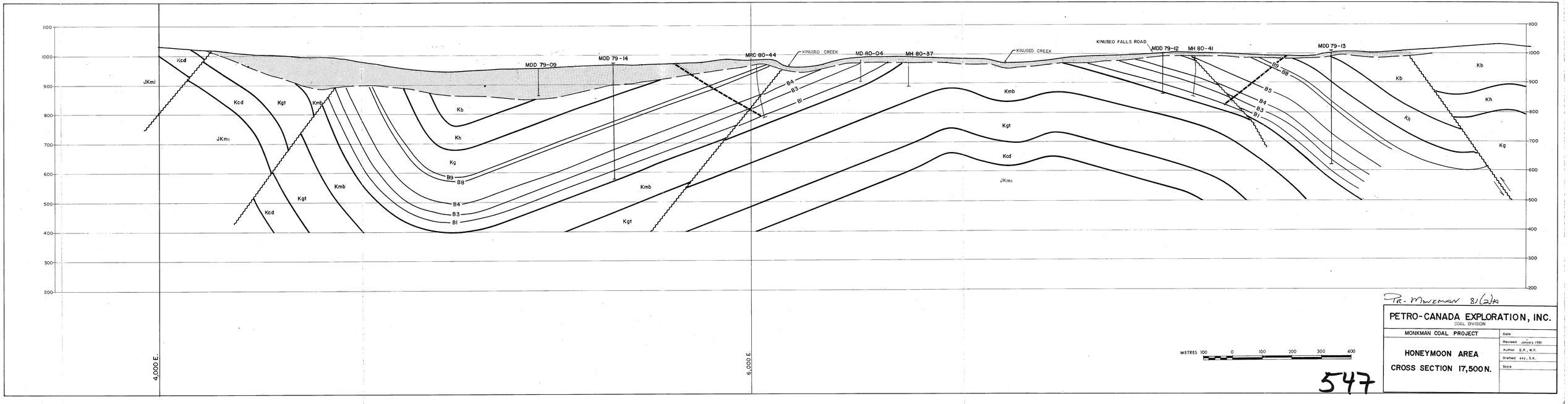
PETRO-CANADA EXPLORATION, INC. COAL DIVISION	
MONKMAN COAL PROJECT	Date
	Revised January 1981
DUKE/ HONEYMOON AREA CROSS SECTION 16,500N.	Author W.F., E.K.
	Drafted ally., S.K.
	Scale



Fr. Monkman 81(2)A

547

PETRO-CANADA EXPLORATION, INC. COAL DIVISION	
MONKMAN COAL PROJECT	Date
	Revised January 1981.
HONEYMOON AREA	Author W.R., E.P.
CROSS SECTION 17,000N.	Drafted eay, S.K.
	Scale

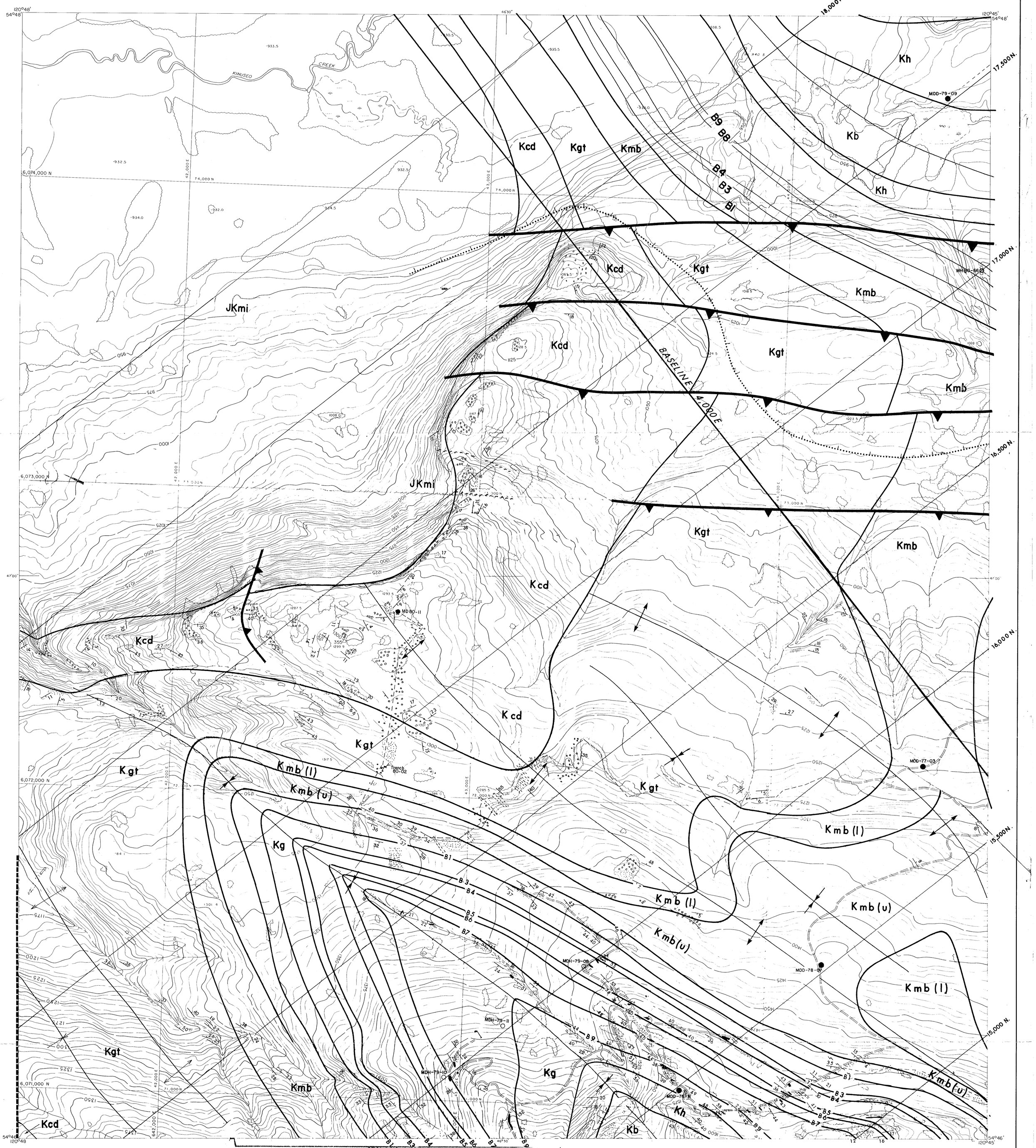


PR-Monkman 81/02/18

PETRO-CANADA EXPLORATION, INC.
COAL DIVISION

MONKMAN COAL PROJECT	Date
	Revised January 1981
HONEYMOON AREA	Author E.P., W.P.
CROSS SECTION 17,500 N.	Drafted eng., S.K.
	Scale

547



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM

* GEOLOGIC CONTACT

* THRUST FAULT

SYNCLINE / ANTICLINE (overturned)

STRIKE AND DIP (overturned)

HOLE LOCATION (diamond, hammer)

TRENCH LOCATION

ADIT LOCATION

CONGLOMERATE

SANDSTONE

SILTSTONE

CLAYSTONE

COAL

* Approximate except where defined by outcrop

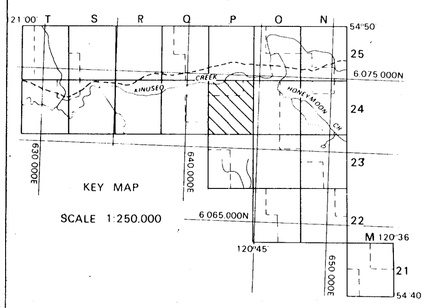
LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours 1300
Horizontal control △ 390
Vertical control ○ V 1372
Spot elevation 1247 9
Iron Pin ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: APRIL 1977
DATE OF MAPPING: MAY 1977

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S., using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig levelling, vertical angles being read at both ends of each course simultaneously.



R. Monkman 81(2)A 547

PETRO-CANADA EXPLORATION INC.

MONKMAN COAL PROJECT

DUKE MOUNTAIN GEOLOGY

Date	MAR. '79
Revised	DEC. 1981
Author	G.J., A.B.
Drafted	J.W.K.
Scale	1:5,000
Drawing	II.4-2

P 24

R.M. HARDY & ASSOCIATES LTD.

GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- * COAL SEAM
- * GEOLOGIC CONTACT
- * THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned) — 20, 15
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

* Approximate except where defined by outcrop

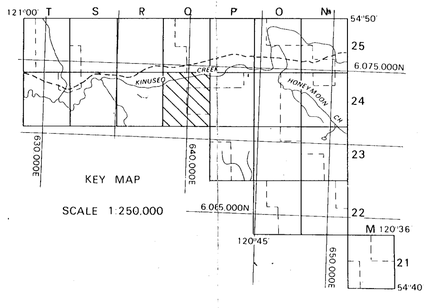
LEGEND

- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours — 1300
- Horizontal control — △ 390
- Vertical control — ○ V 1372.1
- Spot elevation — 1247.9
- Iron Pin — ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: APRIL 1977
DATE OF MAPPING: MAY 1977

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S., using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Marme, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.



KEY MAP
SCALE 1:250,000

(3)

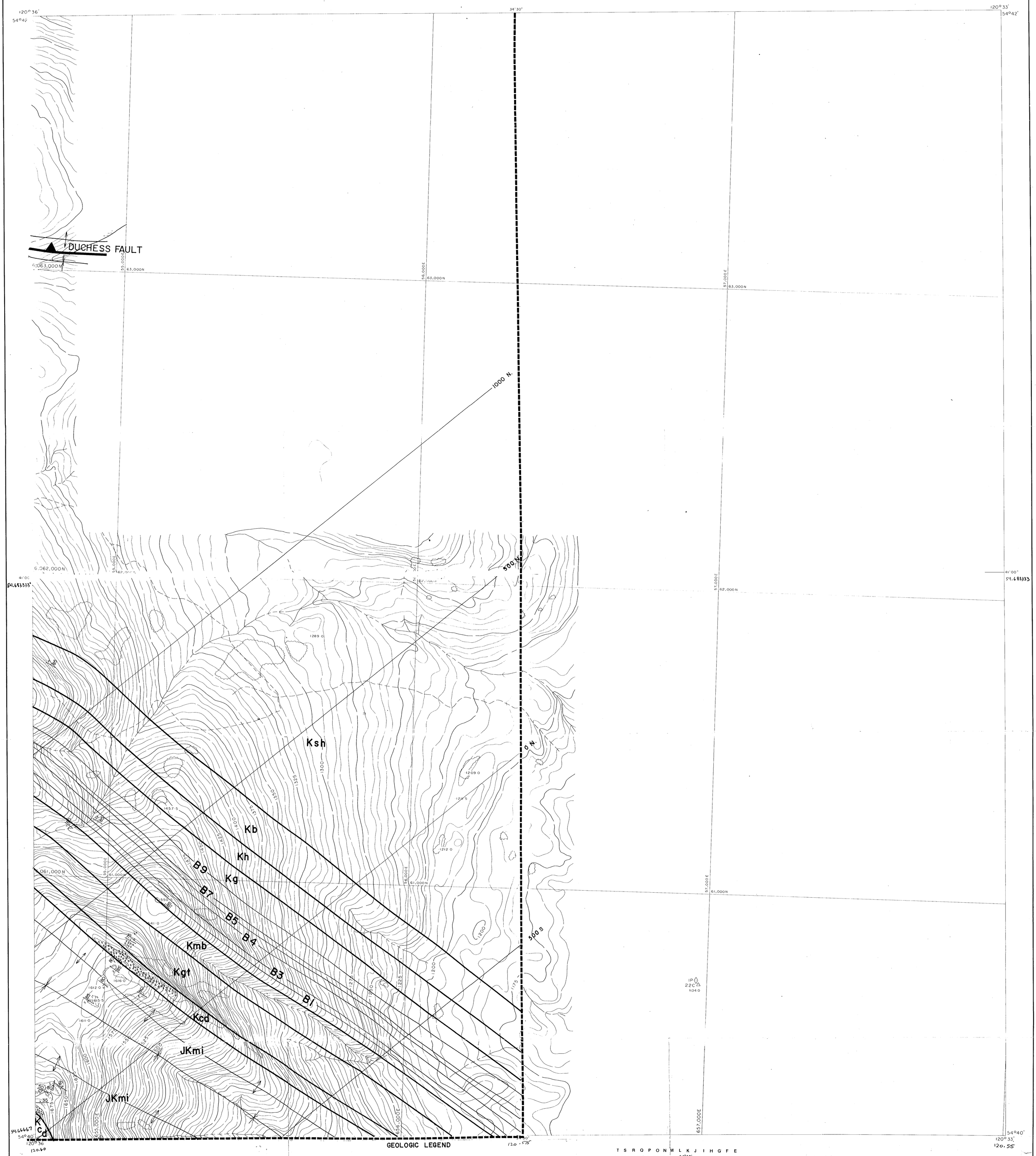
Pr- Monkman 81(2)A 547

PETRO-CANADA EXPLORATION, INC.

MINING DEPARTMENT

MONKMAN COAL PROJECT	Date FEB. '79
	Revised DEC. '81.
DUKE MOUNTAIN BLOCK	Author G.J. A.B
DUKE SYNCLINE	Drafted L.B.
GEOLOGY MAP	Scale 1:5,000
	Q 24

R.M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- * COAL SEAM
- * GEOLOGIC CONTACT
- * THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned) — 20 15
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

* Approximate except where defined by outcrop

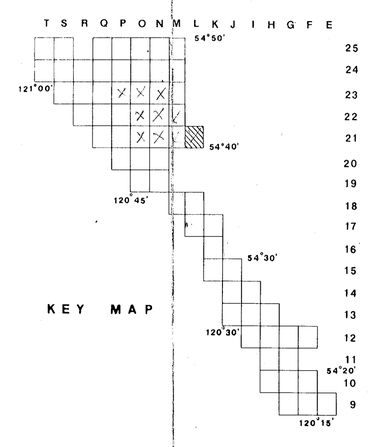
LEGEND

- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours — 1300
- Horizontal control — △ 390
- Vertical control — ○ V 1372 1
- Spot elevation — 1247 9
- Iron Pin — ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S., using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.



KEY MAP

Pr- Monkman 81(a)a 547

PETRO-CANADA EXPLORATION, INC.
COAL DIVISION

MONKMAN COAL PROJECT

DUKE MOUNTAIN BLOCK

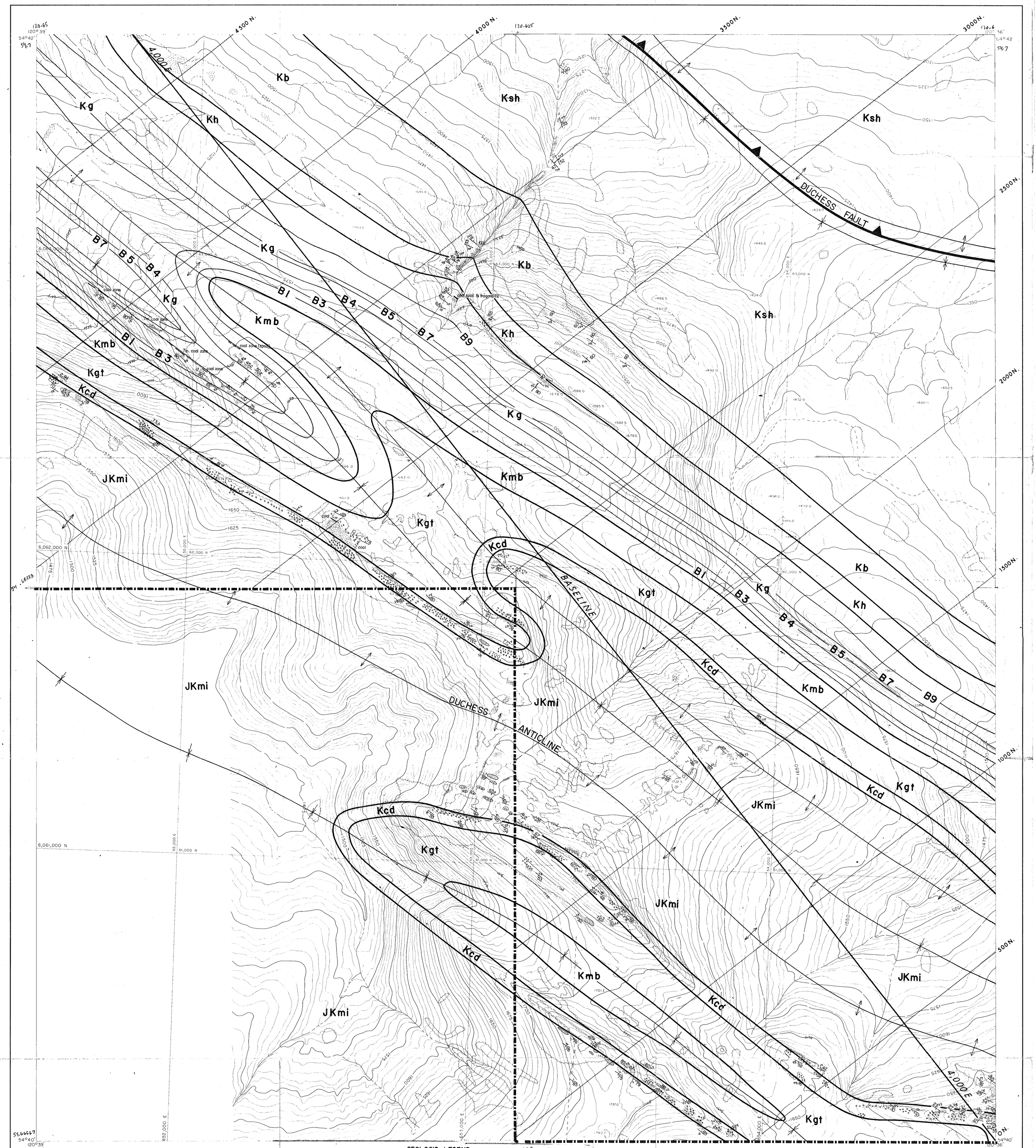
DOKKEN GEOLOGY MAP

Dec 10/92 jc 547-L21 sum 92 ocl
Feb 2/93 547-L21 QUIKMAP polylines.

Date	Dec 1981
Revised	
Author	CLR
Drafted	SK
Scale	1:5,000

L 21

R M HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned) — 20 15
HOLE LOCATION (diamond, hammer)
TRENCH LOCATION
ADIT LOCATION

CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL

* Approximate except where defined by outcrop

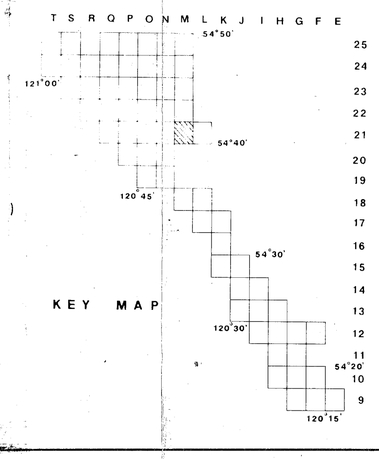
LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours — 1300
Horizontal control — △ 390
Vertical control — ○ V 1372.1
Spot elevation — 1247.9
Iron Pin — ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.



KEY MAP

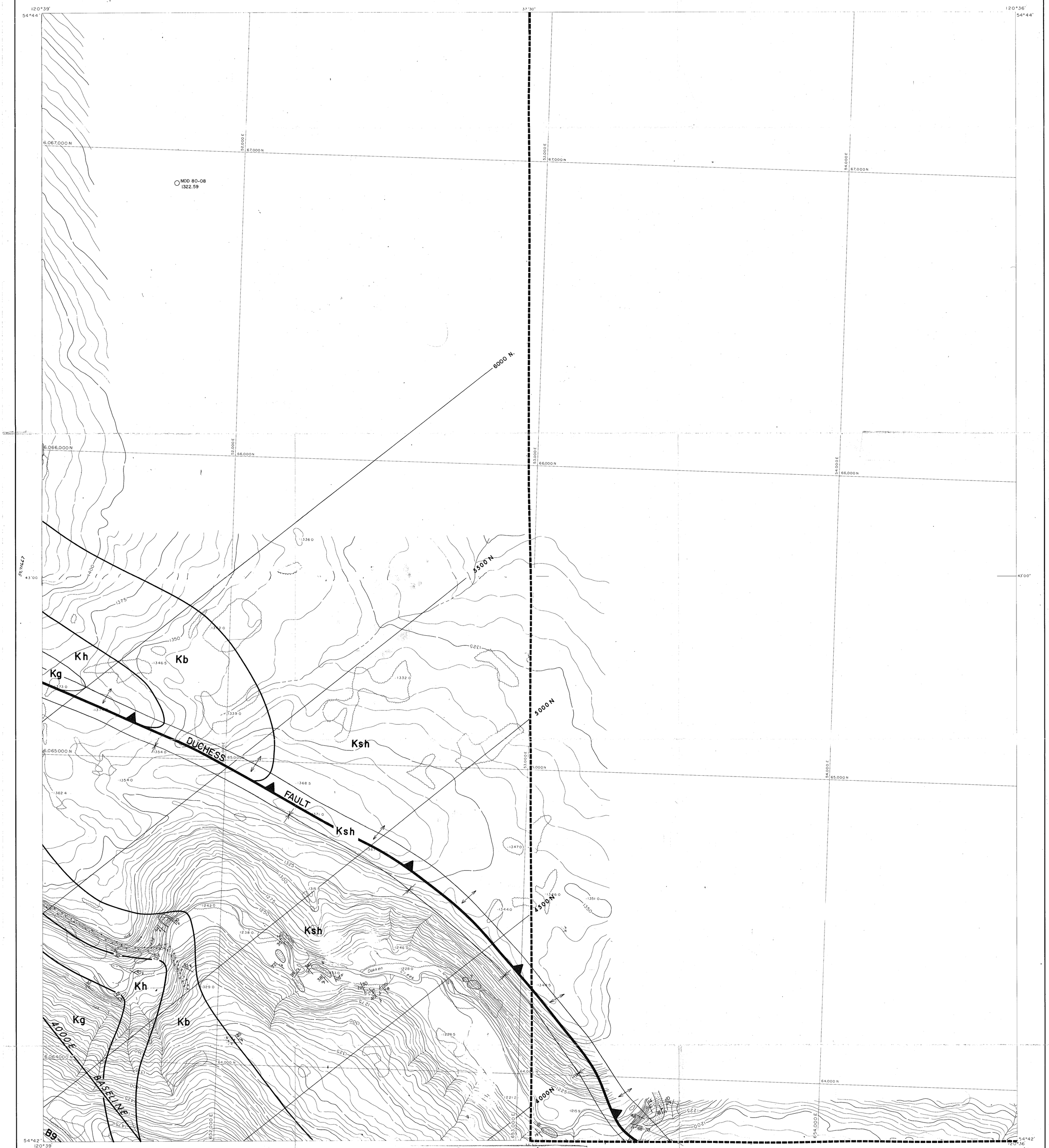
PR - Monkman 81(2)to 547

PETRO-CANADA EXPLORATION, INC.
COAL DIVISION

MONKMAN COAL PROJECT	
Dec 9/92 JC 547-M21 sum92oc4	DUKE MOUNTAIN BLOCK
Feb 2/93 547-M21 quikmap polylines	**DOKKEN GEOLOGY MAP**

Date	MAR. '79
Revised	DEC. 1981
Author	CLR
Drafted	SK
Scale	1:5,000
Drawing	II.4-2
	M 21

R.M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM

* GEOLOGIC CONTACT

* THRUST FAULT

SYNCLINE / ANTICLINE (overturned)

STRIKE AND DIP (overturned) — 20 15

HOLE LOCATION (diamond, hammer)

TRENCH LOCATION

ADIT LOCATION

CONGLOMERATE

SANDSTONE

SILTSTONE

CLAYSTONE

COAL

* Approximate except where defined by outcrop

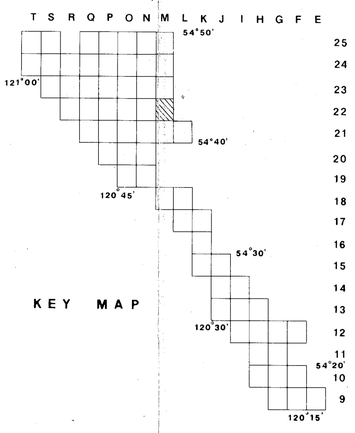
LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours — 1300
Horizontal control — △ 390
Vertical control — ○ V 1372 I
Spot elevation — 1247 9
Iron Pin — ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D W Watson B C L S using conventional and E D M survey equipment Horizontal and vertical co-ordinates and elevations are derived from Trig Stations Quintette E Quintette S W Mamie Hawk Marcia Kinuseo All co-ordinates referred to Universal Traverse Mercator Grid Zone 10 Elevations are above Mean Sea Level were established by trig levelling vertical angles being read at both ends of each course simultaneously

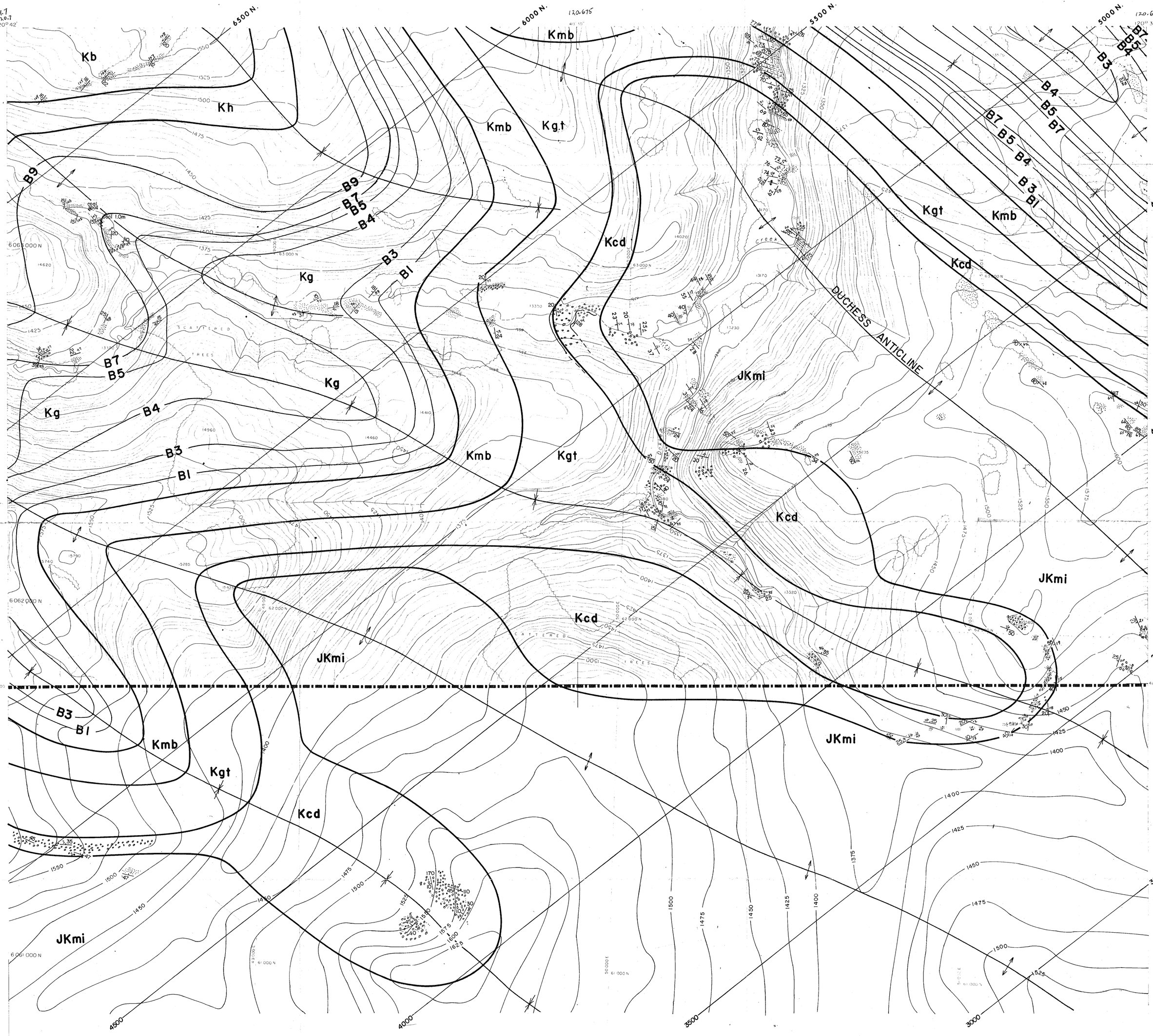


KEY MAP

Re Monkman s1(2)a 547

PETRO-CANADA EXPLORATION, INC. COAL DIVISION	
MONKMAN COAL PROJECT	Date DEC. 1981
Feb 1/92 547-M22 QuickMAP polyline traces	Revised
DUKE MOUNTAIN BLOCK	Author CLR
DUCHESS/DOKKEN	Drafted SK
GEOLOGY MAP	Scale 1:5,000
JC Dec 9/92 - Sum92044 547-M22	M 22

R.M. HARDY & ASSOCIATES LTD.



547-N21

6 060 000 N

649 000 E

60 000 N

650 000 E

60 000 N

651 000 E

120°42'

54°40'

120°39'

LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours — 1300
Horizontal control — △ 390
Vertical control — ○ V 1372.1
Spot elevation — 1247.9
Iron Pin — ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975

DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

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GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

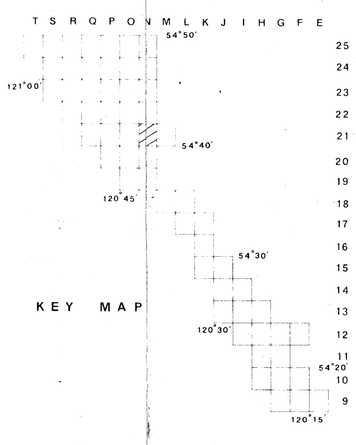
JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned) — 20 / 15
HOLE LOCATION (diamond, hammer) — ● ○
TRENCH LOCATION
ADIT LOCATION

CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL

* Approximate except where defined by outcrop



KEY MAP

Pr. Monkman 81(2)A 547

PETRO-CANADA EXPLORATION, INC.

COAL DIVISION

MONKMAN COAL PROJECT

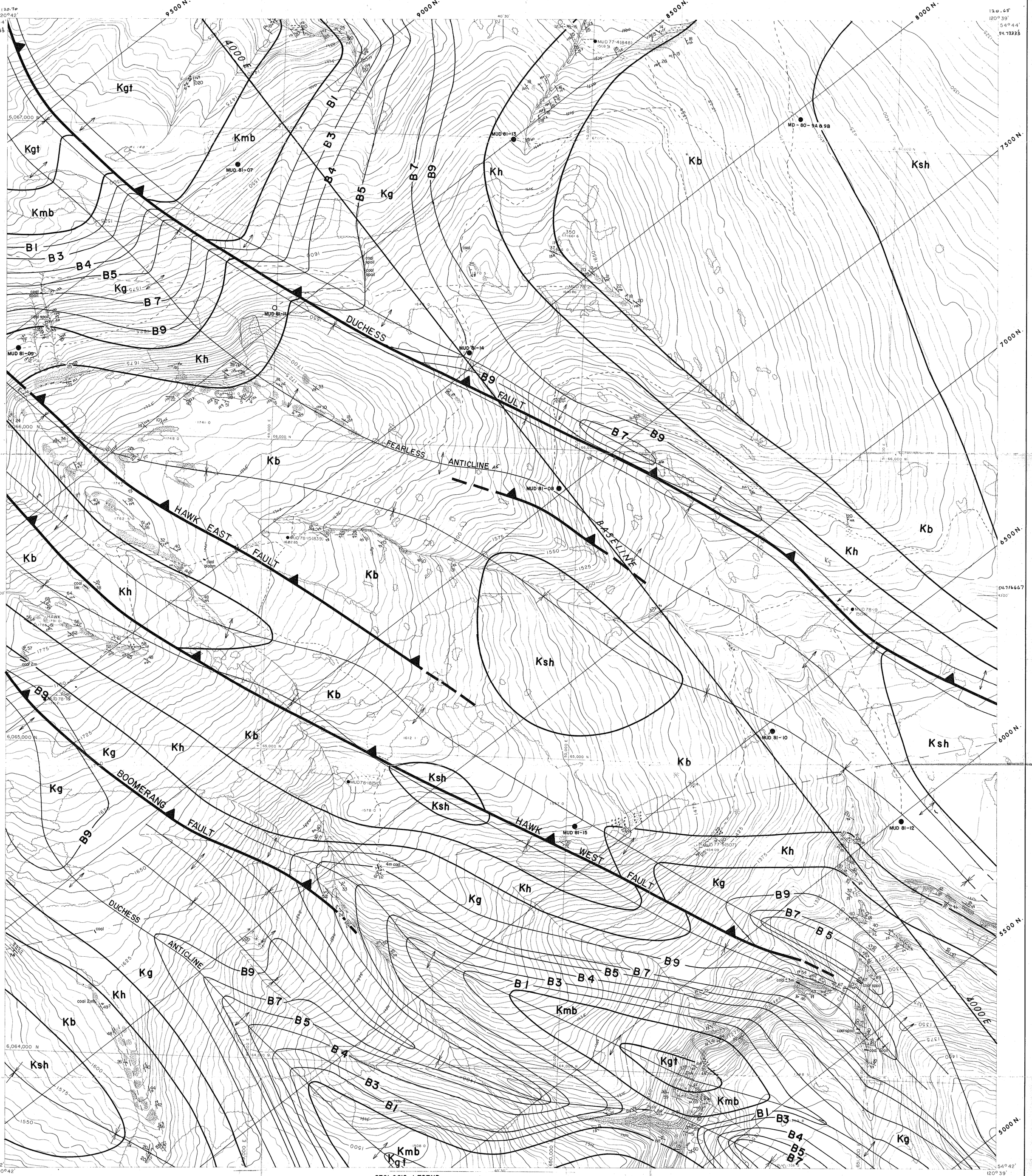
DUKE MOUNTAIN BLOCK

DUCHESS/DOKKEN GEOLOGY MAP

Date	MAR. '79
Revised	DEC. 1981
Author	CLR
Drafted	SK
Scale	1:5,000
Drawing	II.4-2

N 21

H. M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- ✱ COAL SEAM
- ✱ GEOLOGIC CONTACT
- ✱ THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned) — 20 15
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

✱ Approximate except where defined by outcrop

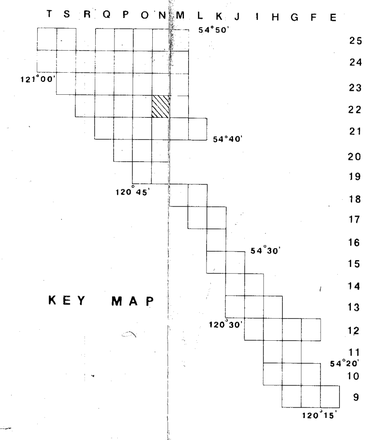
LEGEND

- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours — 1300
- Horizontal control — △ 390
- Vertical control — ○ V 1372.1
- Spot elevation — 1247.9
- Iron Pin — ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.



KEY MAP

PR-MONKMAN 81(2)A 547

PETRO-CANADA EXPLORATION, INC.
COAL DIVISION

MONKMAN COAL PROJECT

Dec 1/92
Je 547-N22
Sum92004
outcrop 151-178

DUKE MOUNTAIN BLOCK

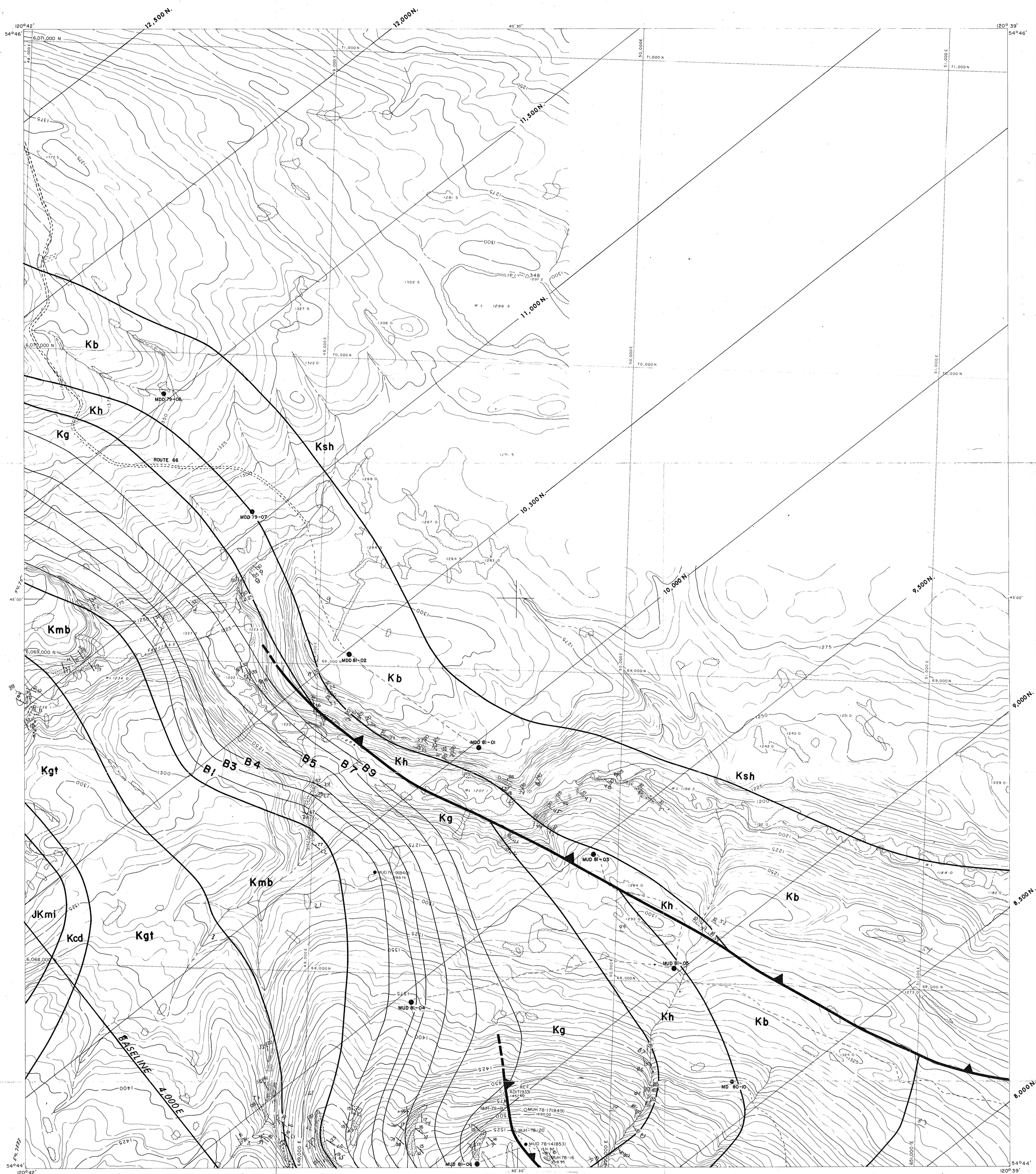
JAN 26/93
STRATBOC
SKT-N22
OC 115 179-192
MONKMAP.dle
Polyline
547-N22
JAN 26/93

DUCHESS/DOKKEN GEOLOGY MAP

Date	DEC. 1981
Revised	
Author	CLR
Drafted	SK
Scale	1:5,000

N 22

R.M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM

* GEOLOGIC CONTACT

* THRUST FAULT

SYNCLINE / ANTICLINE (overturned)

STRIKE AND DIP (overturned) — 20 / 15

HOLE LOCATION (diamond, hammer)

TRENCH LOCATION

ADIT LOCATION

CONGLOMERATE

SANDSTONE

SILTSTONE

CLAYSTONE

COAL

* Approximate except where defined by outcrop

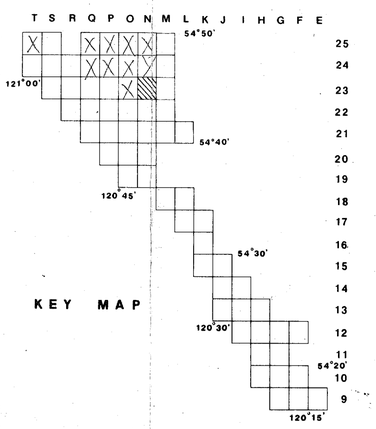
LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours — 1300
Horizontal control — △ 390
Vertical control — ○ V 1372.1
Spot elevation — 1247.9
Iron Pin — ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S., using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig Stations Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kifuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig levelling, vertical angles being read at both ends of each course simultaneously.



KEY MAP

547-N23

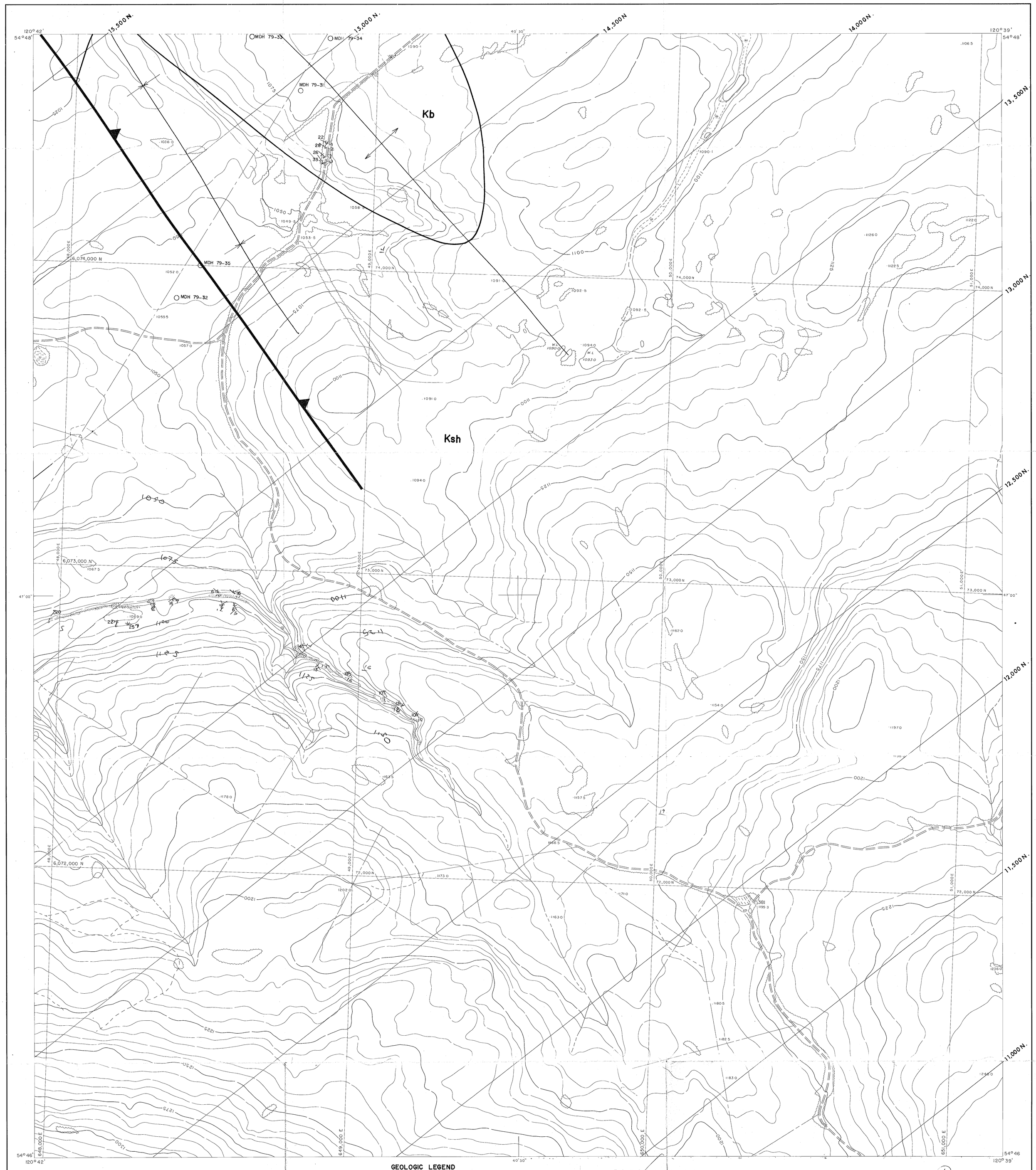
Pre- Monkman 81 (2)a 547

PETRO-CANADA EXPLORATION, INC.

MINING DIVISION

MONKMAN COAL PROJECT	
Dec 10/92 JC redone 1-88 Sum92oc4 547-N23	Date DEC. 1981
	Revised
DUKE MOUNTAIN BLOCK	Author EGP
FEB2/93 547-N23.bbf @MKMAP Polylines.	Drafted SK
DUKE/DUCHESS GEOLOGY MAP	Scale 1:5,000
	N 23

R.M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM

* GEOLOGIC CONTACT

* THRUST FAULT

SYNCLINE / ANTICLINE (overturned)

STRIKE AND DIP (overturned)

HOLE LOCATION (diamond, hammer)

TRENCH LOCATION

ADIT LOCATION

CONGLOMERATE

SANDSTONE

SILTSTONE

CLAYSTONE

COAL

* Approximate except where defined by outcrop

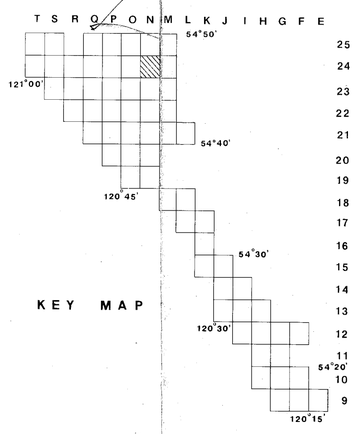
LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours — 1300
Horizontal control — △ 390
Vertical control — ○ V 1372.1
Spot elevation — 1247.9
Iron Pin — ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

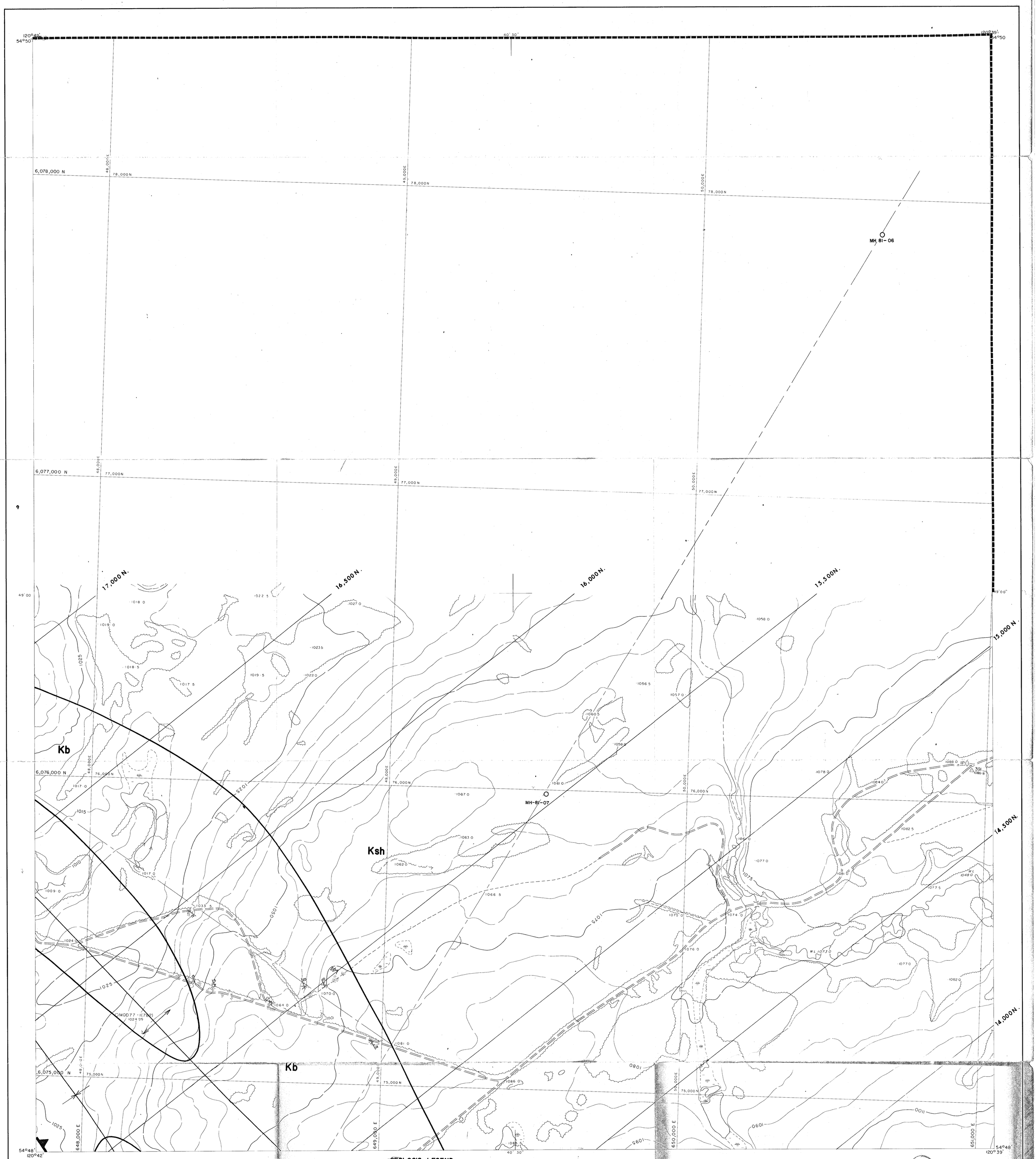
The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S., using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations: Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.



(4)

Pr- Monkman 81(2)A 547

PETRO-CANADA EXPLORATION, INC.	
MONKMAN COAL PROJECT	Date DEC. 1981
DUKE MOUNTAIN BLOCK	Revised
	Author
DUKE	Drafted
GEOLOGY MAP	Scale 1:5,000
	N 24



5

Pr-Monkman 81(2)A 547

LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours 1300
Horizontal control △ 390
Vertical control ○ V 1372 I
Spot elevation 1247.9
Iron Pin ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Marmie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.

GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

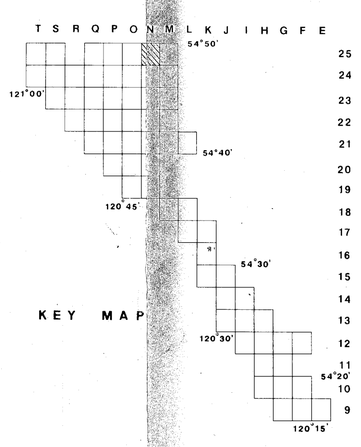
JURASSIC - CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned)
HOLE LOCATION (diamond, hammer)
TRENCH LOCATION
ADIT LOCATION
CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL

* Approximate except where defined by outcrop



KEY MAP

PETRO-CANADA EXPLORATION, INC.

MONKMAN COAL PROJECT

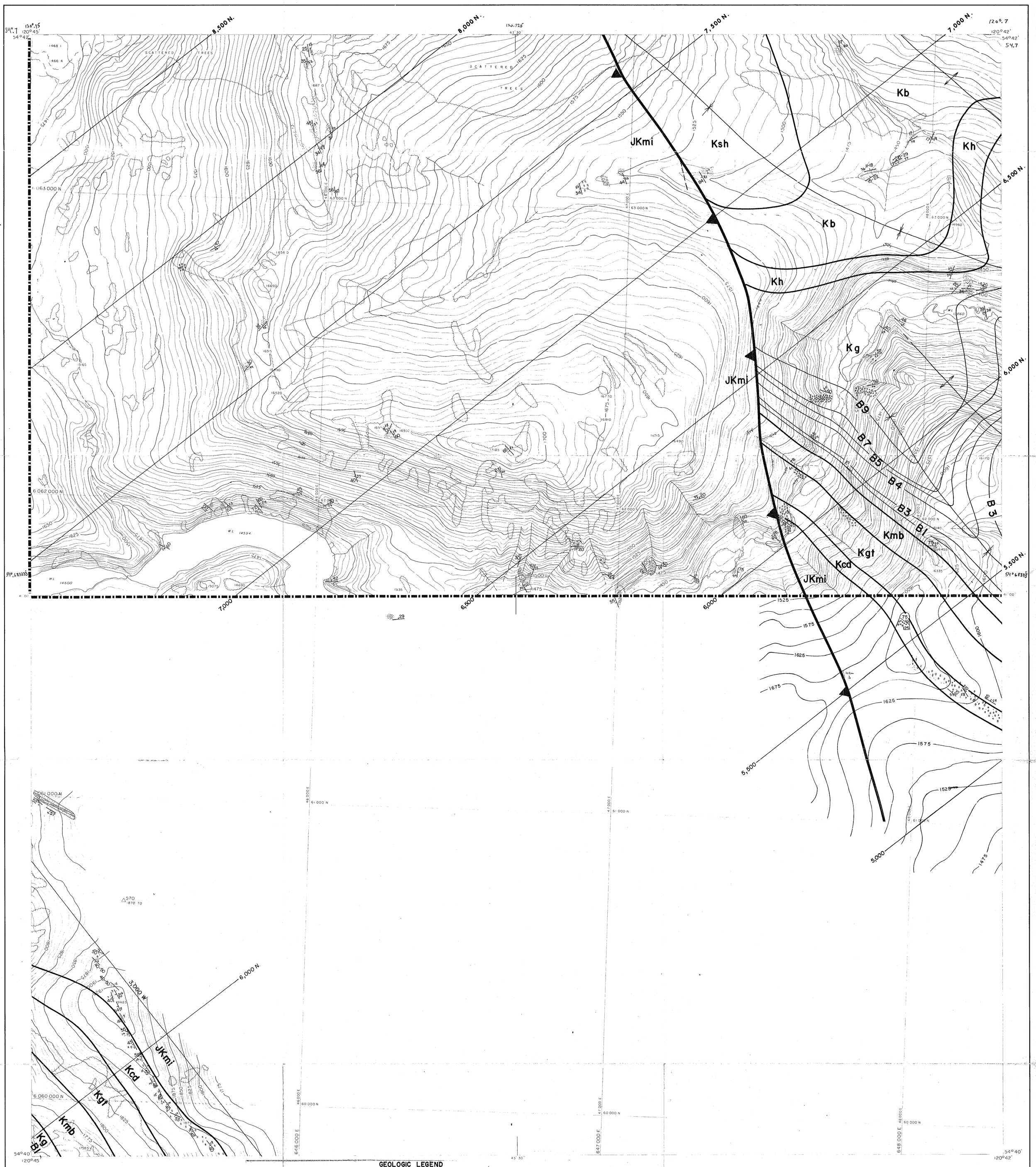
DUKE MOUNTAIN BLOCK

HONEYMOON GEOLOGY MAP

Date	DEC. 1981
Revised	
Author	W.P.
Drafted	S.K.
Scale	1:5,000

N 25

R.M. HARDY & ASSOCIATES LTD.



LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours 1300
Horizontal control △ 390
Vertical control ○ V 1372.1
Spot elevation 1247.9
Iron Pin ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co ordinates were established by D W Watson B C L S using conventional and E D M survey equipment Horizontal and vertical co-ordinates and elevations are derived from Trig Stations Quintette E Quintette S W Mamie Hawk Marcia Kinuseo All co ordinates referred to Universal Traverse Mercator Grid Zone 10 Elevations are above Mean Sea Level were established by trig levelling vertical angles being read at both ends of each course simultaneously

GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC - CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned) 20 15
HOLE LOCATION (diamond, hammer) ● ○
TRENCH LOCATION
ADIT LOCATION

CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL

* Approximate except where defined by outcrop

KEY MAP

T S R Q P O N M L K J I H G F E
25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9
54°50' 121°00' 54°40' 120°45' 54°30' 120°30' 54°20' 120°15'

Pre-Monkman 81(2)(a) 547

PETRO-CANADA EXPLORATION, INC.
COAL DIVISION

MONKMAN COAL PROJECT

fc Dec 1/92 Sum 92oc4 547-021
Jan 26/93 jc polyline outlinemap 547-021

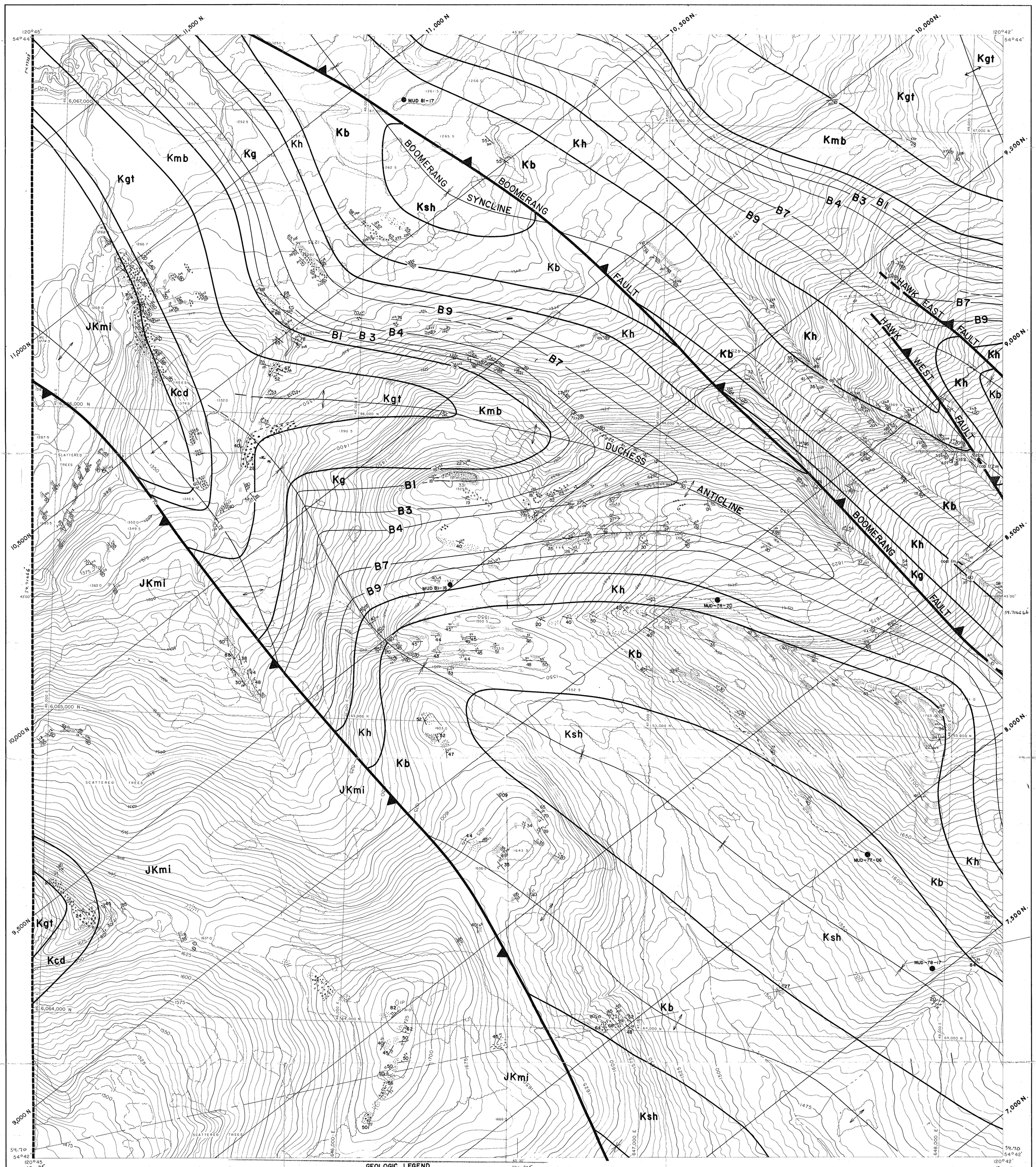
DKUE MOUNTAIN BLOCK

DUCHESS GEOLOGY MAP

Date	DEC. 1981
Revised	
Author	CLR
Drafted	SK
Scale	1:5,000

0 21

R.M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours 1300
Horizontal control △ 390
Vertical control ○ V 1372 I
Spot elevation 1247 9
Iron Pin ◇ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S., using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC – CRETACEOUS

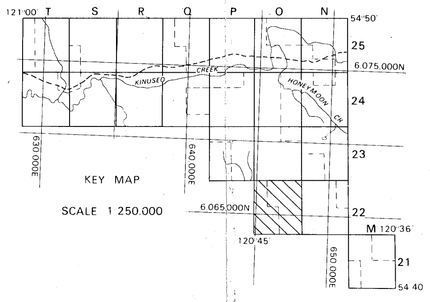
JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned) 20 15
HOLE LOCATION (diamond, hammer) ● ○
TRENCH LOCATION
ADIT LOCATION

CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL

* Approximate except where defined by outcrop



KEY MAP
SCALE 1 250.000

Fr. Monkman 81(2)A 547

PETRO-CANADA EXPLORATION, INC.

MINING DIVISION

MONKMAN COAL PROJECT

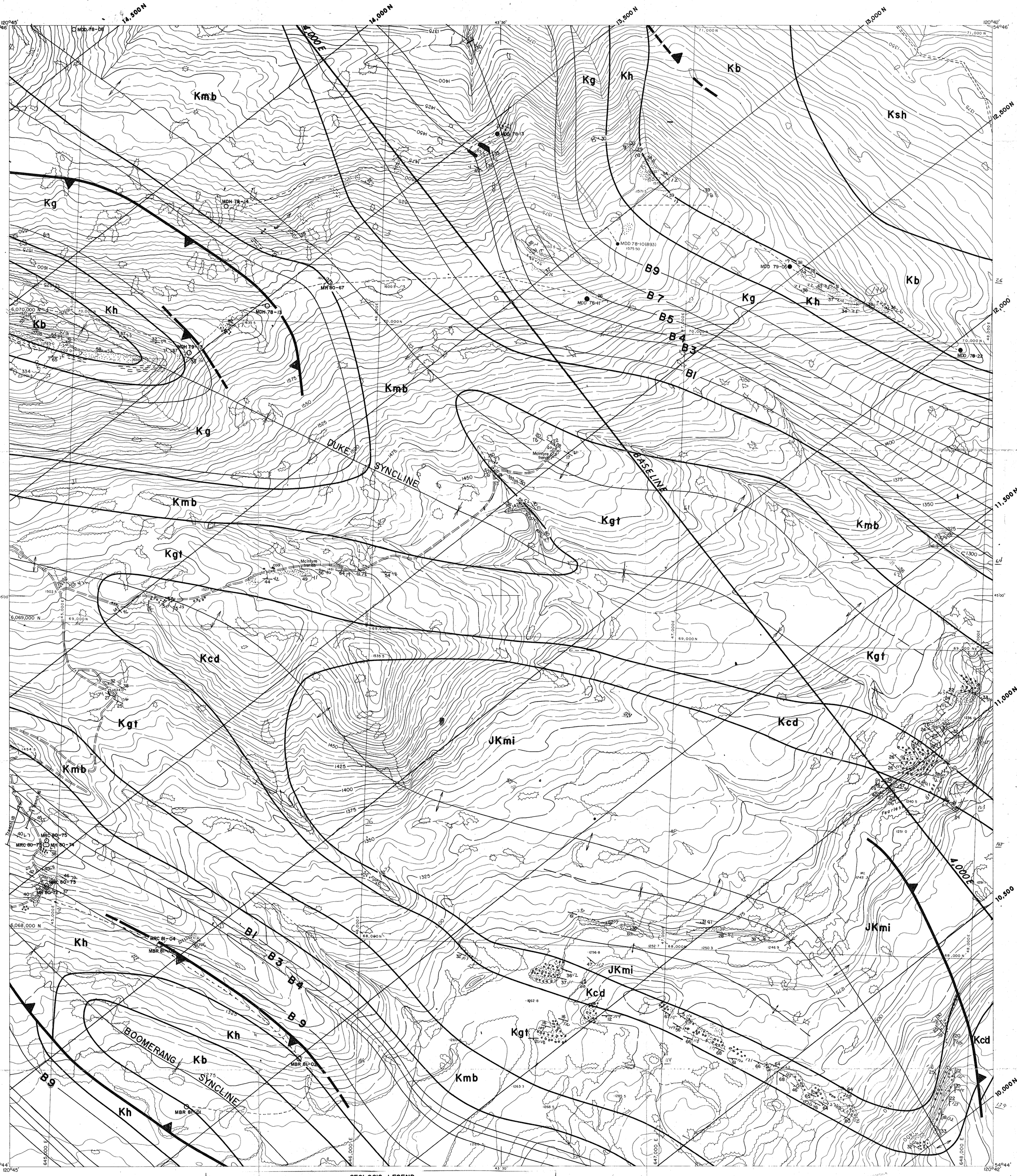
DUKE MOUNTAIN BLOCK

BOOMERANG / DUCHESS GEOLOGY MAP

Date	DEC. 1981
Revised	
Author	J. M.
Drafted	S. K.
Scale	1:5,000

O 22

R.M. HARDY & ASSOCIATES LTD.



LEGEND

Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Steam
Intermittent stream
Swamp
Contours 1300
Horizontal control △ 390
Vertical control ○ V 1372.1
Spot elevation 1247.9
Iron Pin ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: APRIL 1977
DATE OF MAPPING: MAY 1977

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E., Quintette S.W., Marmie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig. levelling, vertical angles being read at both ends of each course simultaneously.

GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
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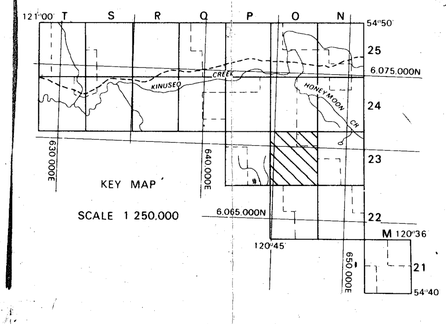
JURASSIC – CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned) 20 15
HOLE LOCATION (diamond, hammer) ● ○
TRENCH LOCATION
ADIT LOCATION
CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL

* Approximate except where defined by outcrop



Pre-Minister 81(2)A 547

PETRO-CANADA EXPLORATION, INC.

MINING DIVISION

MONKMAN COAL PROJECT

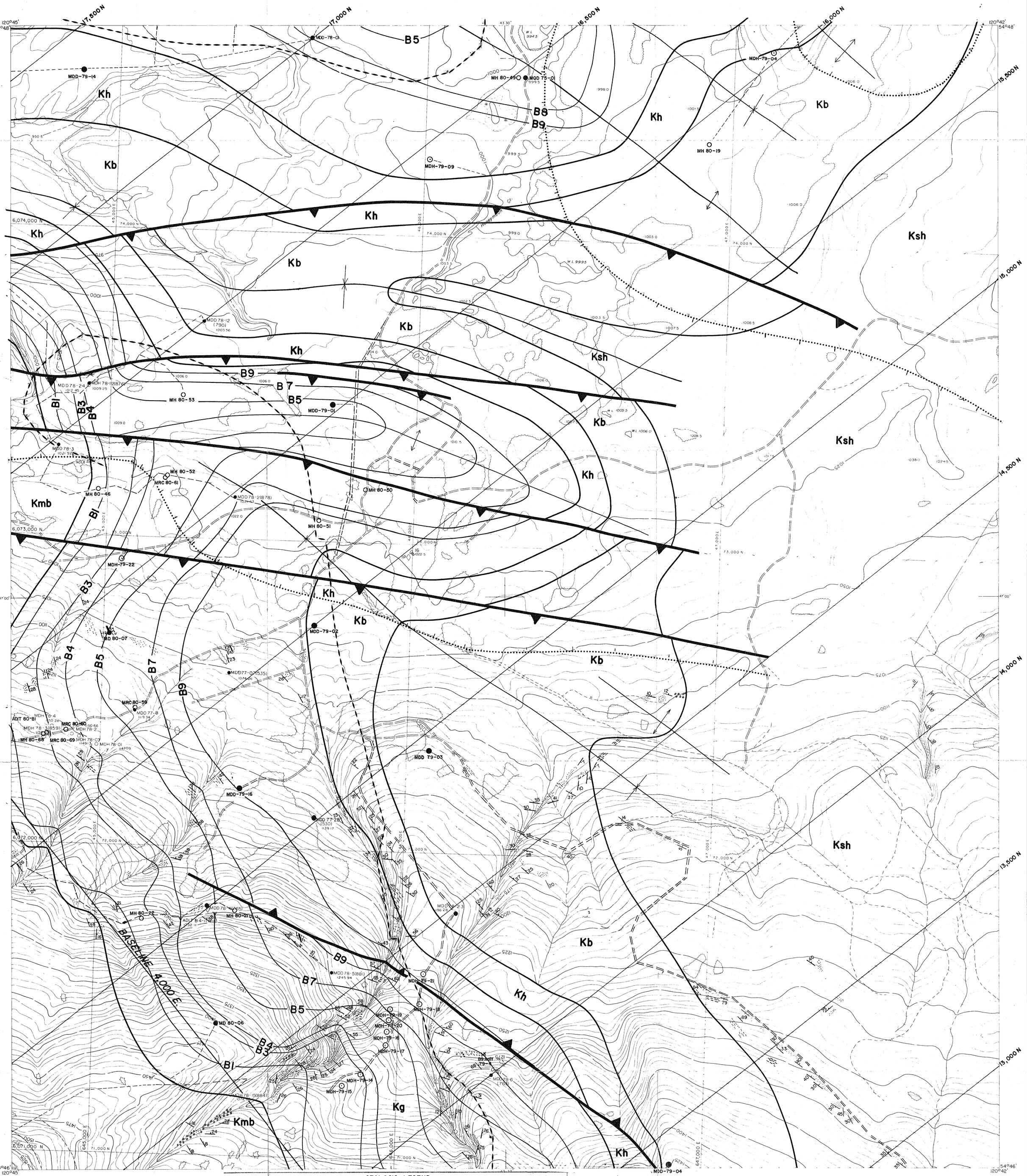
DUKE MOUNTAIN BLOCK

DUKE/BOOMERANG GEOLOGY MAP

Date	DEC. 1981
Revised	
Author	J.M.
Drafted	S.K.
Scale	1:5,000

O 23

R.M. HARDY & ASSOCIATES LTD.



LEGEND

- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours — 1300
- Horizontal control — △ 390
- Vertical control — ○ V 1372 1
- Spot elevation — 1247 9
- Iron Pin — ◊ IP

CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978

SURVEY NOTE

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GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
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Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

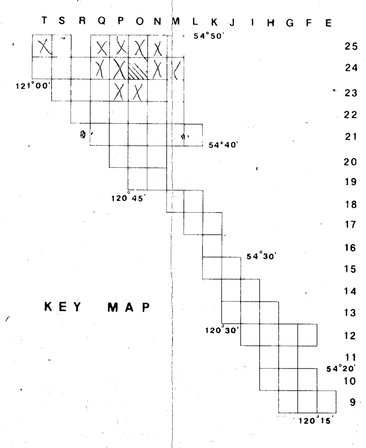
JURASSIC - CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- * COAL SEAM
- * GEOLOGIC CONTACT
- * THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned) — 20, 15
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

* Approximate except where defined by outcrop



KEY MAP

Re. Monkman 81(2)A 547

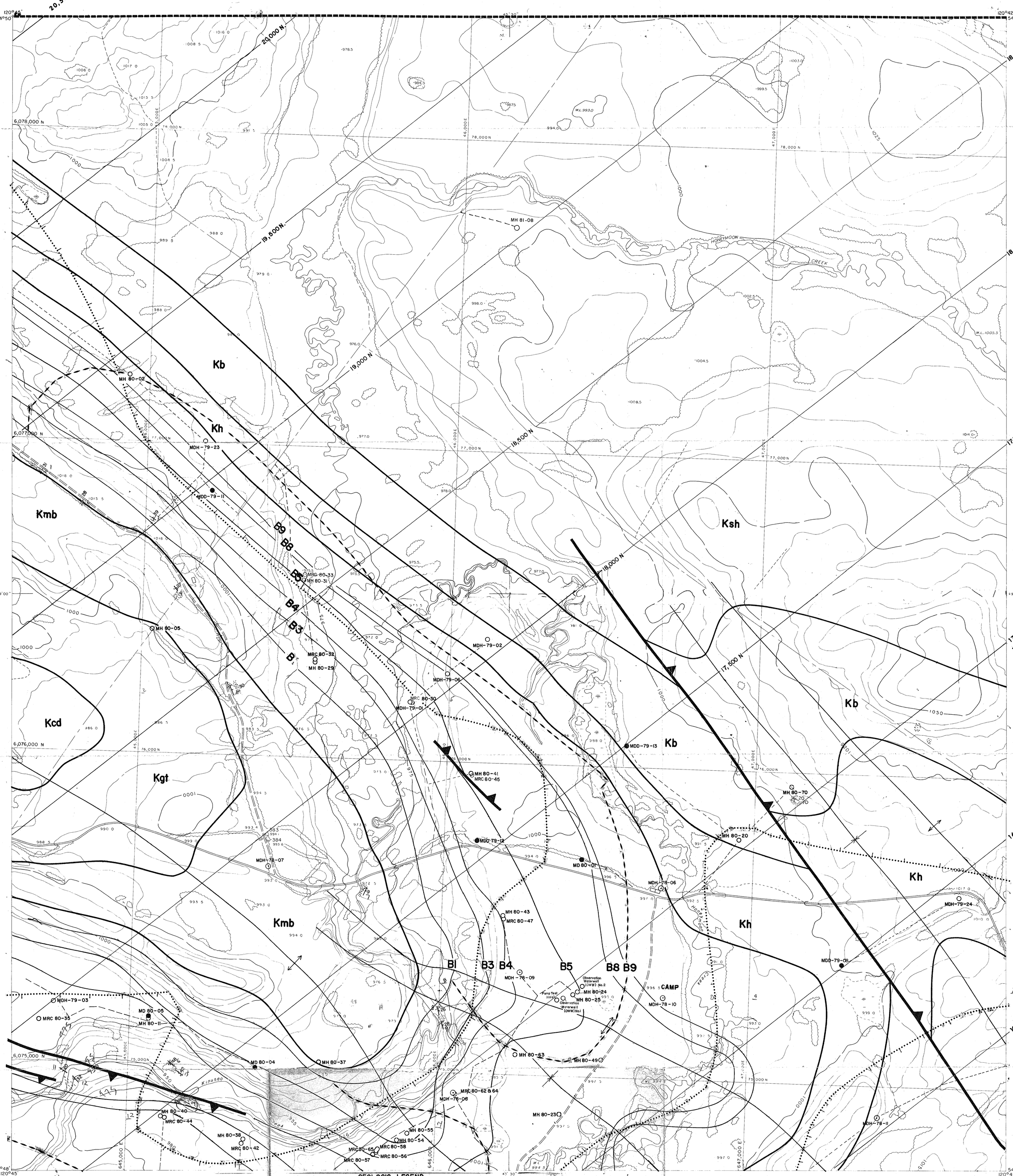
PETRO-CANADA EXPLORATION, INC.

MINING DIVISION

MONKMAN COAL PROJECT	Date OCT. 1980
	Revised DEC. 1981
DUKE MOUNTAIN BLOCK	Author W. P.
HONEYMOON/DUKE GEOLOGY MAP	Drafted
	Scale 1:5,000

O 24

R.M. HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC - CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- * COAL SEAM
- * GEOLOGIC CONTACT
- * THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned)
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

* Approximate except where defined by outcrop

LEGEND

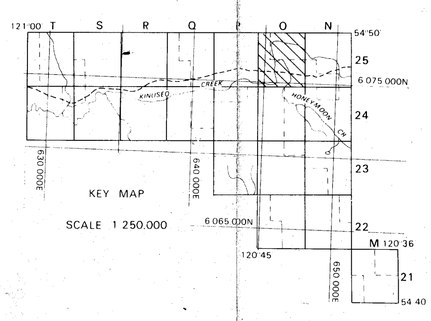
- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours
- Horizontal control
- Vertical control
- Spot elevation
- Iron Pin

1300
△ 390
○ V 1372 I
1247 9
◇ IP

CONTOUR INTERVAL 5 METRES
DATE OF PHOTOGRAPHY SEPTEMBER 1975
DATE OF SURVEY APRIL 1977
DATE OF MAPPING MAY 1977

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D W Watson B C L S using conventional and E D M survey equipment Horizontal and vertical co-ordinates and elevations are derived from Trig Stations Quintette E Quintette S W Marmie Hawk Marcia Kinuseo All co-ordinates referred to Universal Traverse Mercator Grid Zone 10 Elevations are above Mean Sea Level were established by trig levelling vertical angles being read at both ends of each course simultaneously



Pr-Monkman 81(2)A 547

PETRO-CANADA EXPLORATION, INC.

MINING DIVISION

MONKMAN COAL PROJECT

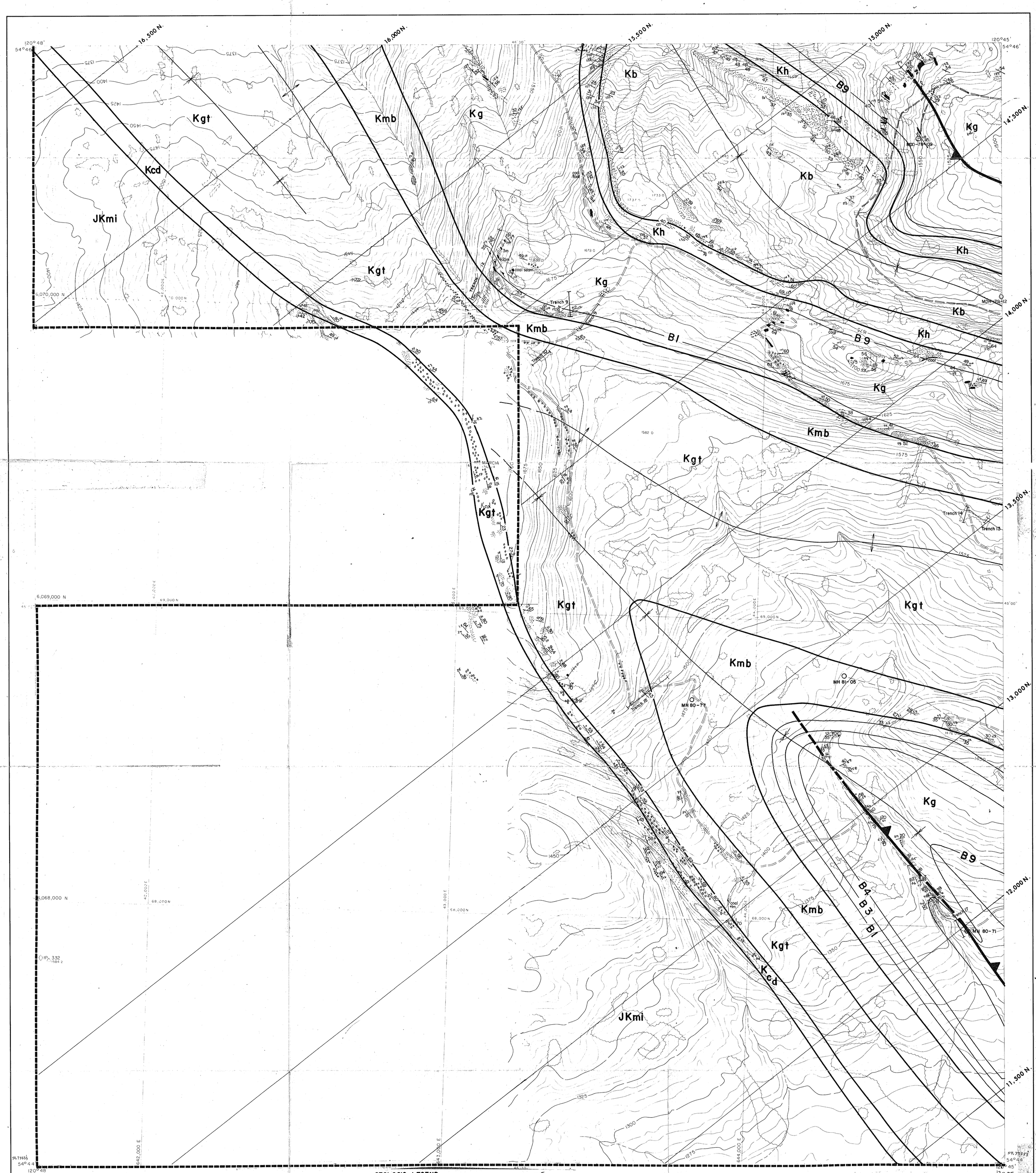
DUKE MOUNTAIN BLOCK

HONEYMOON GEOLOGY MAP

Date	DEC. 1981
Revised	
Author	E.P., W.P.
Drafted	
Scale	1:5,000

O 25

R M HARDY & ASSOCIATES LTD.



GEOLOGIC LEGEND

LOWER CRETACEOUS

Ksh	SHAFTESBURY FORMATION	FORT ST. JOHN GROUP
Kb	BOULDER CREEK FORMATION	FORT ST. JOHN GROUP
Kh	HULCROSS FORMATION	FORT ST. JOHN GROUP
Kg	GATES FORMATION	FORT ST. JOHN GROUP
Kmb	MOOSEBAR FORMATION	FORT ST. JOHN GROUP
Kgt	GETHING FORMATION	BULLHEAD GROUP
Kcd	CADOMIN FORMATION	BULLHEAD GROUP

JURASSIC - CRETACEOUS

JKmi	MINNES GROUP (undivided)

AREA OF 20m. + OVERBURDEN

- ✱ COAL SEAM
- ✱ GEOLOGIC CONTACT
- ✱ THRUST FAULT
- SYNCLINE / ANTICLINE (overturned)
- STRIKE AND DIP (overturned) — 20 / 15
- HOLE LOCATION (diamond, hammer)
- TRENCH LOCATION
- ADIT LOCATION
- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- COAL

✱ Approximate except where defined by outcrop

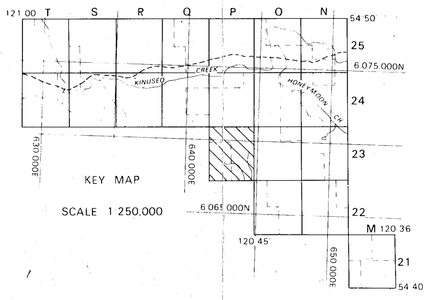
LEGEND

- Improved road
- Secondary road
- Track or trail
- Cut line
- Tree area
- River
- Steam
- Intermittent stream
- Swamp
- Contours — 1300
- Horizontal control — △ 390
- Vertical control — ○ V 1372.1
- Spot elevation — 1247.9
- Iron Pin — ◇ IP

CONTOUR INTERVAL 5 METRES
DATE OF PHOTOGRAPHY SEPTEMBER 1975
DATE OF SURVEY APRIL 1977
DATE OF MAPPING MAY 1977

SURVEY NOTE

The Horizontal and Vertical Co-ordinates were established by D. W. Watson B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig Stations Quintette E, Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig levelling vertical angles being read at both ends of each course simultaneously.



KEY MAP

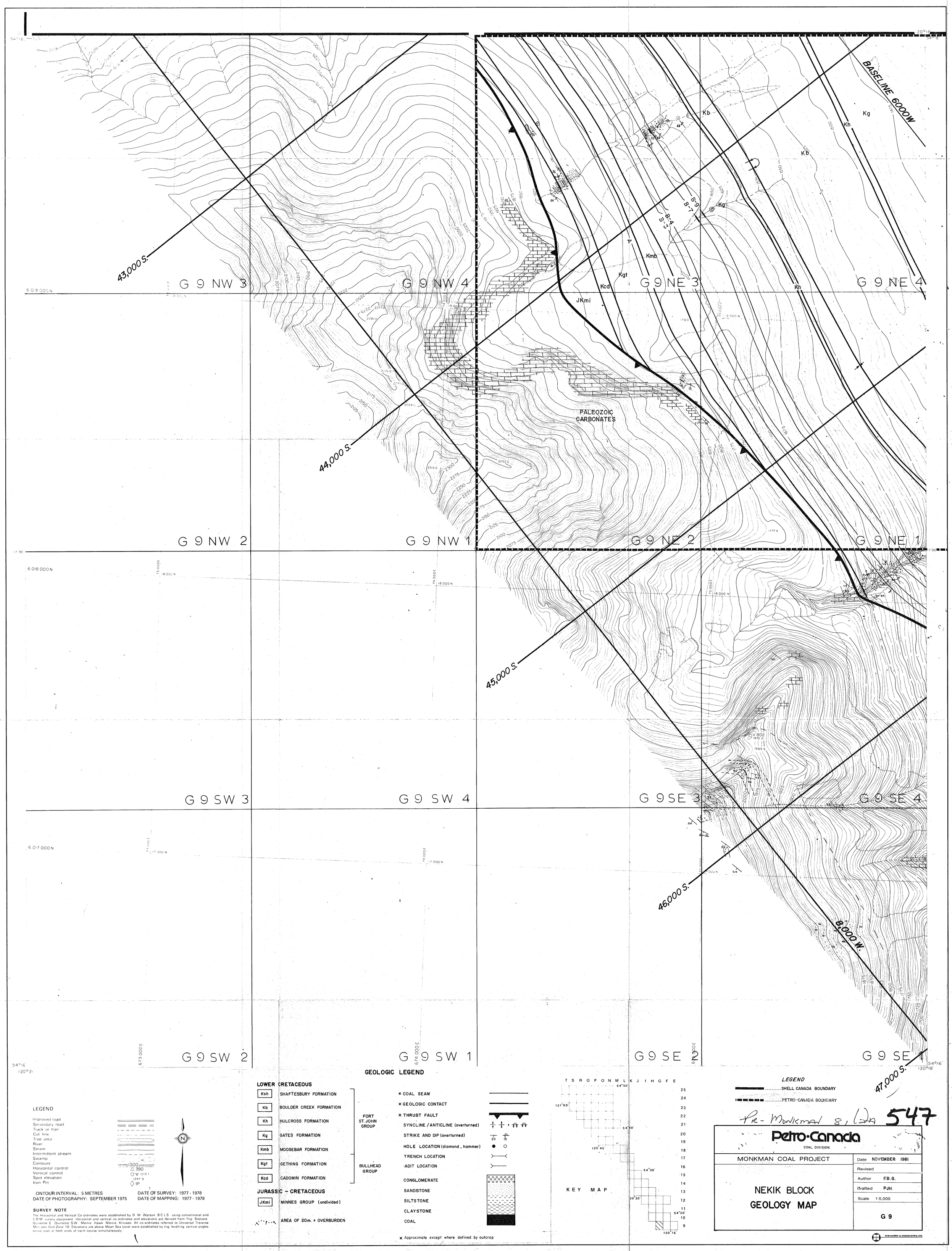
SCALE 1:250,000

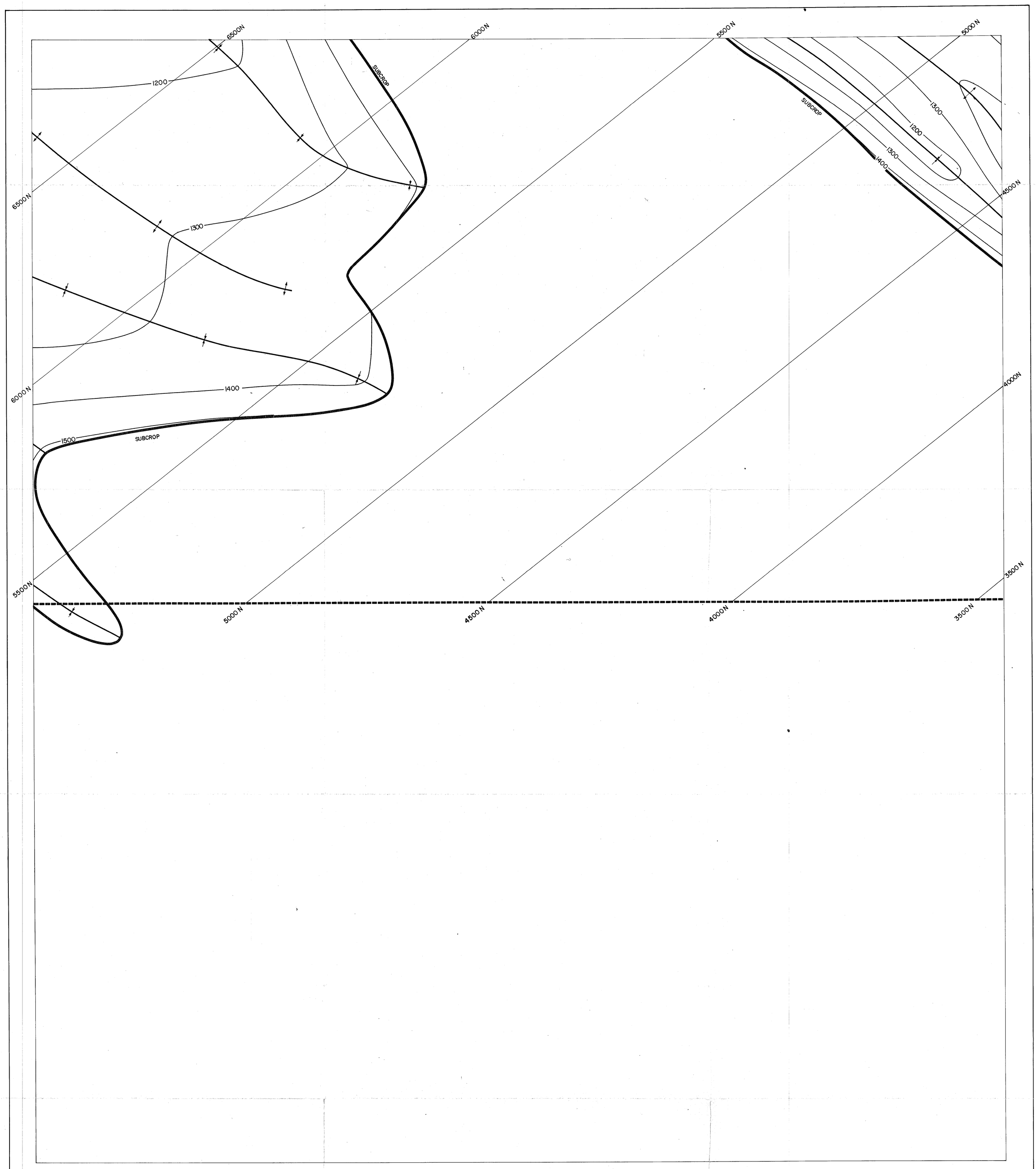
Pr - Monkman 81(2)A 547

PETRO-CANADA EXPLORATION, INC.
MINING DIVISION

MONKMAN COAL PROJECT	Date DEC. 1981
	Revised
DUKE MOUNTAIN BLOCK	Author EGP
	Drafted SK
DUKE/BOOMERANG GEOLOGY MAP	Scale 1:5,000
547-P23 Jan 29/95 sc quickMAP polylines	Nov 27/92 Sum92003 547-P23
	P 23

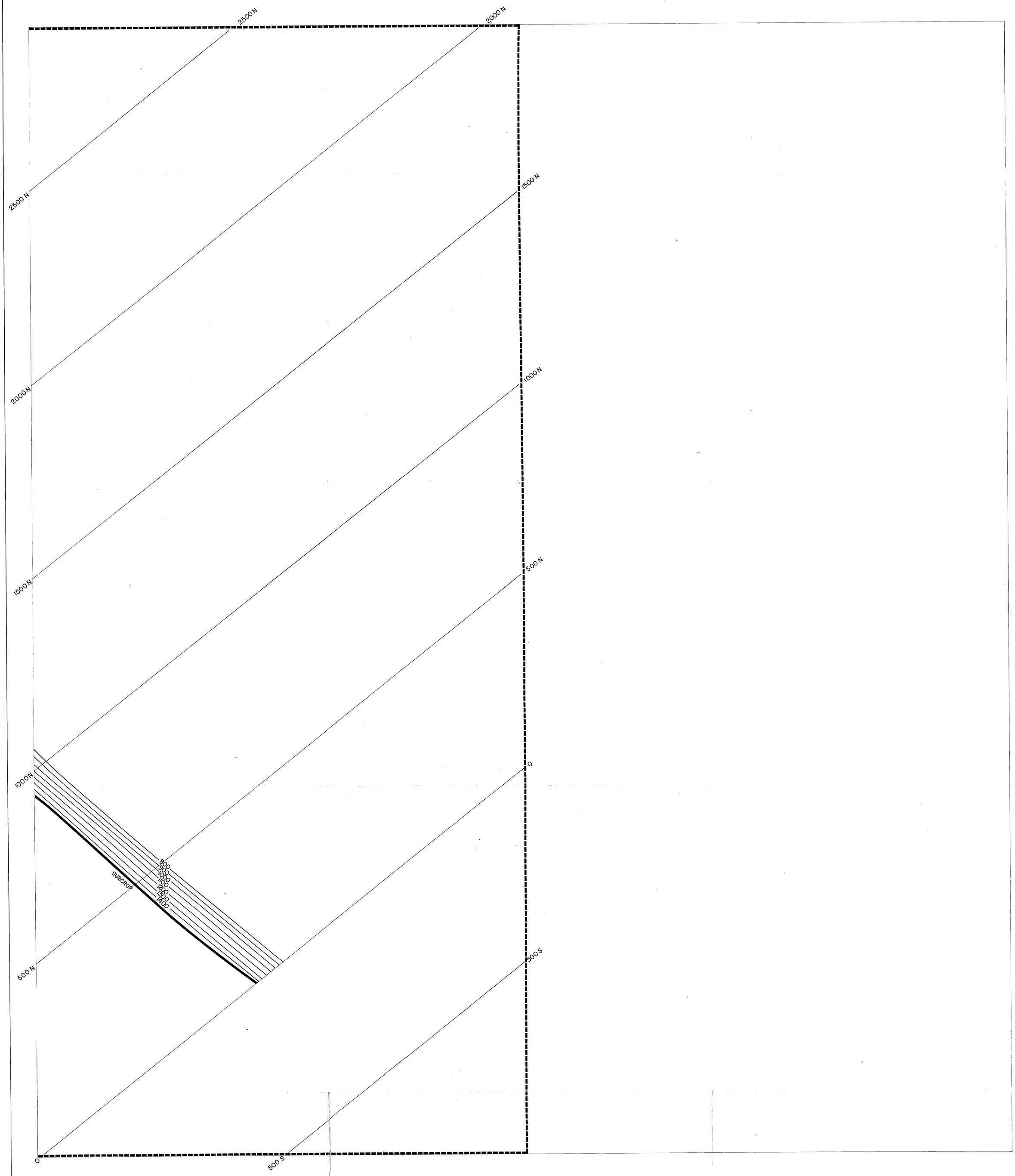
R.M. HARDY & ASSOCIATES LTD.


G 9 NW 3
G 9 NW 4
G 9 NE 3
G 9 NE 4
G 9 NW 2
G 9 NW 1
G 9 NE 2
G 9 NE 1
G 9 SW 3
G 9 SW 4
G 9 SE 3
G 9 SE 4
G 9 SW 2
G 9 SW 1
G 9 SE 2
G 9 SE 1
BASELINE 6000W
43,000 S.
44,000 S.
45,000 S.
46,000 S.
47,000 S.
8,000 W.
PALEOZOIC CARBONATES
Kb
Kg
Kh
Kmb
Kgt
Kcd
JKmi
A
B-3
B-4
B-7
B-9
6 019 000 N
6 018 000 N
6 017 000 N
673 000 E
674 000 E
54°16'
120°21'
120°18'
LEGEND
Improved road
Secondary road
Track or trail
Cut line
Tree area
River
Stream
Intermittent stream
Swamp
Contours
Horizontal control
Vertical control
Spot elevation
Iron Pin
1300
△ 390
○ V 1372 1
1247 9
◊ IP
N
CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: SEPTEMBER 1975
DATE OF SURVEY: 1977 - 1978
DATE OF MAPPING: 1977 - 1978
SURVEY NOTE
The Horizontal and Vertical Co-ordinates were established by D. W. Watson, B.C.L.S. using conventional and E.D.M. survey equipment. Horizontal and vertical co-ordinates and elevations are derived from Trig. Stations Quintette E, Quintette S.W., Mamie, Hawk, Marcia, Kinuseo. All co-ordinates referred to Universal Traverse Mercator Grid Zone 10. Elevations are above Mean Sea Level were established by trig levelling vertical angles being read at both ends of each course simultaneously.
GEOLOGIC LEGEND
LOWER CRETACEOUS
Ksh SHAFTESBURY FORMATION
Kb BOULDER CREEK FORMATION
Kh HULCROSS FORMATION
Kg GATES FORMATION
Kmb MOOSEBAR FORMATION
Kgt GETHING FORMATION
Kcd CADOMIN FORMATION
FORT ST. JOHN GROUP
BULLHEAD GROUP
JURASSIC - CRETACEOUS
JKmi MINNES GROUP (undivided)
AREA OF 20m. + OVERBURDEN
* COAL SEAM
* GEOLOGIC CONTACT
* THRUST FAULT
SYNCLINE / ANTICLINE (overturned)
STRIKE AND DIP (overturned)
HOLE LOCATION (diamond, hammer)
TRENCH LOCATION
ADIT LOCATION
CONGLOMERATE
SANDSTONE
SILTSTONE
CLAYSTONE
COAL
* Approximate except where defined by outcrop
KEY MAP
T S R Q P O N M L K J I H G F E
54°50'
121°00'
54°40'
120°45'
54°30'
20°30'
54°20'
120°15'
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
LEGEND
SHELL CANADA BOUNDARY
PETRO-CANADA BOUNDARY
Pre-Monkman 8, (2)A 547
Petro-Canada
COAL DIVISION
MONKMAN COAL PROJECT
NEKIK BLOCK
GEOLOGY MAP
Date NOVEMBER 1981
Revised
Author F.B.G.
Drafted P.J.H.
Scale 1:5,000
G 9
R.M. HARDY & ASSOCIATES LTD.



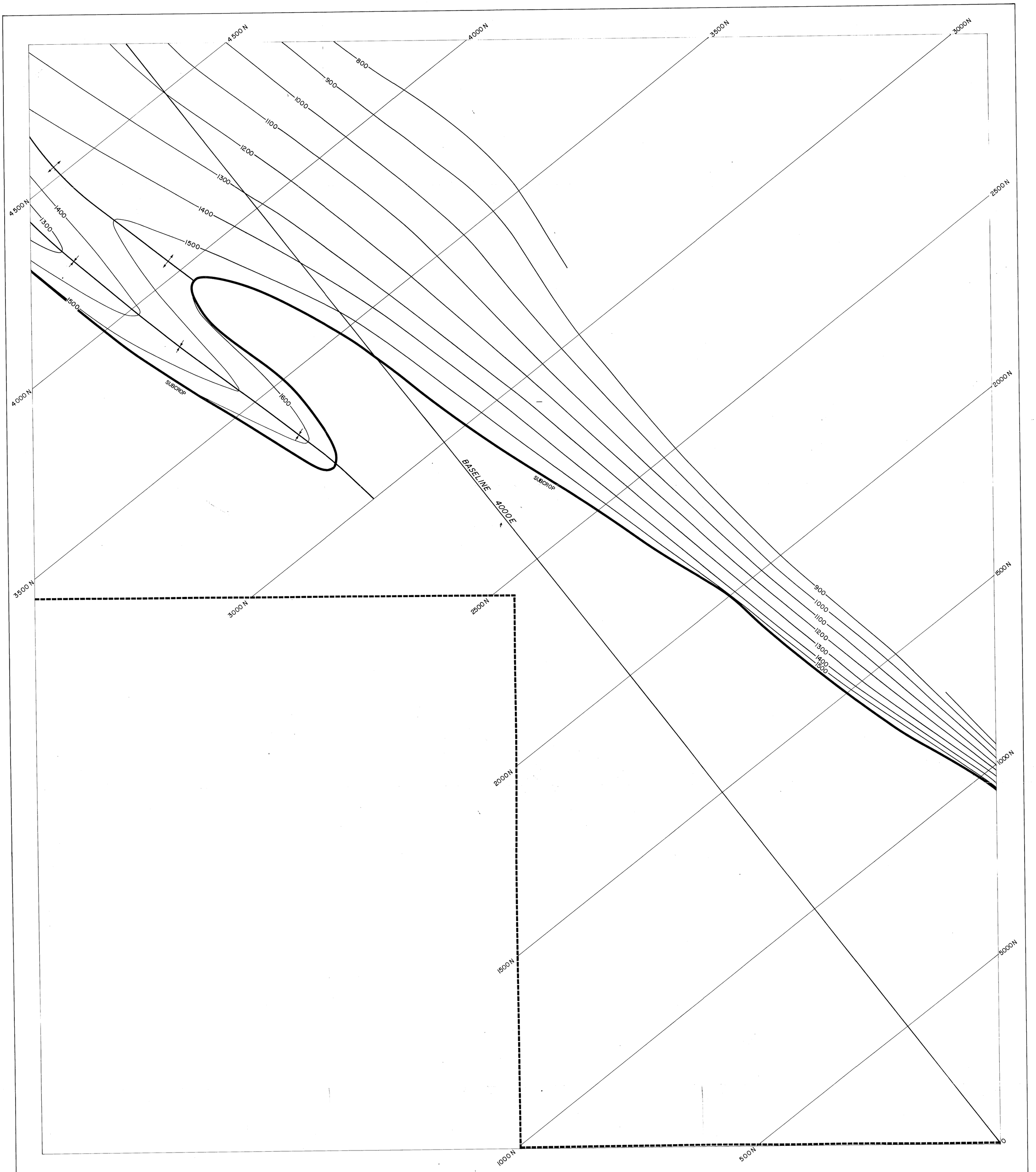
Re- Monkman 81 data 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS / DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-1
SCALE 1 : 5000	C.I. 100m
N 21	



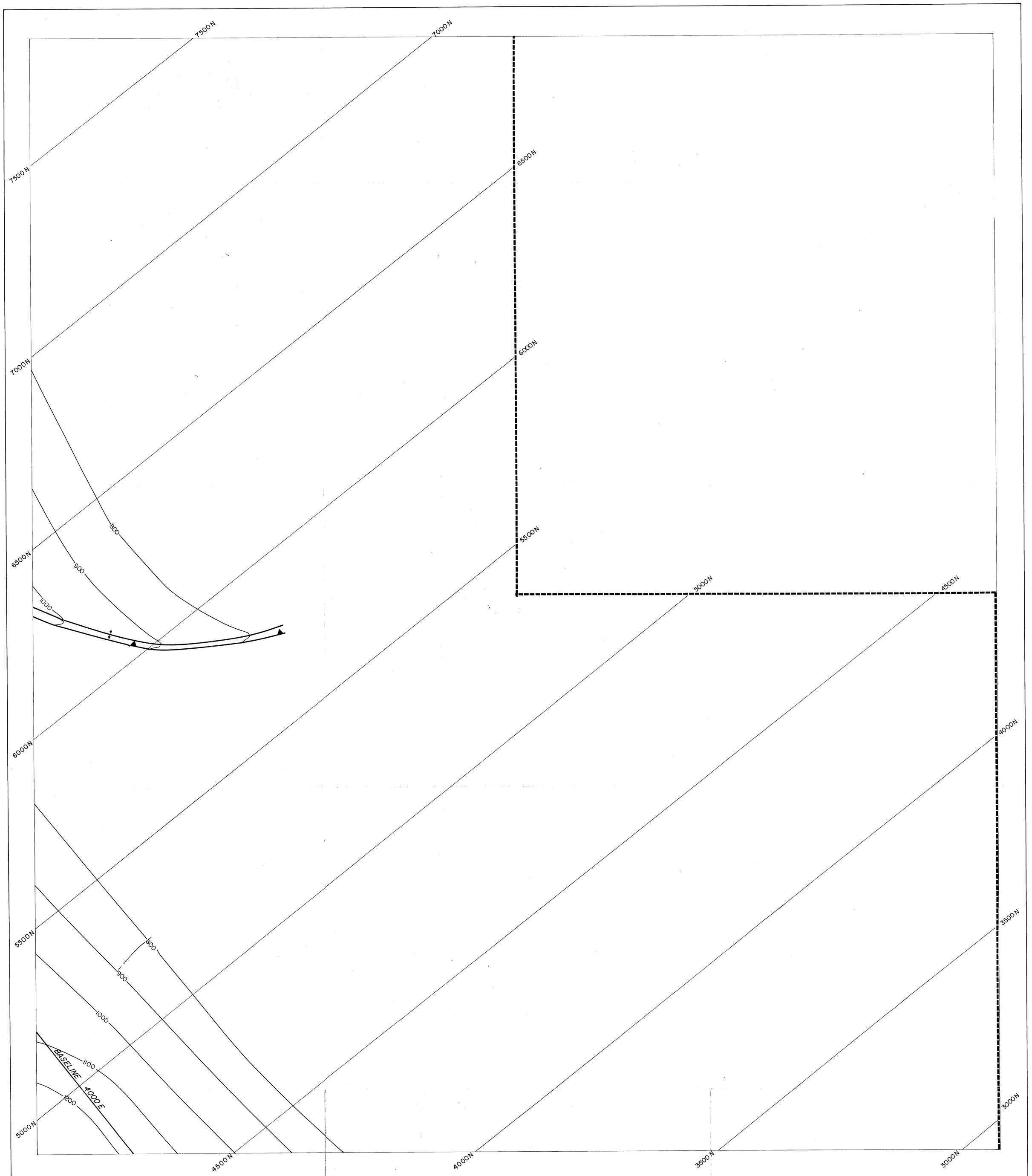
Re- Monkman 81(a)a 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-1
SCALE 1 : 5000	C.I. 100m
L21	



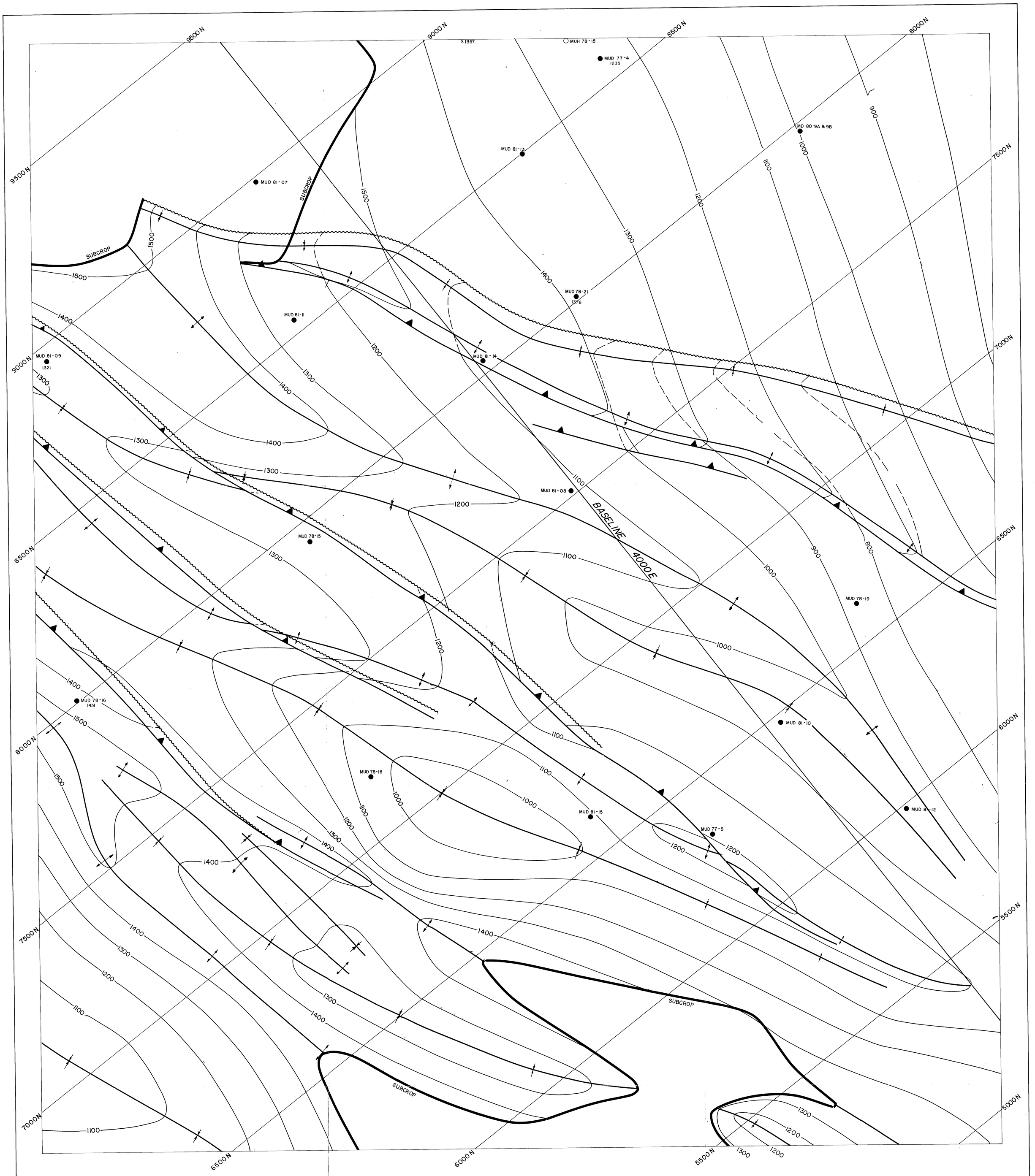
Pre-Monkman 81(a)b 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-1
SCALE 1 : 5000	C.I. 100m
M21	



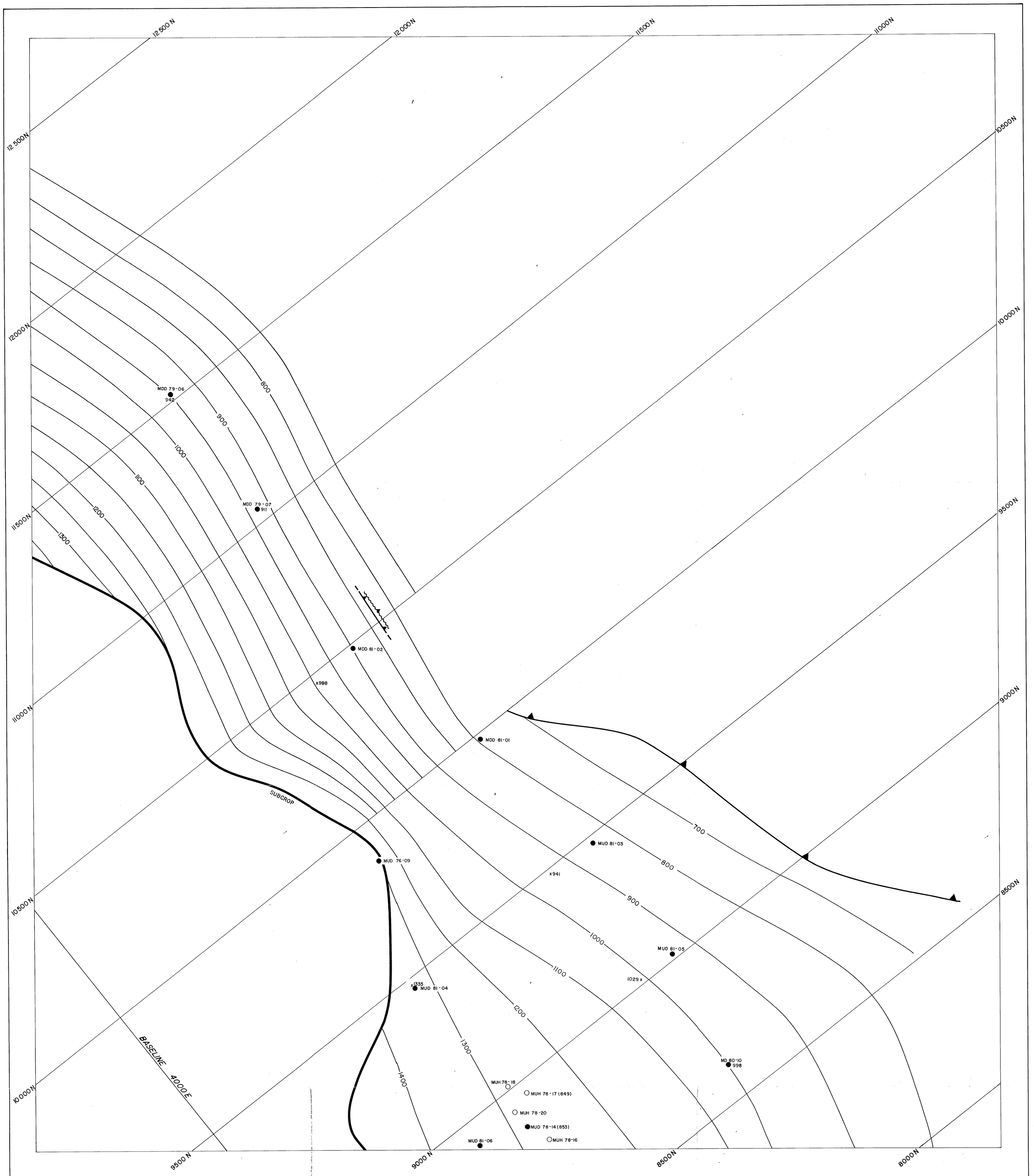
Re-Monkman 81/2A 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS / DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-1
SCALE 1 : 5 000	C.I. 100m
M22	



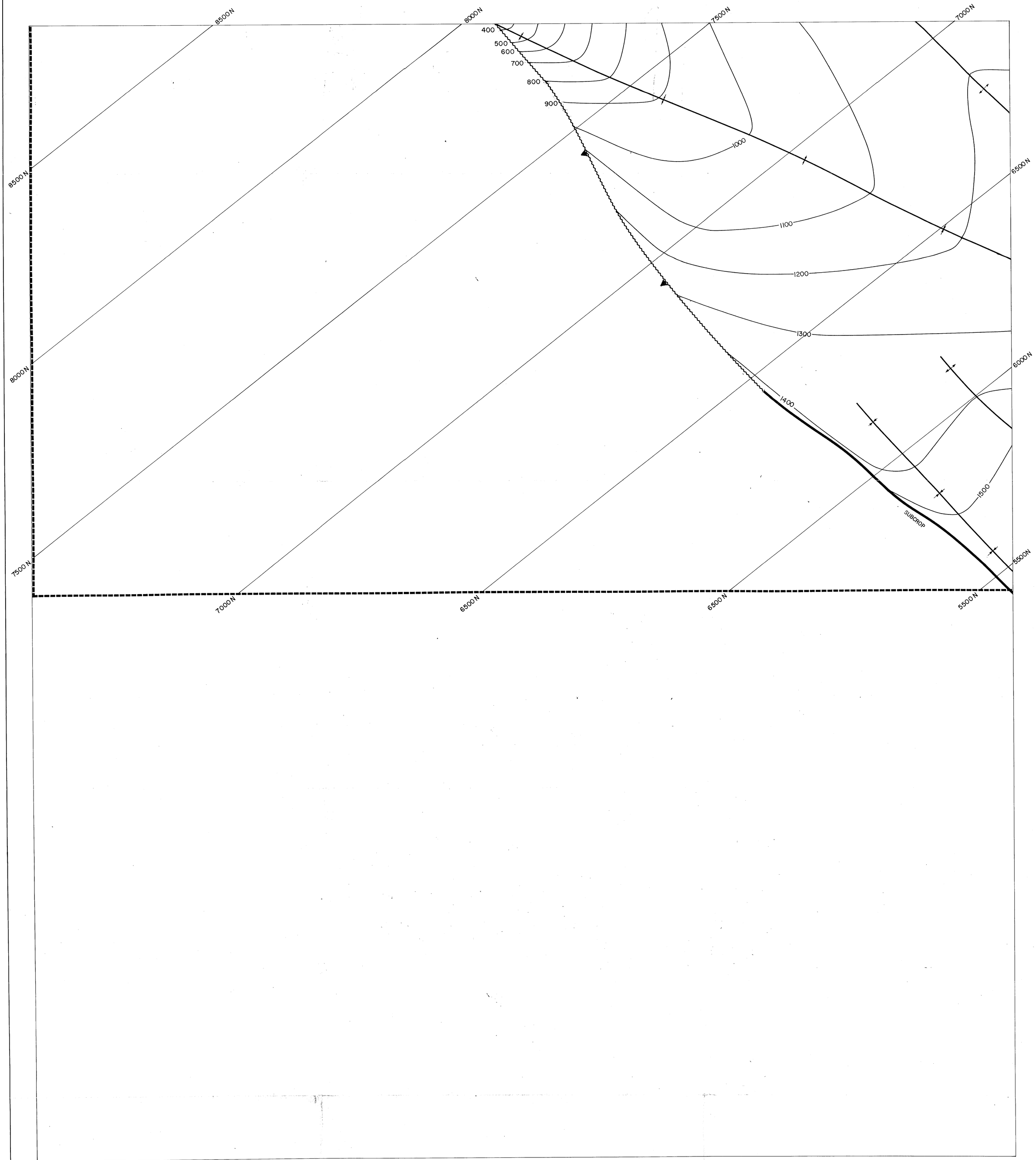
P. Markman 81/02/02 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-1
SCALE 1 : 5000	C.I. 100 m
N22	



547 — Re - Monkman 81(a)(b)

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE / DUCHESS**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED PJH.	**BASE B-1**
SCALE 1:5000	C.I. 100m
N 23	

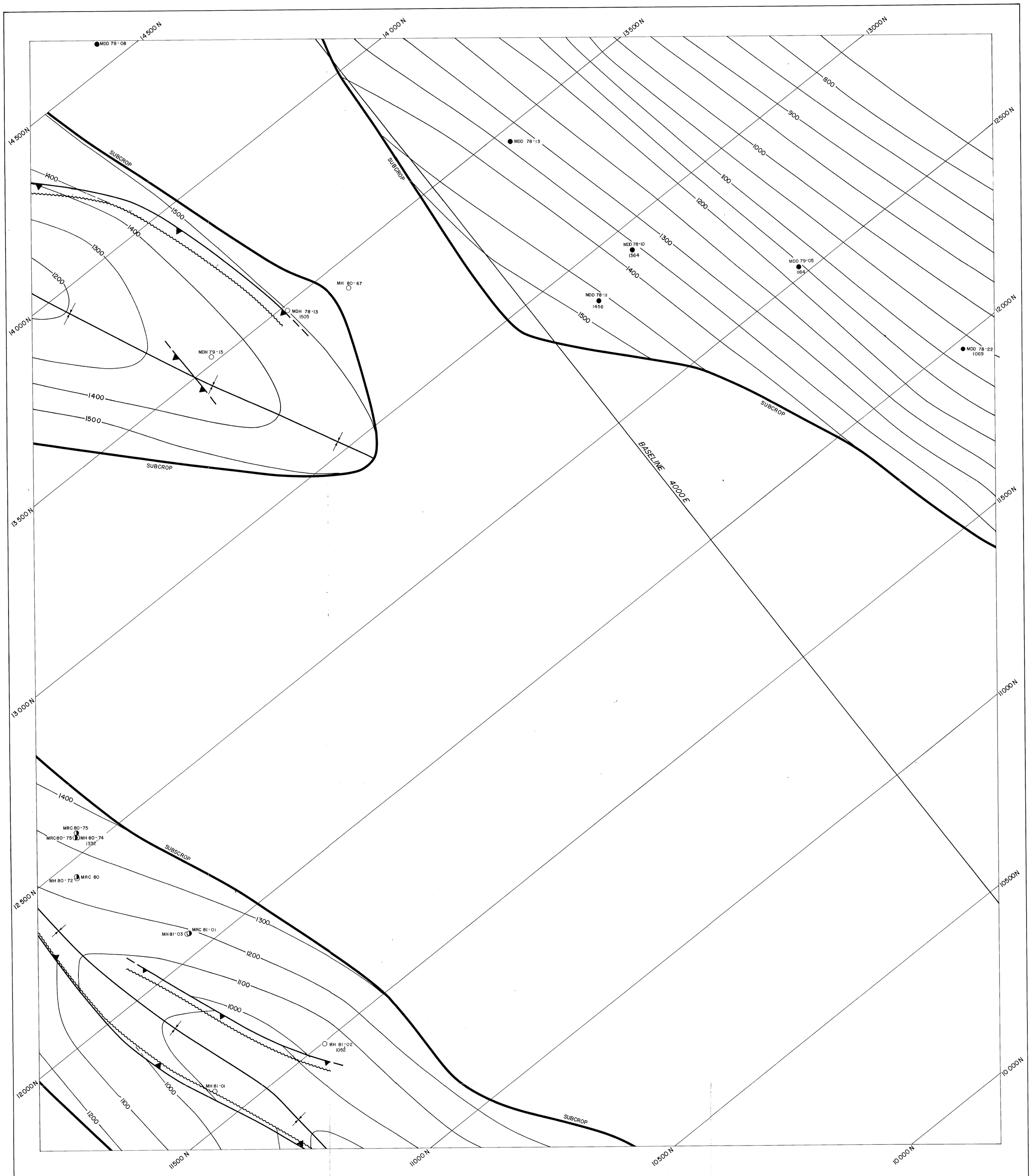


547 Pr. Monkman 81(a)A

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUCHESS**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED P.J.H.	**BASE B-1**
SCALE 1:5000	C.I. 100m
0 21	

Re-Mariemon 81(2)A 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	BOOMERANG / DUCHESS STRUCTURE CONTOUR
AUTHOR E.G.P.	BASE B-1
DRAFTED PJH.	C.I. 100m
SCALE 1 : 5000	
022	



Pr- Monkman 81(a)A 547

PETRO CANADA
COAL DIVISION

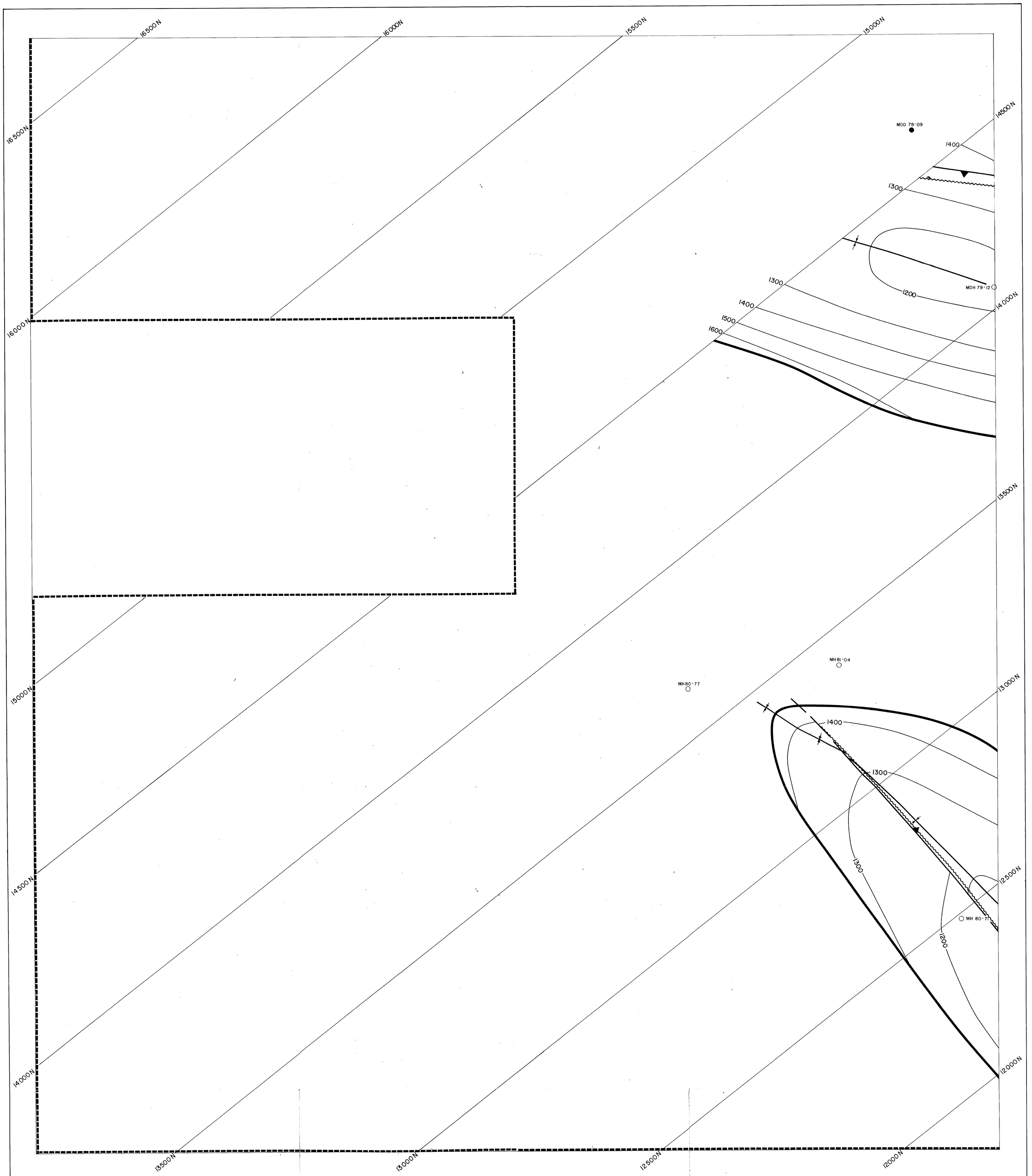
DATE	NOVEMBER 1981
REVISED	
AUTHOR	E.G.P.
DRAFTED	PJH.
SCALE	1 : 5000
	0 23

MONKMAN COAL PROJECT

DUKE MOUNTAIN BLOCK

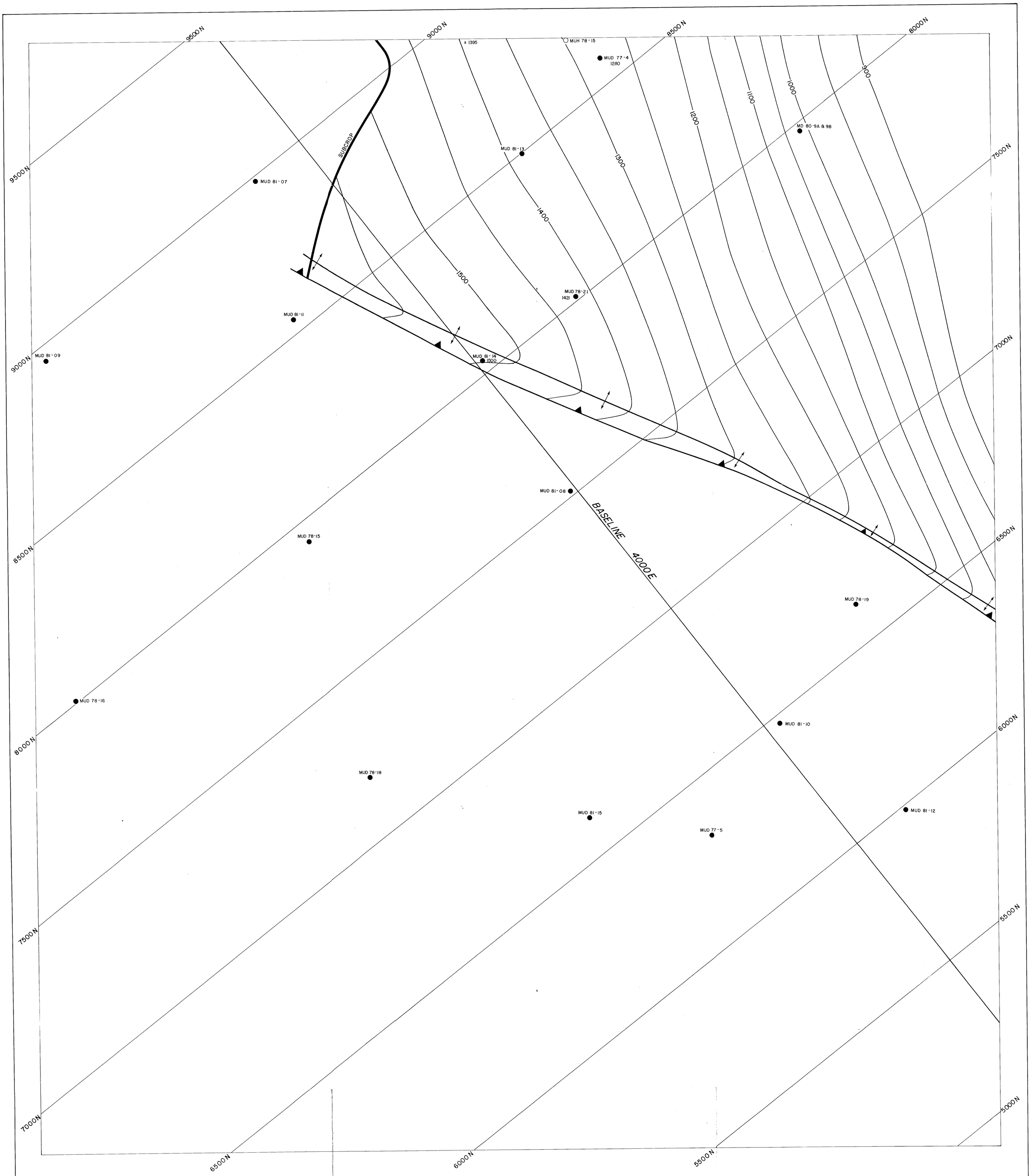
DUKE / BOOMERANG
STRUCTURE CONTOUR
BASE B-1

C.I. 100m



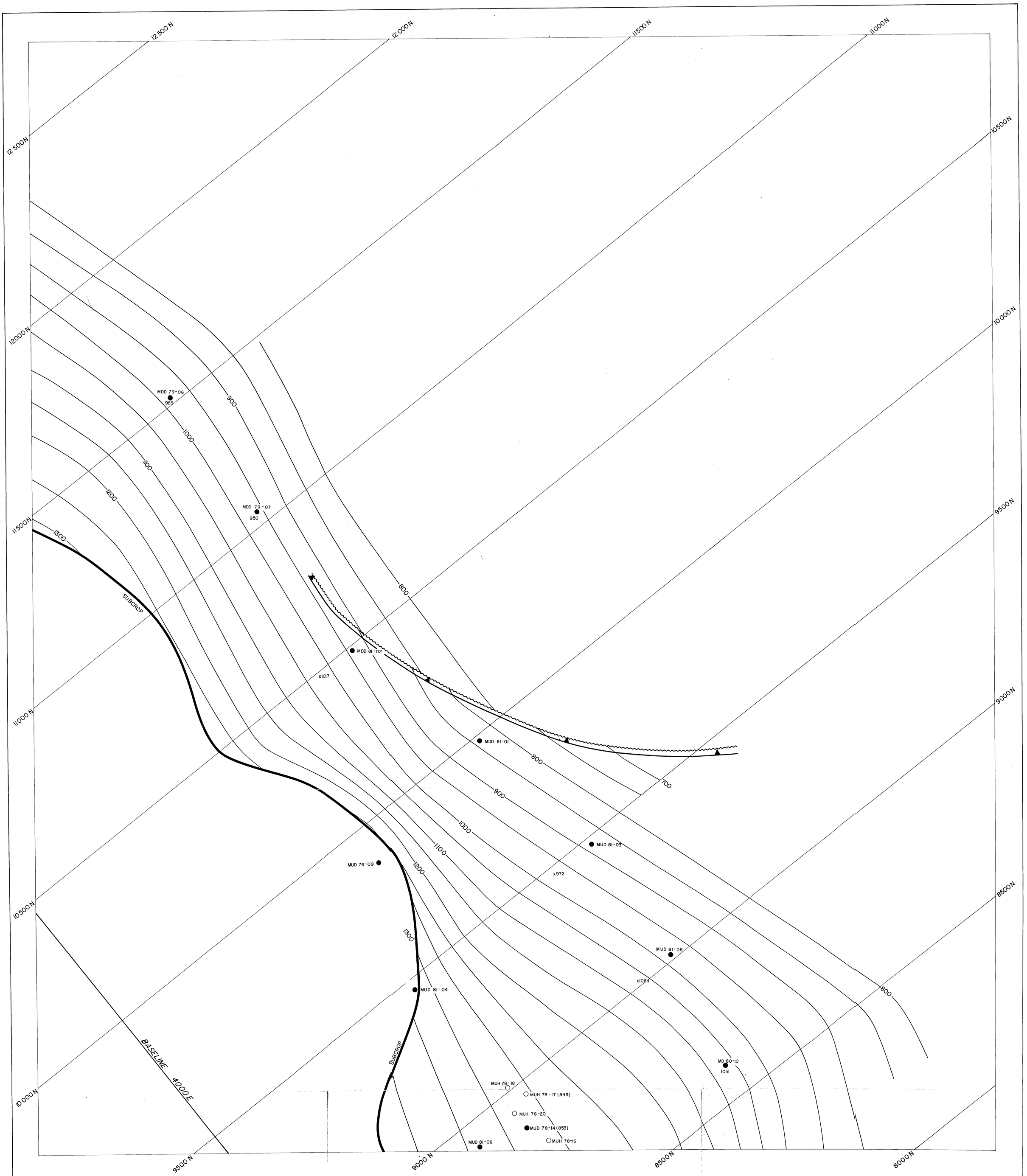
Re- Monkman 81(2)to 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / BOOMERANG
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-1
SCALE 1 : 5000	C.I. 100m
P 23	



Fr. Monkman 81(2)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS / DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-3
SCALE 1 : 5000	C.I. 50m
N22	

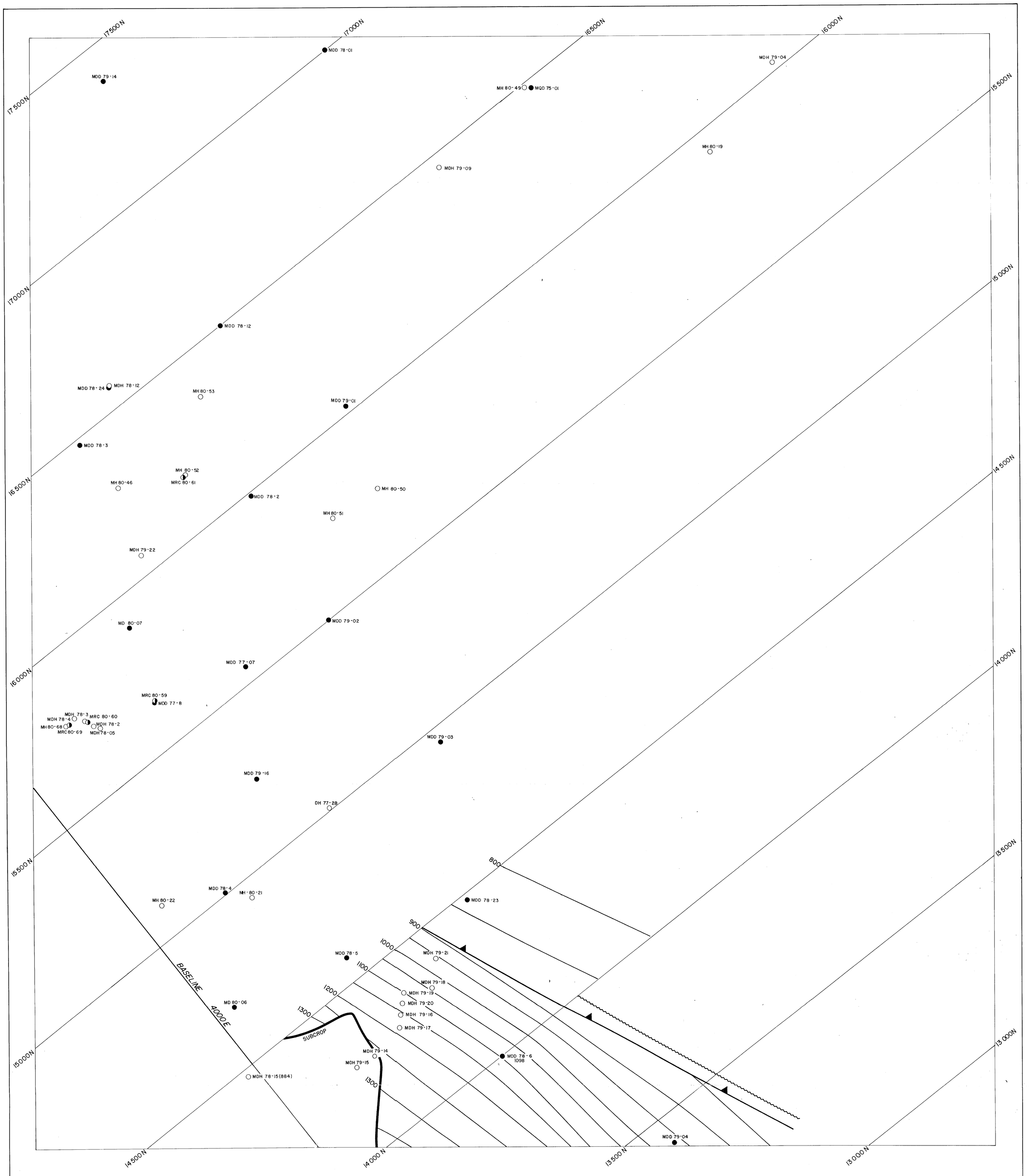


Pr. Monkman 81(a)A 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / DUCHESS
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-3
SCALE 1:5000	C.I. 50 m
N 23	

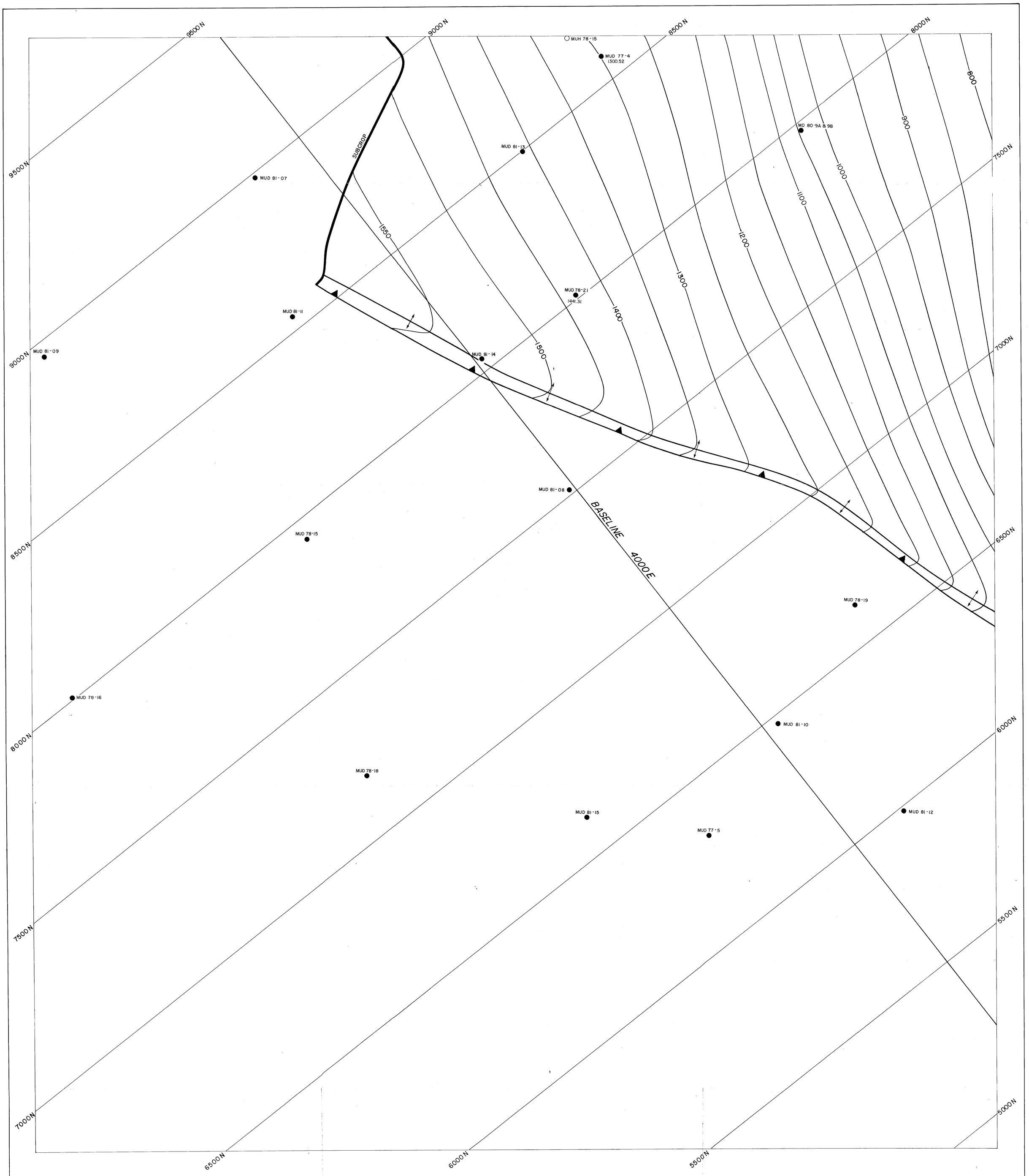
547 for Monkman 81(a)A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE / BOOMERANG**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED PJH.	**BASE B-3**
SCALE 1 : 5000	C.I. 50m
0 23	



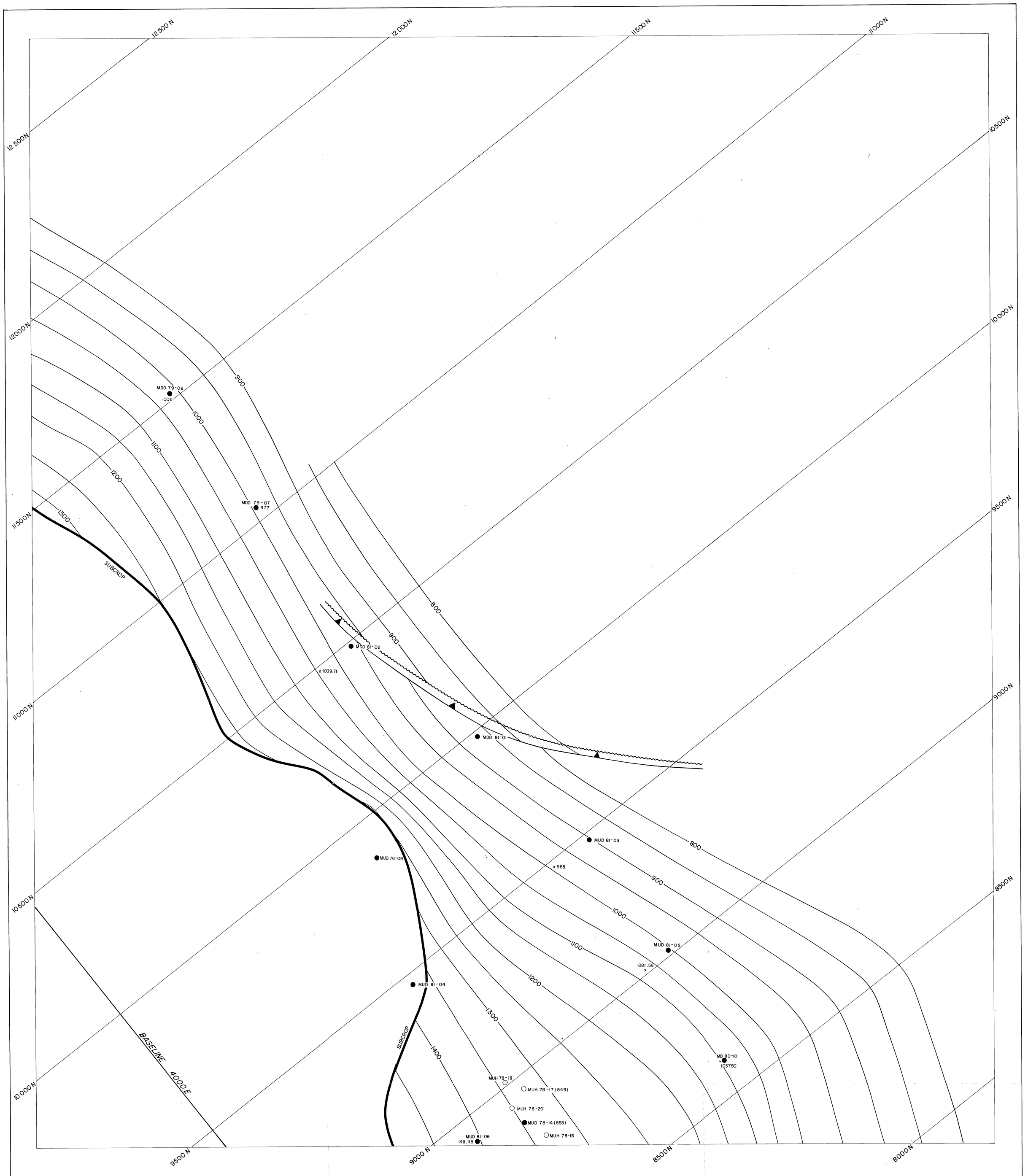
547 Re-Monkman 81(a)A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**HONEYMOON / DUKE**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED P.J.H.	**BASE B-3**
SCALE 1 : 5000	C.I. 50m
024	



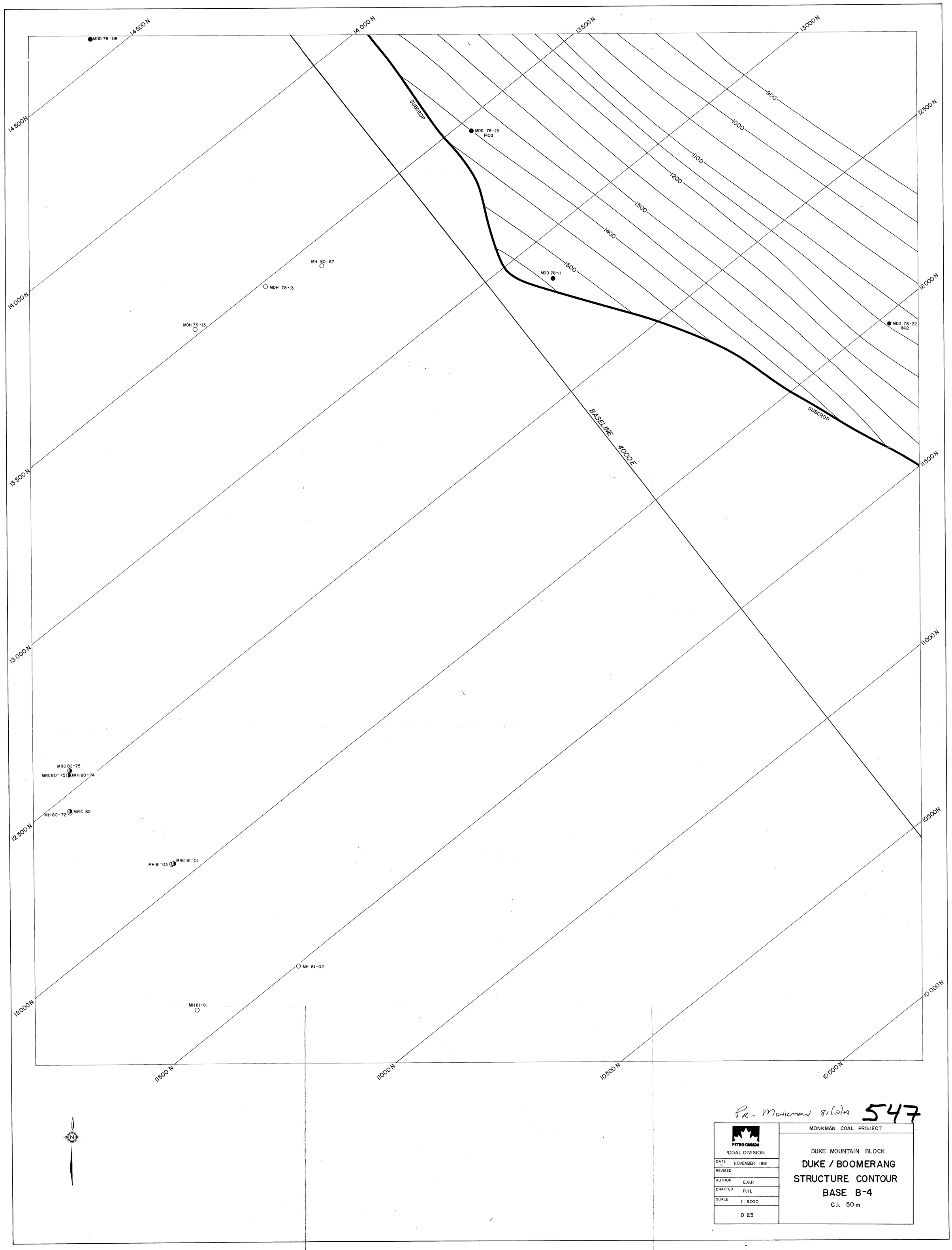
Pre-Monkman 81/82 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-4
SCALE 1 : 5000	C.I. 50m
N22	



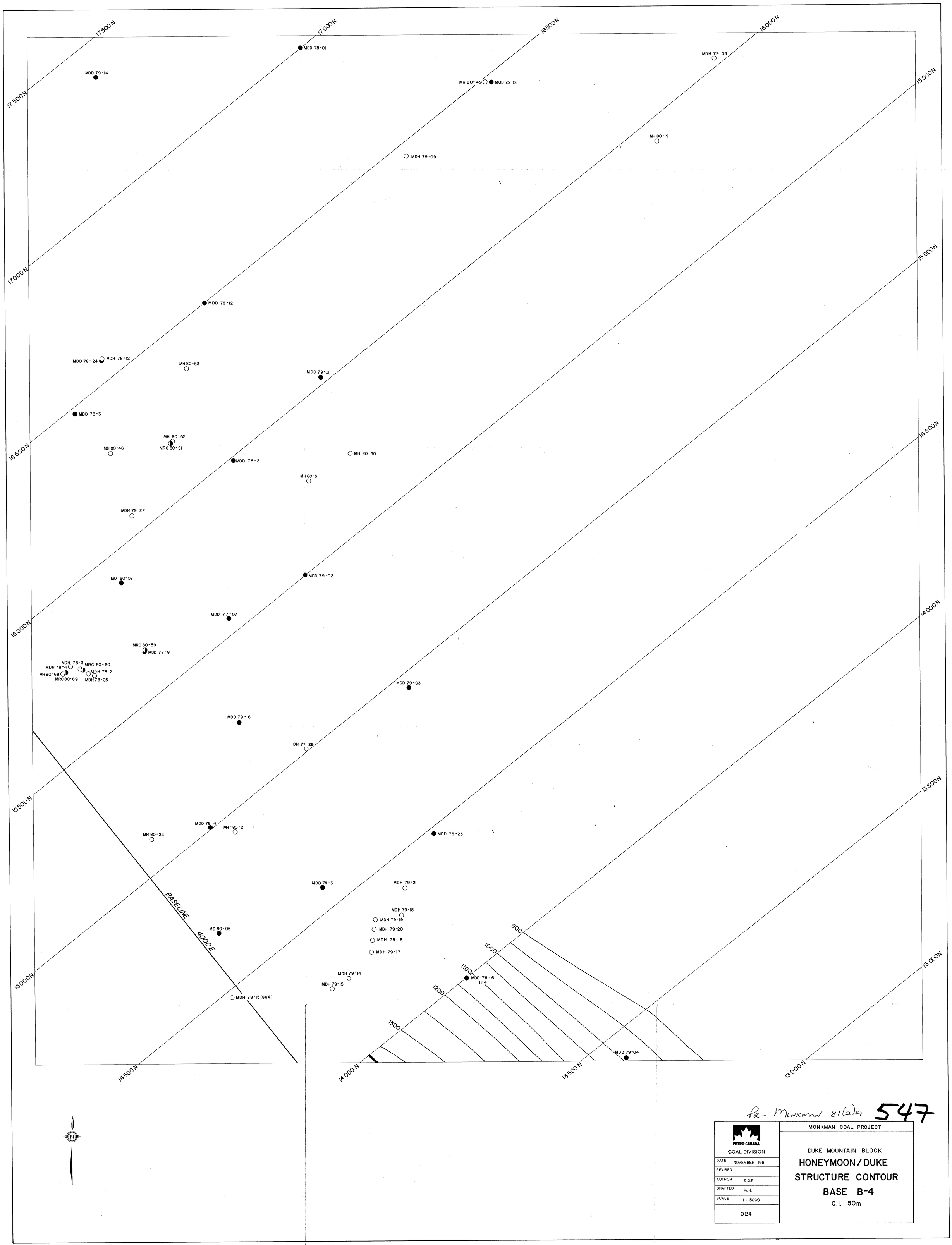
Re. Monkman 81(2)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE / DUCHESS**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED P.J.H.	**BASE B-4**
SCALE 1:5000	C.I. 50 m
N 23	



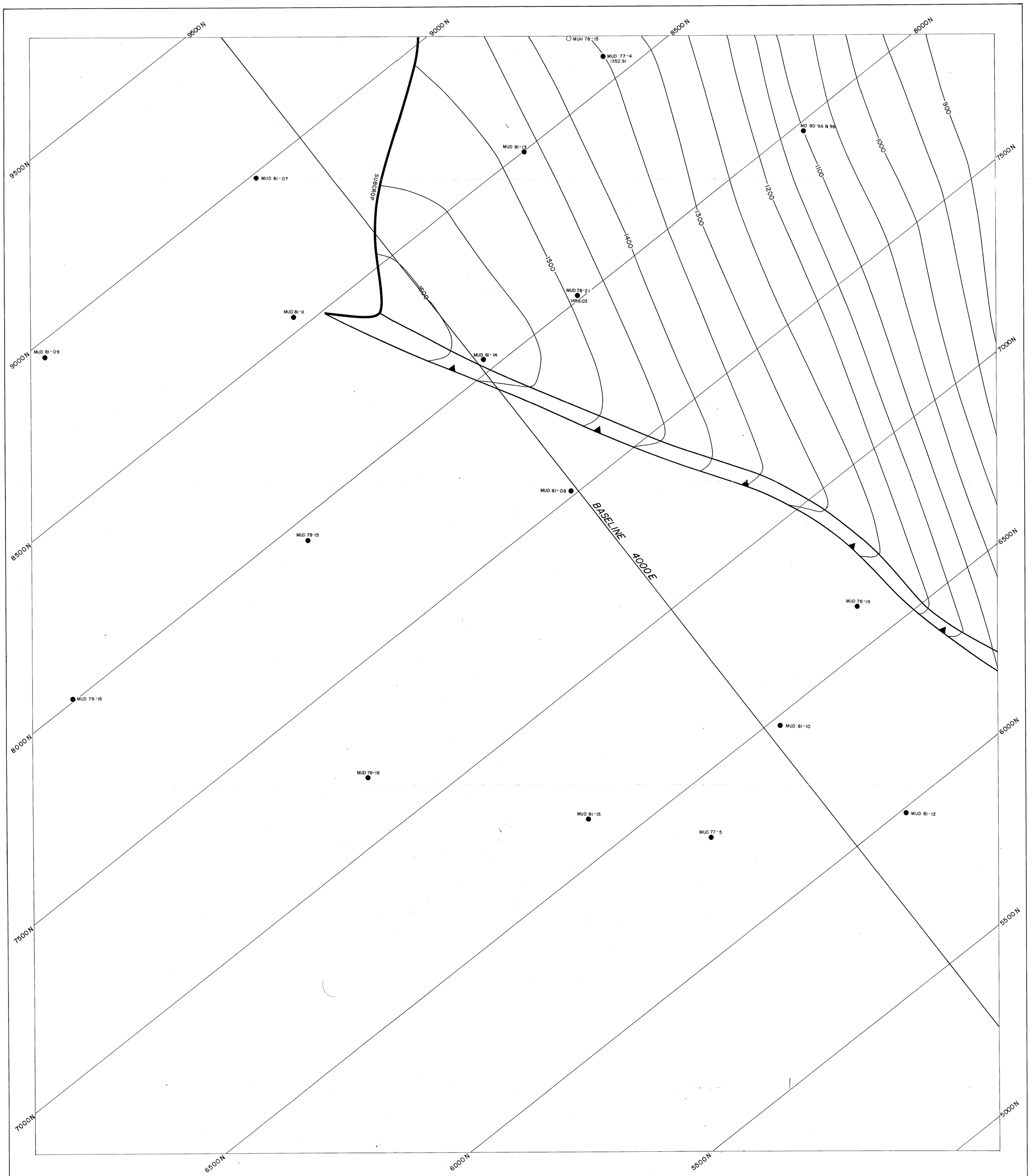
Pr- Monkman 81(a)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / BOOMERANG
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-4
SCALE 1 : 5000	C.I. 50 m
0 23	



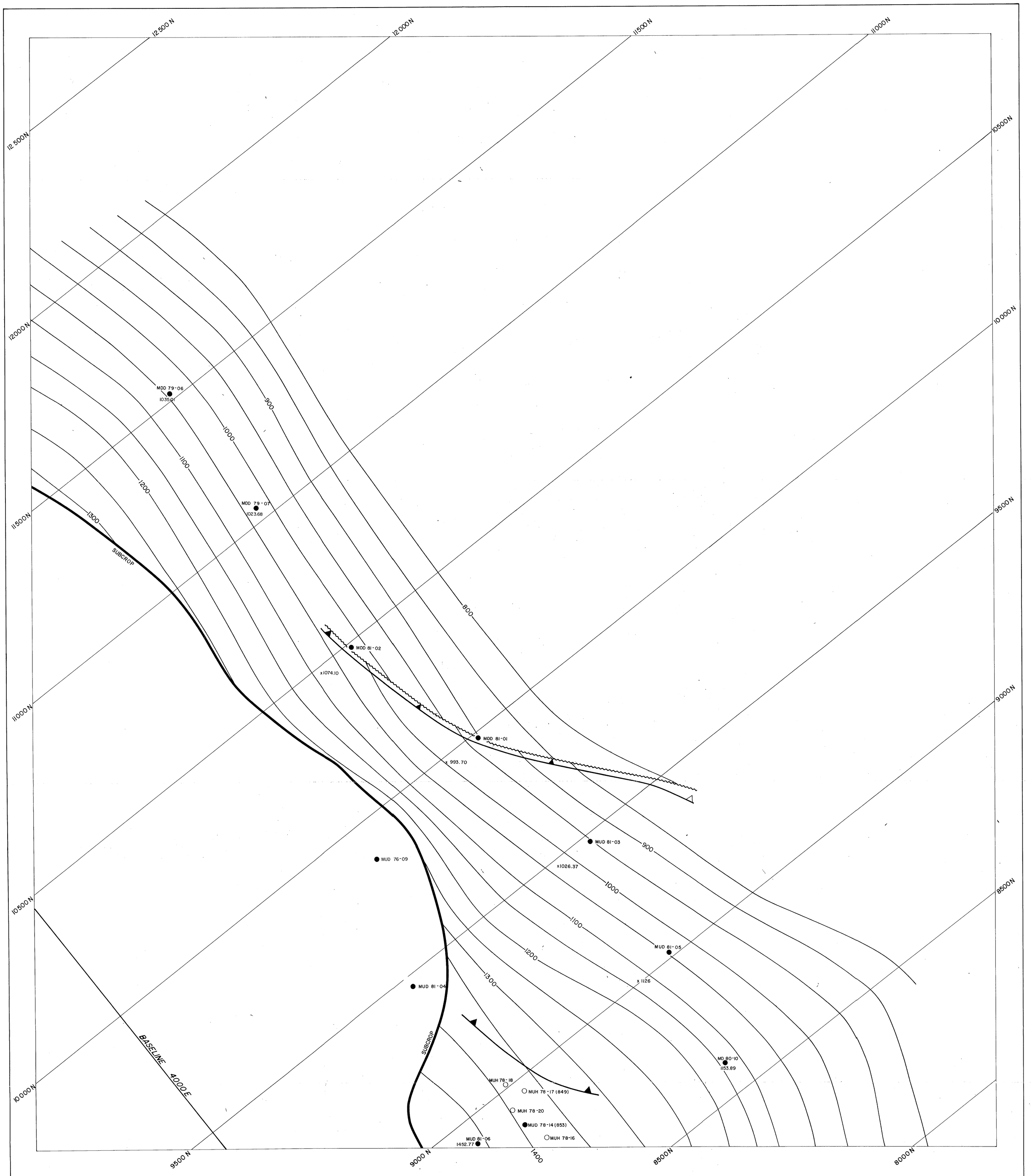
Per - Monkman 81(2)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	HONEYMOON / DUKE
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-4
SCALE 1 : 5000	C.I. 50m
024	



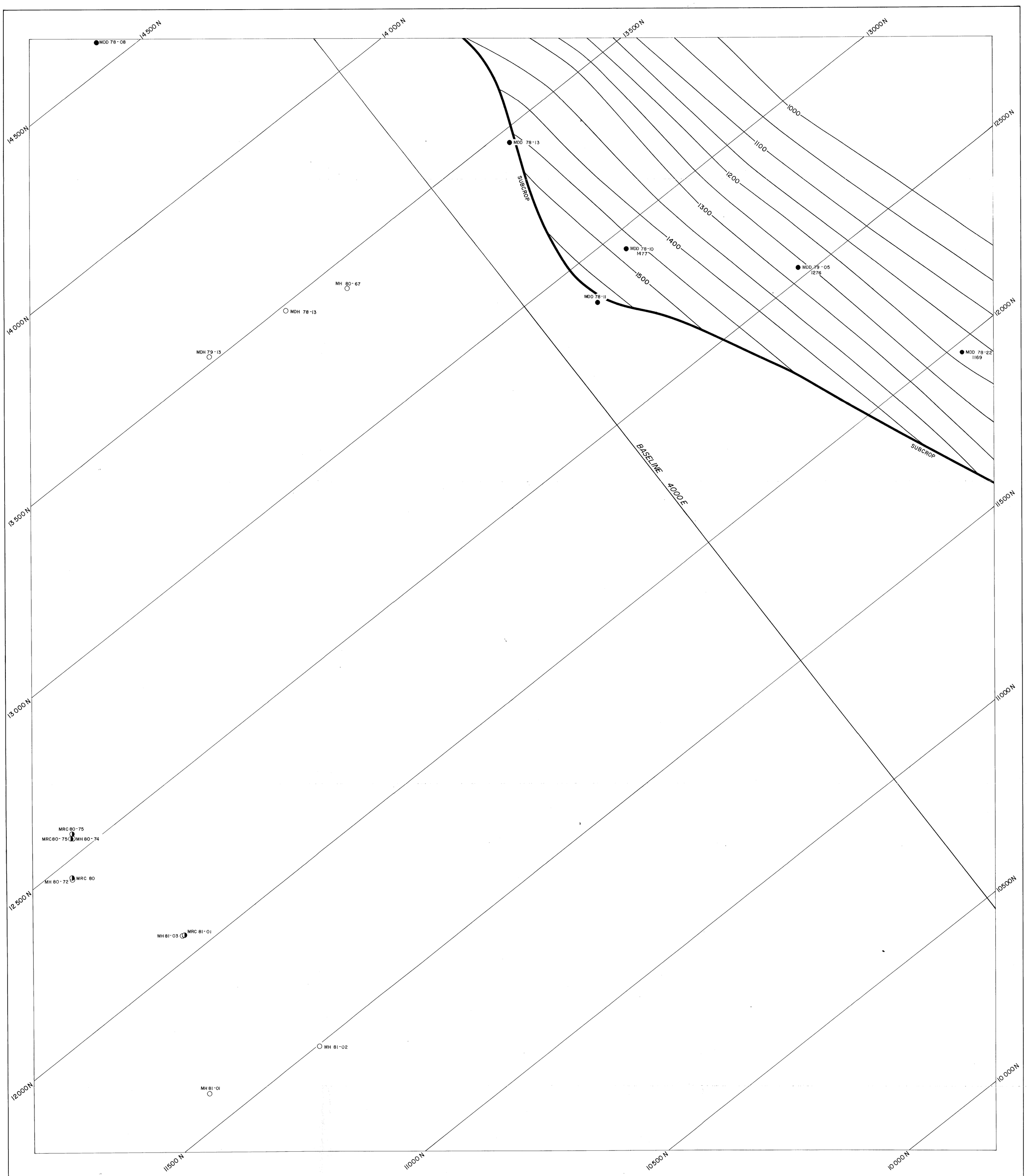
Pr-Monkman 81(2)A 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED PJH.	BASE B-5
SCALE 1 : 5000	C.I. 50m
N22	



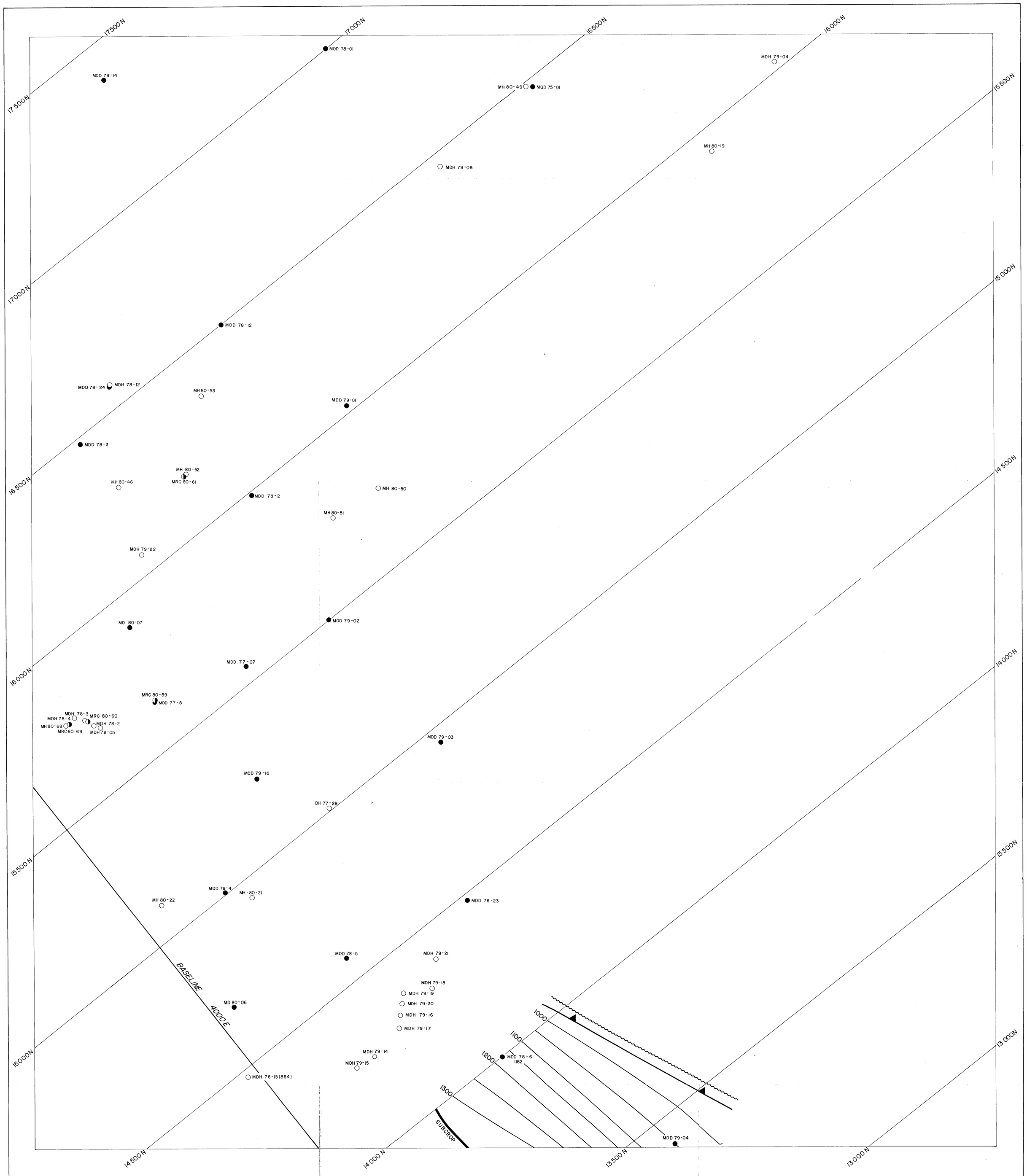
PR-Monkman 81(2)A 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/DUCHESS
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED RJH.	BASE B-5
SCALE 1:5000	C.I. 50m
N 23	



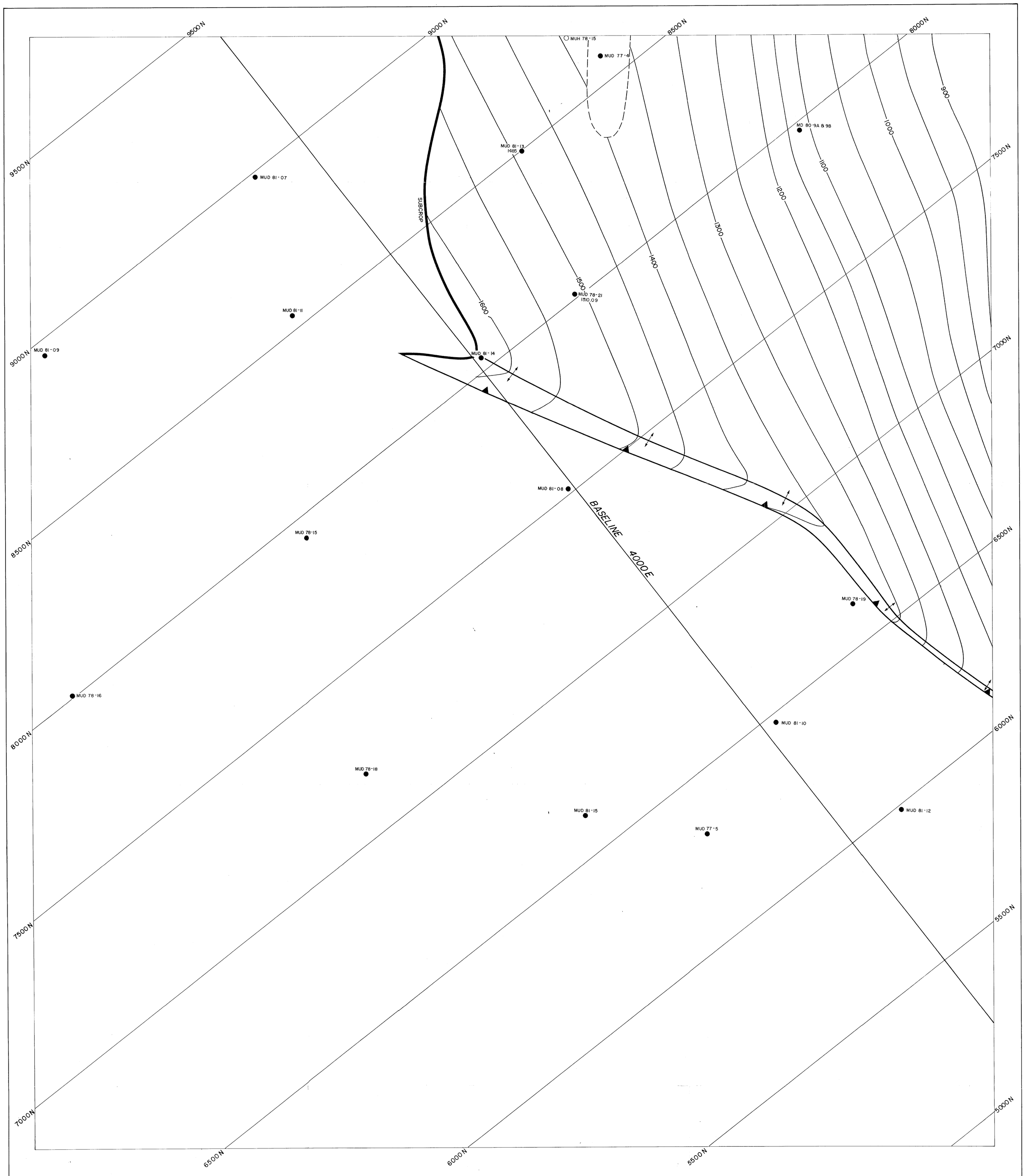
547 Pr - Monkman 81(2)A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / BOOMERANG
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-5
SCALE 1 : 5000	C.I. 50m
0 23	



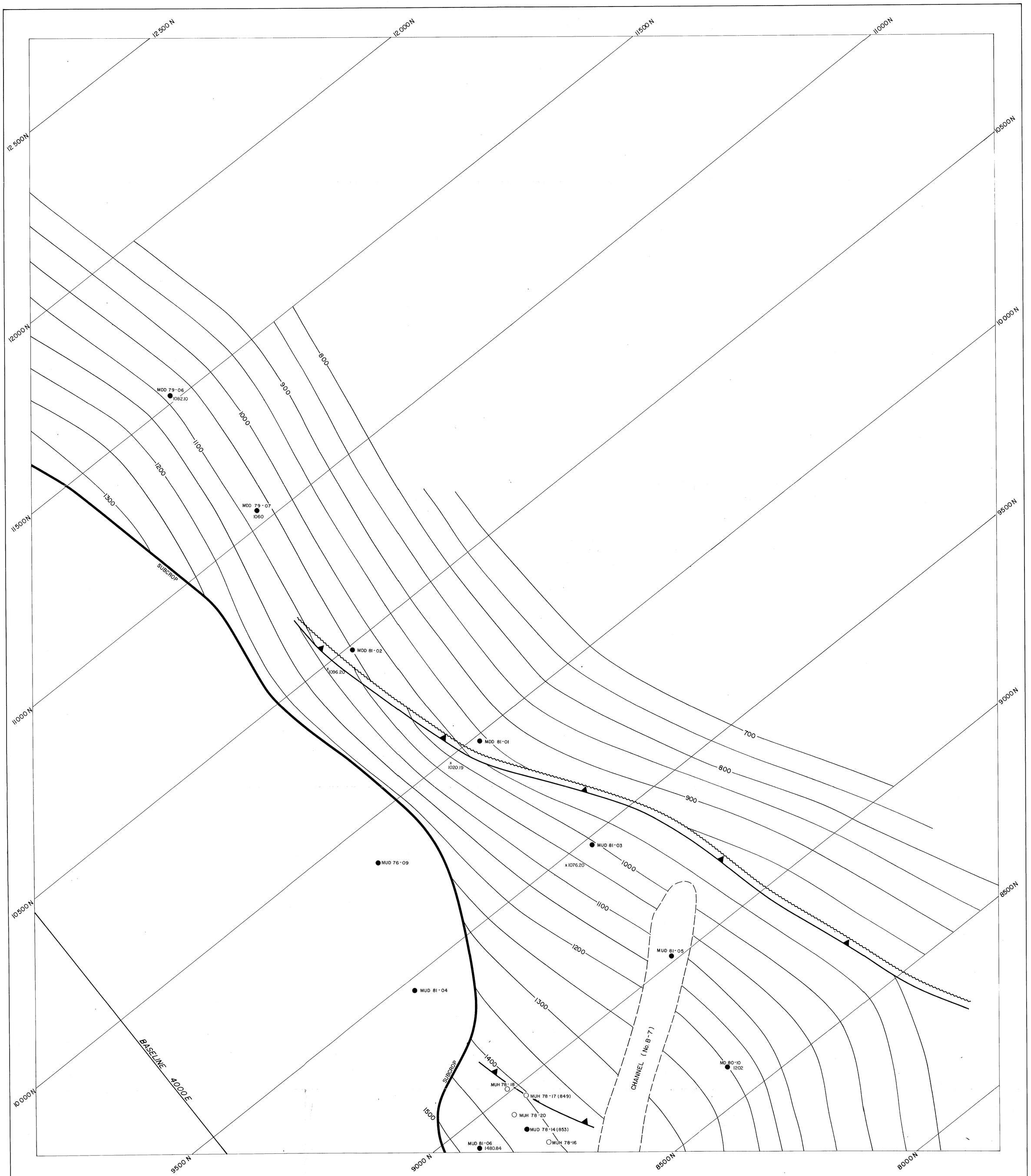
Re- Monkman 81(a)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	HONEYMOON/DUKE
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-5
SCALE 1 : 5000	C.I. 50m
024	



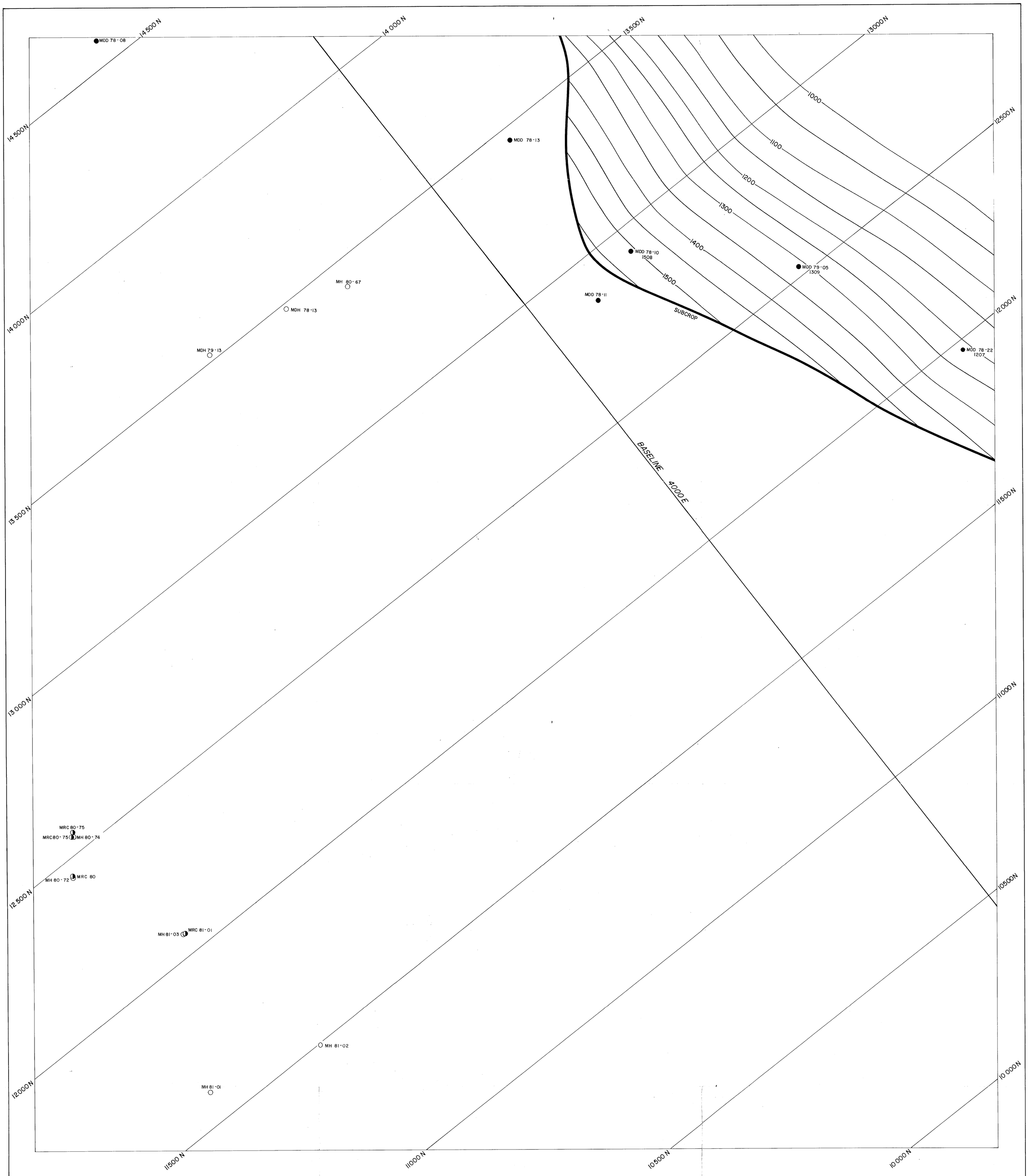
Re- Monkman 81/82 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUCHESS / DOKKEN**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED PJH.	**BASE B-7**
SCALE 1 : 5000	C.I. 50m
N22	



547 Re - Monkman 81/02/24

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE / DUCHESS**
AUTHOR E.G.P.	**STRUCTURE CONTOUR**
DRAFTED P.J.H.	**BASE B-7**
SCALE 1:5000	C.I. 50m
N 23	



547 Re - Monkman silt

PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	E.P.G.
DRAFTED	P.J.H.
SCALE	1 : 5000
	0 23

MONKMAN COAL PROJECT

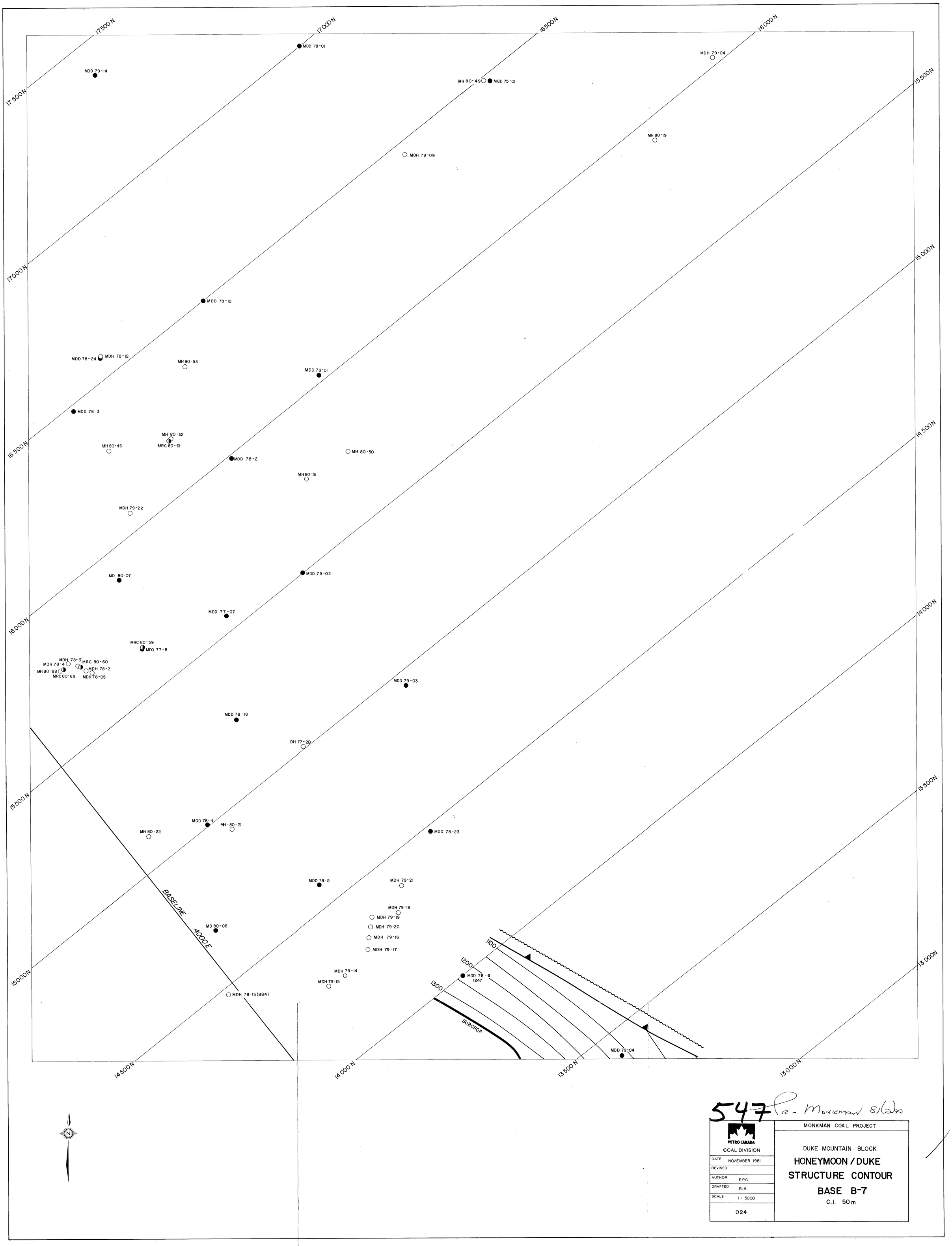
DUKE MOUNTAIN BLOCK

DUKE / BOOMERANG

STRUCTURE CONTOUR

BASE B-7

C.I. 50m



547 Per - Monkman 81(a)

PETRO CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	E.P.G.
DRAFTED	P.J.H.
SCALE	1 : 5000
	024

MONKMAN COAL PROJECT

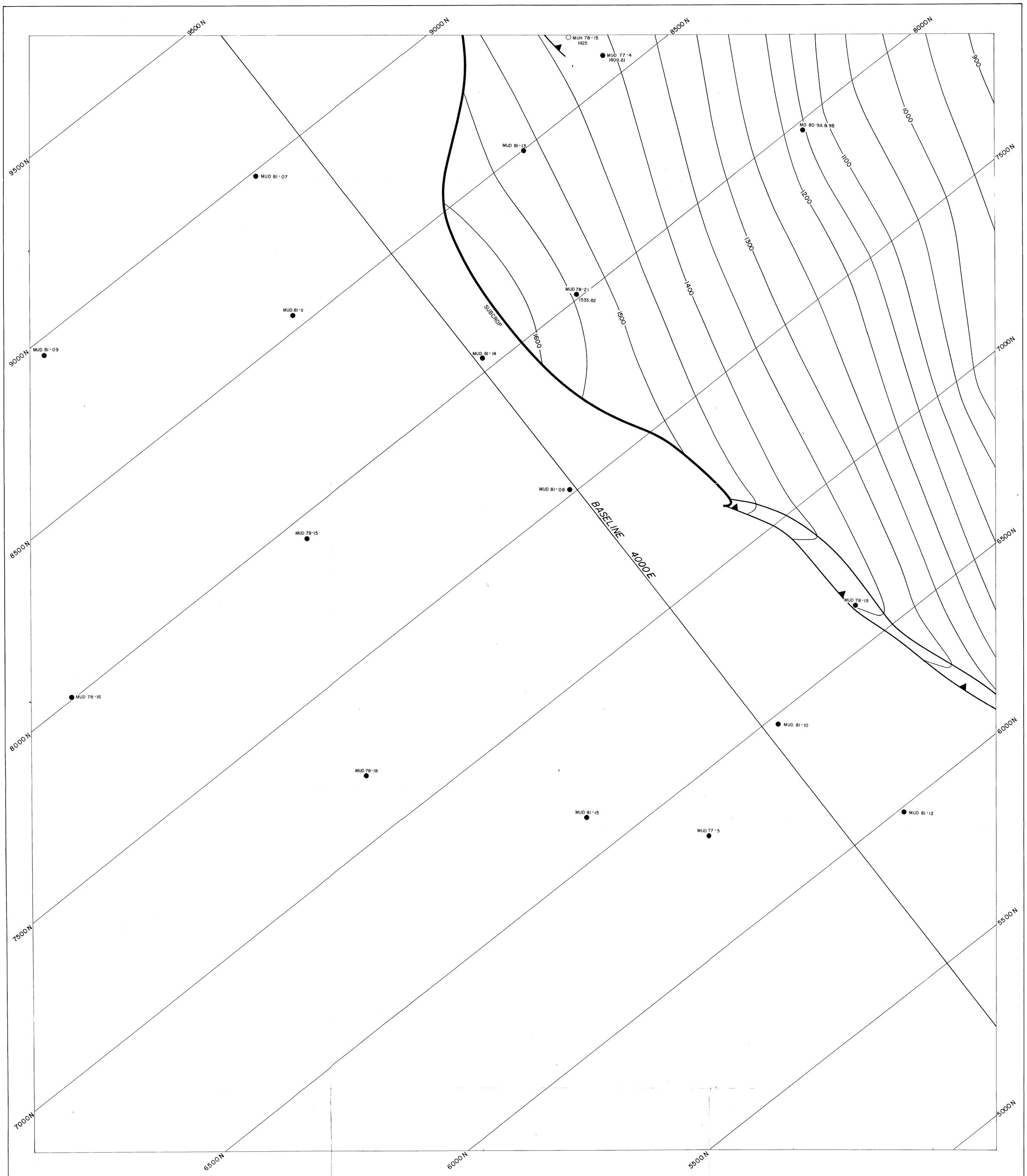
DUKE MOUNTAIN BLOCK

HONEYMOON / DUKE

STRUCTURE CONTOUR

BASE B-7

C.I. 50 m



547 Pre-Monkman 81(2)A

PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	E.G.P.
DRAFTED	P.J.H.
SCALE	1 : 5000
N22	

MONKMAN COAL PROJECT

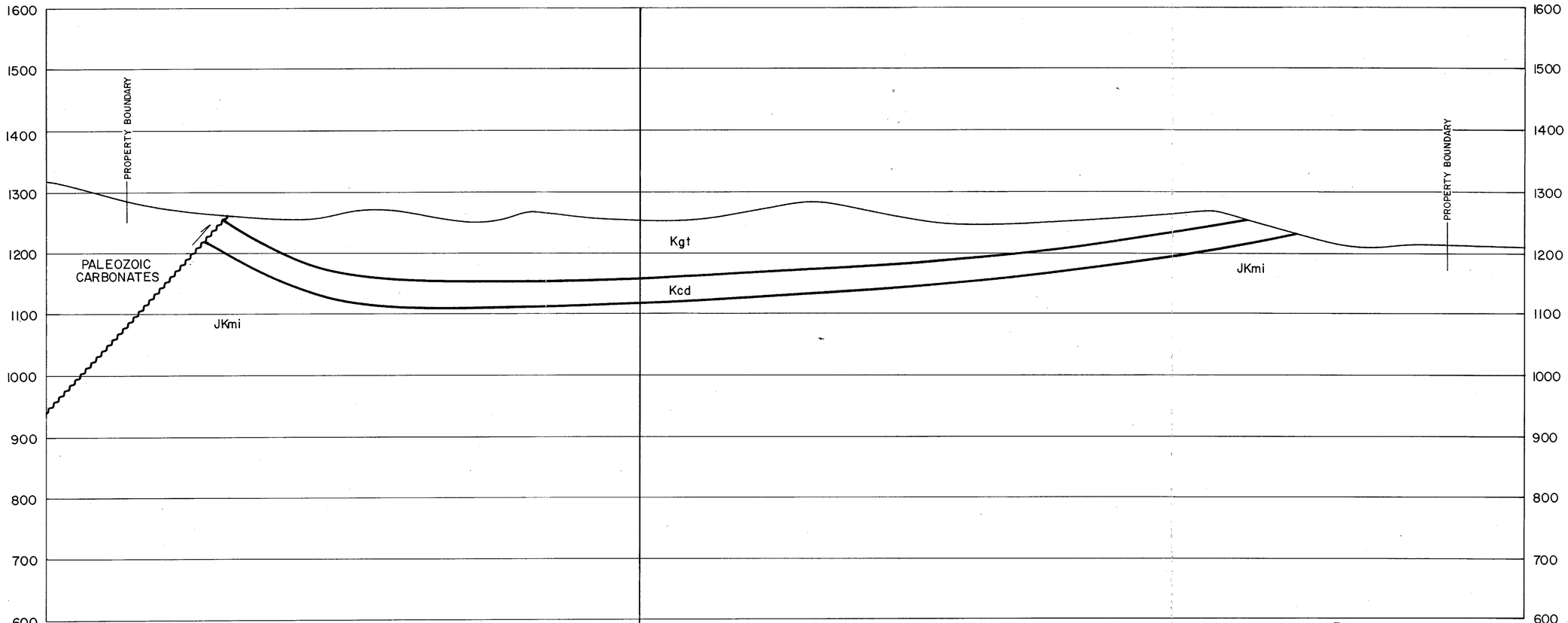
DUKE MOUNTAIN BLOCK

DUCHESS / DOKKEN STRUCTURE CONTOUR BASE B-9

C.I. 50m

547 Re - Monkman 81 data

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / DUCHESS STRUCTURE CONTOUR BASE B-9
AUTHOR E.G.P.	C.I. 50m
DRAFTED P.J.H.	
SCALE 1:5000	
N 23	



PR- MONKMAN 81(2)A

SCALE
0 100 200 300 400 500
METRES

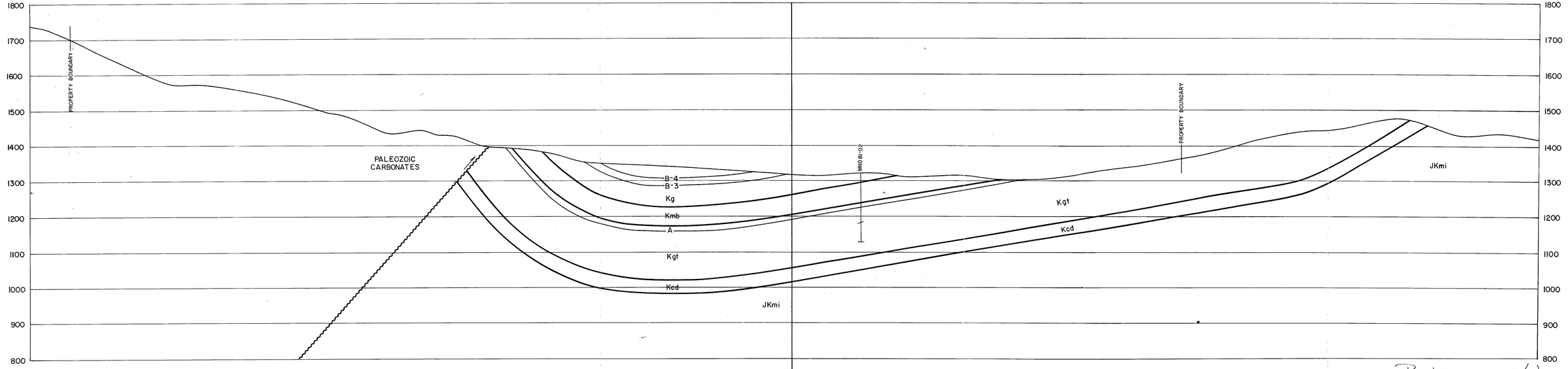
PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	F.B.G.
DRAFTED	P.J.H.
SCALE	1 : 5000

MONKMAN COAL PROJECT

NEKIK CROSS SECTION 48 000 S

547



Pre-Monkman 81(2)a

PETRO-CANADA
COAL DIVISION

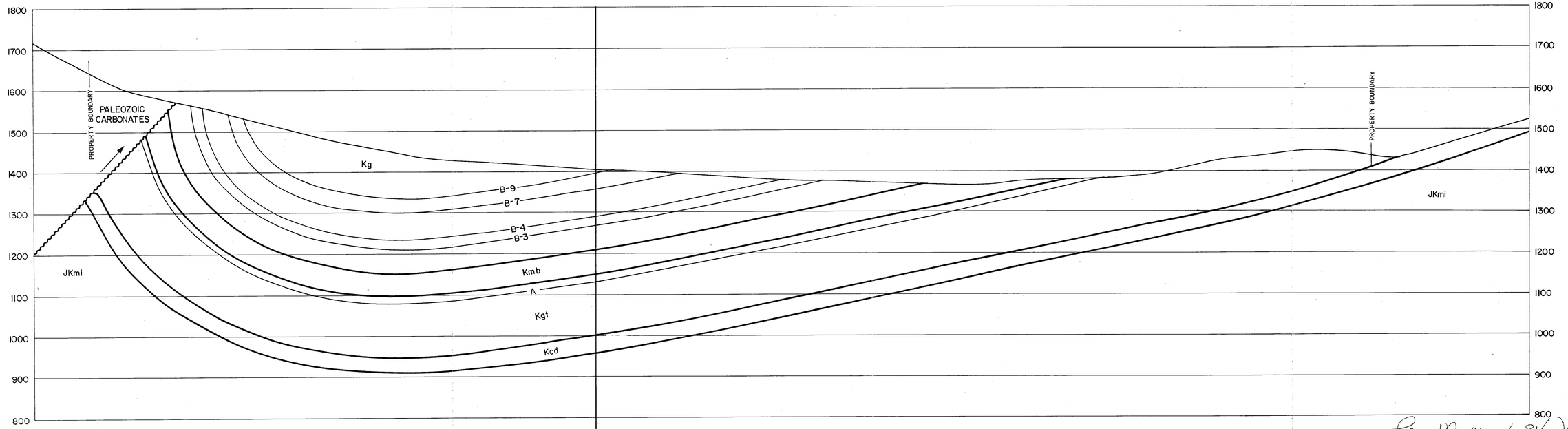
DATE	NOVEMBER 1981
REVISED	
AUTHOR	F.B.G.
DRAFTED	P.J.H.
SCALE	1 : 5000

SCALE
0 100 200 300 400 500
METRES

MONKMAN COAL PROJECT

NEKIK CROSS SECTION 47000 S

547



Pr. Monkman 81(2)

PETRO-CANADA
COAL DIVISION

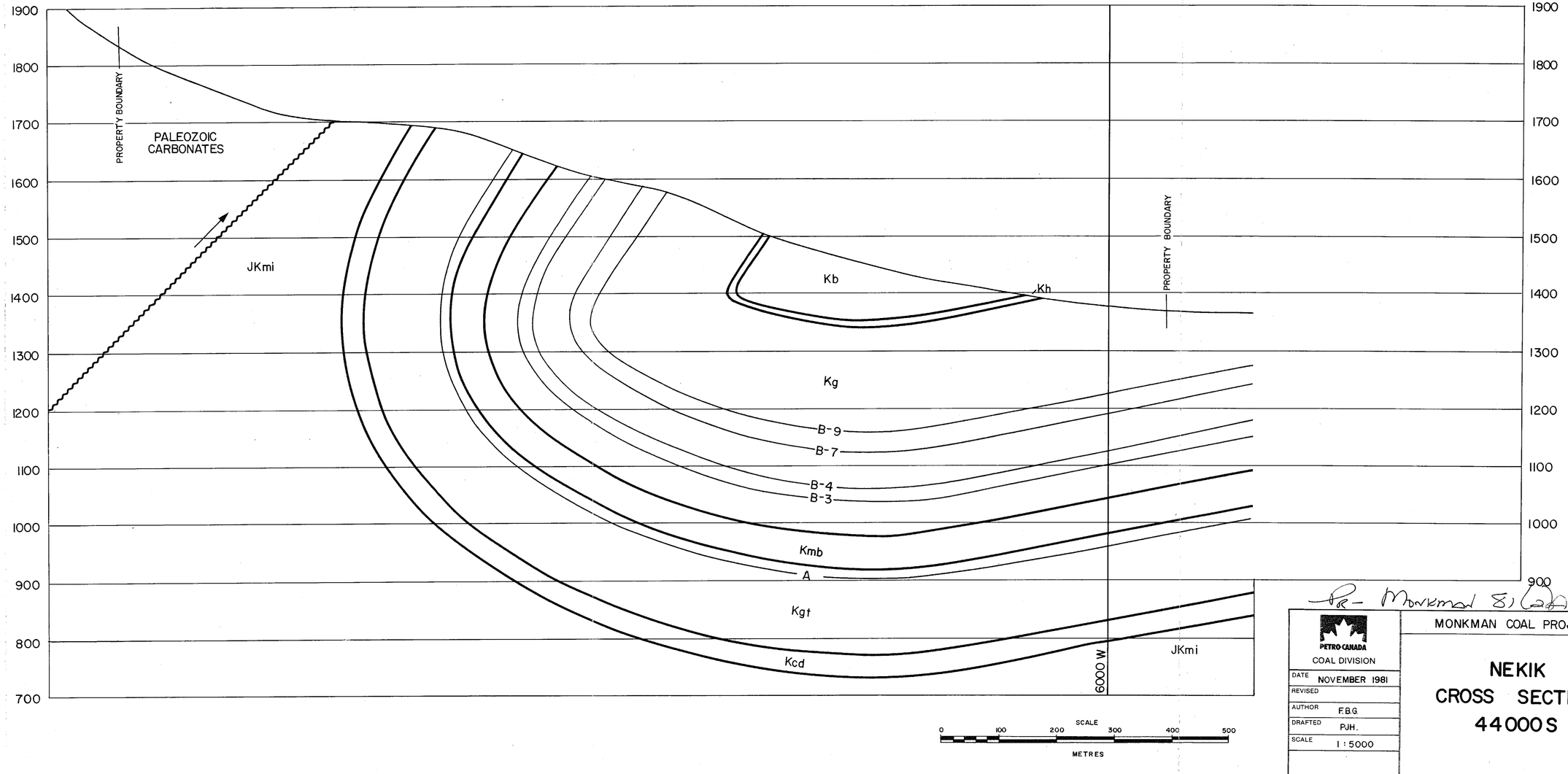
DATE	NOVEMBER 1981
REVISED	
AUTHOR	F.B.G.
DRAFTED	P.J.H.
SCALE	1 : 5000

SCALE
0 100 200 300 400 500
METRES

MONKMAN COAL PROJECT

NEKIK CROSS SECTION 46000S

547



SCALE
0 100 200 300 400 500
METRES

Pr- Monkman & Lodge

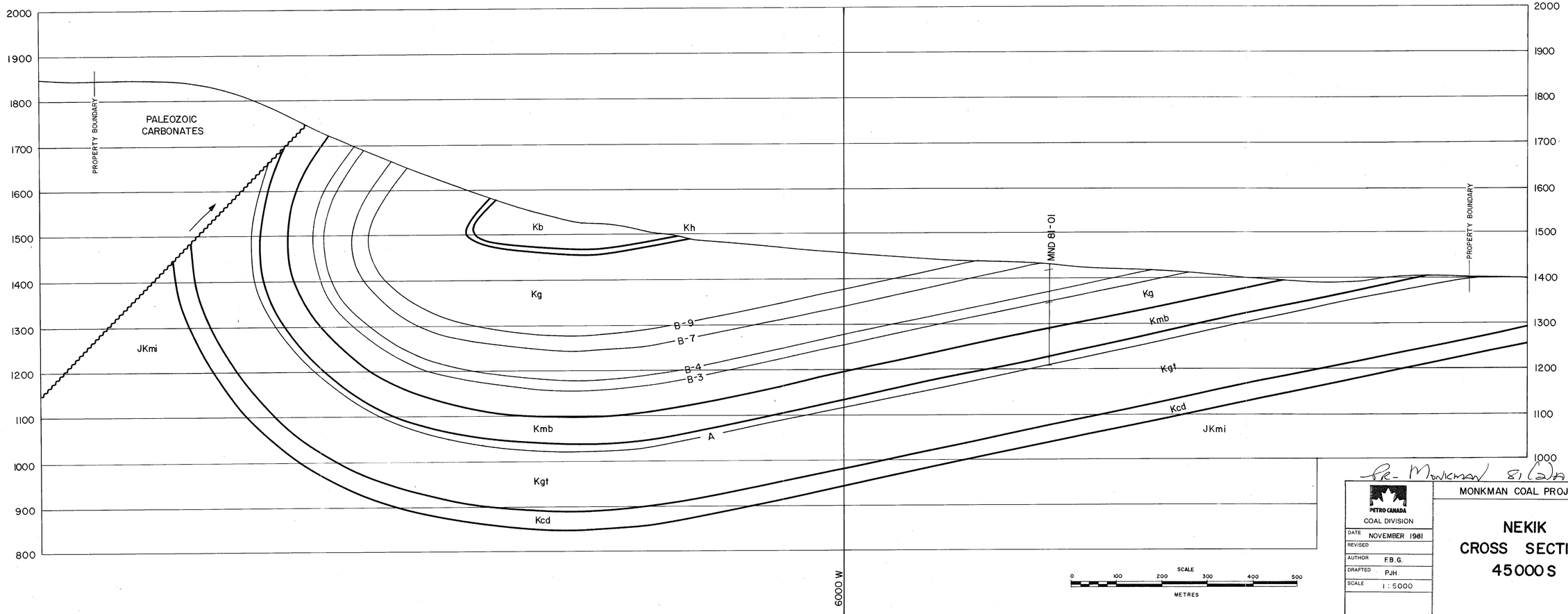
PETRO-CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	F.B.G.
DRAFTED	P.J.H.
SCALE	1 : 5000

MONKMAN COAL PROJECT

NEKIK CROSS SECTION 44000S

547



Re- Monkman 81 (a)

PETRO CANADA
COAL DIVISION

DATE	NOVEMBER 1981
REVISED	
AUTHOR	F.B.G.
DRAFTED	PJH.
SCALE	1 : 5000

MONKMAN COAL PROJECT

NEKIK
CROSS SECTION
45000 S

547

PR-MONKMAN 81(3)A

PETRO-CANADA

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 547

CONFIDENTIAL
OPEN FILE

PETRO-CANADA

MONKMAN COAL PROJECT

1981

APPENDIX D

Appendix D

Drill Hole Summary Sheets - Duchess, Boomerang, Honeymoon East and Nekik

Mineable Seam Details - Duchess, Boomerang and Nekik

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	17/02/81 - 22/02/81	03/22/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MDD 81-01	D.W. COATES	64°	223	320m	HQ	--	N23/10,000N	3203	39m	6m

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1275.1	6,068,746.08 N	649,535.38 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Spudded in Boulder Creek.

Fault repeats 20m of section including B9.

Fault at 250m

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		47.40 - 48.05	20	0.51	0.51/0.00	43	--		kb	66.50	1215.3		
B12		163.31 - 164.65	15	1.32	0.85/0.47	88	1,2,3		kh	152.83	1137.74		
B11		176.29 - 176.97	18	0.67	0.63/0.04	87	4						
B10		204.44 - 205.30	15	0.81	0.79/0.02	100	5						
B9(r)	1066.72	226.00 - 231.84	12	5.74	5.32/0.42	92	6 - 12						Fault repeat
		239.20 - 239.35	14	0.15	0.15/0.00	100	--						
B9	1045.90	248.65 - 255.00	16	6.17	5.31/0.86	31	14 - 17						
B8		269.00 - 269.54	15	0.50	0.50/0.00	100	18						HOLE NUMBER MDD 81-01

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MDD 81-01	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
37	1020.19	283.00 - 283.61	20	0.59	0.55/0.04	85	28						
		286.10 - 286.30	20	0.19	0.19/0.00	100	--						
36(u)		289.89 - 290.88	20	1.29	0.94/0.35	94	29						
35(u)		305.58 - 308.80	16	3.03	2.00/1.03	92	33 - 39						
35(1)	993.70	310.87 - 313.09	16	2.19	1.77/0.42	71	40 - 42						
													HOLE NUBMER MDD 81-01

473A 8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/26/81	1 OF 3

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MDD 81-02	COATES	64	232	369	HQ		N23/10500	3203	42	5

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1313.8	6,069,037.26 N	649,102.41 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

10 m fault @ about 225 m

Repeats section below B8

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		18.00 - 18.81	10	0.81	0.81/0.00	100	1000		Kb	43.0	1275.15		
									Kh	124.5	1201.9		
B12		127.70-128.44	5	0.74	0.74/0.00	100	43						
B11		147.57-148.14	5	0.57	0.57/0.00	100	46						
B10		172.10-172.94	5	0.84	0.81/0.03	100	47						
B9	1135.87	192.30-197.96	3	5.71	5.21/0.50	96	48-55						
		207.05-207.40	3	0.35	0.35/0.00	50	--						
													HOLE NUMBER MDD 81-02

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MDD 81-02	2 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B8		212.35-212.99	5	0.64	0.56/0.08	100	56						
B7	1096.20	241.05-242.10	10	1.04	0.87/0.17	96	57						
B6(u)		249.54-251.72	7	2.18	1.37/0.81	83	58-60						
B6(l)		256.50-257.20	6	0.69									
B5(u)		263.53-266.50	5	2.97	2.43/0.54	90	61-67						
B5(l)	1047.1	267.50-269.73	5	2.23	1.85/0.38	89	69-71						
B4(u)		298.14-300.66	5	2.52	2.01/0.51	92	72-76						
B4(l)		302.50-304.95	5	2.45	2.45/0.00	100	77						
B3	1022.8	321.55-323.76	5	2.21	2.00/0.21	57	78-80						
B2(u)		341.84-343.92	5	2.08	1.56/0.52	100	88-92						
													HOLE NUBMER MDD 81-02

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MDD 81-02	3 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		352.20-352.75	5	0.55	0.55/0.00	100	93						
B1	988.26	360.90-362.20	5	1.30	1.30/0.00	100	94						
													HOLE NUBMER MDD 81-02

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/4/81	1 OF 3

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-03	COATES	63	232	397	HQ		N23/9500N	3944	Surface	7

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1285.6	6,068,409.87 N	649,922.9 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		133.25-134.51	24	1.15	0.62/0.53	85	95-97		Kh	126.39	1172.99		
B11		144.23-145.05	22	0.76	0.62/0.14	100	98						
B10		180.28-180.96	10	0.67	0.67/0.00	70	99						
B9	1095.68	207.21-213.15	15	5.78	4.89/0.89	99	100-106						
		217.13-217.55	25	0.38	0.32/0.06	50							
B8		224.66-225.19	30	0.46	0.46/0.00	100	107						
B7	1076.61	233.92-234.55	25	0.57	0.57/0.00	100	108						HOLE NUMBER MUD 81-03

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-03	3 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV BASE	TRUE THICKNESS	
B1(1)	941.39	384.98-386.31	10	1.32	1.32/0.00	100	139						

HOLE NUMBER
MUD 81-03

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/5/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-04	COATES	67	223	347	HQ		N23/9500N	3203	3	10

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1378.1	6,067,910.66 N	649,339.77 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Basal Gates to Cadomin

Heavily sheared zone between 240 m and 265 m. Approximately 25 m thicknening

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B2(1)		23.40-25.47	3	2.07	1.62/0.45	83	2433-35		Kg	59	1323.79		
B1(u)		30.53-31.80	3	1.50	1.28/0.22	58	2436-37		Kmb	166	1225.3		
B1(1)	1346.7	32.70-34.12	3	1.42	1.42/0.00	92	2439		Kbs	167.5	1223.92		
									Kgt	318.5	1084.92		
		175.32-175.76	2	0.44	0.44/0.00	100	2440						
		212.70-213.98	2	1.28	1.13/0.15	73	2441-43						High ash coal
		241.38-244.34	25	2.64	2.64/0.00	56	2446						
		245.33-246.56	25	1.13	1.13/0.00	73	2446						
		250.10-252.96	23	2.62	2.62/0.00	63	2449						
		259.32-261.23	25	1.73	1.73/0.00	80	2450						HOLE NUMBER MUD 81-04

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-04	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		262.93-264.93	10	1.97	1.65/0.32	100	2451-53						
		277.93-282.54	15	4.45	4.24/0.21	82	2454-56						
		307.50-309.65	25	1.95	1.93/0 02	24	2459						
		311.70-312.20	25	0.45	0.45/0.00	100	2460						
													HOLE NUBMER MUD 81-04

473A-8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/7/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-05	COATES	65	222	319	HQ		N23/10,500	3944	0	13

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1301.2	6,068,045.33 N	650,196.72 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		62.56 - 64.05	0	1.49	0.94/0.55	68			Kh	54.85	1251.5		
B11		71.58 - 72.17	0	0.59	0.59/0.00	95							
B10		97.55 - 98.08	0	0.53	0.53/0.00	92							
B9	1184.17	123.08-129.12	0	6.01	5.39/0.65	98							
B8		139 17-140.64	0	1.47	0.57/0.90	82							
B6(u)		165.68-166.40	0	0.72	0.69/0.03	100	1530						
B5(u)		184.45-186.63	0	2.18	1.62/0.56	54	1529						HOLE NUMBER MUD 81-05

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/9/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-06	COATES	79	225	257	HQ		N23/9000N	3203	27	4.37

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1536.8	6,067,387.03 N 649,572.42 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B10		6.29 - 6.79	10	0.50	0.50/0.00	100	--						
B9	1503.54	27.92 -33.88	10	5.92	5.57/0.35	99	2401-03		Kg	207.1	1333.51		
B8		43.10 - 43.55	10	0.45	0.45/0.00	100	2405						
B7(u)		54.55 -55.29	5	0.74	0.67/0.07	96	2406						
B7(l)	1480.84	56.59- 57.00	5	0.41	0.41/0.00	78							
B6(u)		64.64- 66.02	5	1.37	1.25/0.12	83	2407-8						
B5	1452.8	81.55-85.60	10	3.94	2.67/1.27	97	2409-10						
													HOLE NUMBER MUD 81-06

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-06	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B4		116.77-118.76	10	1.86	1.86/0.00	90	2411						
B4		119.67-123.37	10	3.51	2.95/0.56	100	2413-17						
B4(1)	1411.48	125.15-127.66	20	2.41	2.21/0.20	95	2419						
B3		141.95-142.90	24	0.87	0.87/0.00	63	2420						
B3	1395.16	143.46-144.29	24	0.75	0.75/0.00	90	2422						
B2(u)		165.63-166.15	10	0.51	0.51/0.00	57	2424						
B2(m)		170.01-170.58	10	0.57	0.57/0.00	74	2425						
B2(1)		176.05-178.41	10	2.36	2.36/0.10	100	2426						
B1(u)		180.16-181.57	10	1 39	0.88/0.51	95	2429-30						
B1(1)	1356.55	182.09-183.62	10	1.53	1.53/0.00	100	2432						
													HOLE NUBMER MUD 81-06

473A 8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/10/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-07	COATES	90	--	147	HQ	2 @ T.D.	N22/9000N	3200	4	9

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1520.2	6,066,885.46 N	648,857.59 E	N E	

GENERAL COMMENTS

Moosebar/Gething

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1.100	x				x	x	x		x	x
1.40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		77.18 - 77.51	10	0.33	0.33/0.00	100			Kmb	58.75	1461.95		
									Kbs	70.59	1449.61	13.06	
		112.85-114.14	10	1.28	1.00/0.28	83	2460-62						
		116.92-117.22	10	0.30	0.30/0.00	0							
		120.30-120.63	13	0.38	0.38/0.00	100							
		137.12-139.53	10	2.35	1.66/0.69	95	2463-67						
		141.06-141.87	10	0.80	0.71/0.09	100	2468						
		145.11-145.76	10	0.63	0.63/0.00	100	2471						HOLE NUMBER MUD 81-07

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/14/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-08	COATES	90		316	HQ	--	N22/7500 N	3199	1	19

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1549.3	6,065,874.29 N 649,936.64 E	N E	

GENERAL COMMENTS

Fault at 156m

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B6		22.70-23.70	20	0.94	0.94/0.00	31	--		Kb	49.0	1500.3		
									Kh	140.65	1408.65		
B12R		141.85-142.30	70	0.15	0.13/0.02	27	--						
B12		177.92-178.42	12	0.50	0.50/0.00	25	--						
B11		192.60-194.90	25	2.09	1.96/0.13	15	2476						
B10		224.89-225.42	40	0.34	0.34/0.00	0	--						
B9	1293.9	248.45-255.40	30	5.66	5.30/0.36	42	2477-81						HOLE NUMBER MUD 81-08

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-08	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		262.00-262.60	20	0.56	0.56/0.00	0	--						
B8		285.67-290.82	70	1.76	1.01/0.75	38	2482-86						
													HOLE NUBMER MUD 81-08

473A-8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		3/16/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	TD	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-09	COATES	90		325	HQ		N22/900011	3200	37	3

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1619.2	6,060,266.61 N	648,167.68 E	N	E	

GENERAL COMMENTS

Fault at 172.5m

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		35.15-35.80	10	0.64	0.62/0.02	53	2487		Kh	24.9	1594.3		
B11		53.85-54.80	20	0.94	0.74/0.20		2488-90						
B10		68.57-69.06	14	0.48	0.43/0.05	100	--						
B9	1519.9	95.40-99.30	15	3.79	3.60/0.19	87	2491-93						
B8		113.10-113.90	19	0.76	0.62/0.14	87	2494-96						
B7R	1567.2	148.57-152.00	18	3.29	3.00/0.29	85	2497-99						Fault repeat
B7	1430.5	185.72-188.72	25	2.74	2.20/0.54	60	2501-05						HOLE NUMBER MUD 81-09

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	15/03-17/03	17/03	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-10	D. W. COATES	90°	--	226.73	HQ		N22/6500N	3196	Flowing	6.00

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1389.5	6,065,113.74 N	650,661.02 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B.C.		80.86-81.61	30	0.68	0.68/0.00	24	--		Kb	103.15	1286.35		
									Kh	186.96	1202.54		
B12		200.05-200.58	28	0.47	0.47/0.00	34	2526						
		205.21-206.15	27	0.83	0.67/0.16	81	2527-28						

HOLE NUMBER
MUD 81-10

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		20/3	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-11	D. W. Coates	90°	--	235	HQ		N22/8500N	3200	13	6

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1641.4	6,066,425.83 N	648,995.02 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		131.90-132.96	46	0.81	0.81/0.00	86	2542		Kh	125.85	1515.55		
B11		154.74-155.96	37	0.97	0.61/0.36	86	2543-45						
B10		181.67-182.47	40	0.61	0.61/0.00	100	2546						
B9	1426.9	207.10-214.50	40	5.72	5.12/0.60	54	2547-50						
							1551-54						
		219.80-220.30	30	0.43	0.43/0.00	100	1555						
B8		226.28-226.48	33	0.17	0.17/0.00	100							
													HOLE NUMBER MUD 81-11

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		21/3	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-12	D. W. COATES	90		142	HQ		N22/6500N	3196	0	45

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1362.3	6,064,837.23 N 651,091.74 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100					x	x				

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Rods became stuck-had to blow them off.

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B C.		117.25-118.00	40°	0.66	0.66/0.00	33	2529						
													HOLE NUMBER MUD 81-12

473-8010

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman	03/21/81	03/22/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-13	D. W. Coates	90°	--	108	HQ		N22/8500 N	3199	7	3

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1597.1	6,066,997.70 N 649,751.27 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		14.16 - 14.82	23°	0.61	0.61/0.00	100	2530		KH	4.51	1592.59		
B11		23.51 - 24.40	10°	0.83	0.83/0.00	100	2541						
B10		51.42 - 51.99	5	0.55	0.55/0.00	100	2540						
B9	1517.7	72.76 - 79.38	10	6.46	5.47/0.99	98	2533-39						
		81.55 - 81.91	10	0.36	0.36/0.00	100	--						
B8		87.70 - 88.12	10	0.41	0.41/0.00	100	2532						
B7	1495.0	101.58-102.15	10	0.43	0.43/0.00	87	2531						HOLE NUMBER MUD 81-13

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		10/6/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-14	Coates	90	--	238.9	HQ		N22 / 8000	3200	Flowing	4

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1626.32	6,066,293.81 N	649,633.32 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

No geophysical log below 144m due to caving in hole.

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B7		6.88 - 7.50	12	0.62	0.54/0.08	68	1556		Kg	175	1451.32		faulted into Kh
B7		8.10 - 8.77	12	0.67	0.62/0.05	91	1558						
B7	1616.3	9.35 - 10.04	12	0.69	0.69/0.00	100	1560						
B5		26.10 - 27.23	15	1.09	0.99/0.10	85	1564						
B4		81.64 - 84.58	15	2.80	2.36/0.44	74	1565-67						
B4		85.54 - 87.86	15	2.02	1.56/0.46	53	1570-72						
B4	1535.3	88.98 - 90.98	15	1.79	1.42/0.37	100	1573-75						
B3		124.17-125.45	40	0.89	0.89/0.00	82	1577						
B3	1499.4	126.14-126.96	40	0.63	0.63/0.00	100	1579						
													HOLE NUMBER MUD 81-14

473-8010

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		15/6/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-15	Coates	90	--	263.0	HQ		N22 / 6500	3196	20	10

COORDINATES

COLLAR ELEV	UTM				MINE GRID		NTS
1547.79	6,064,785.56	N	650,028.24	E	N	E	93 I 10

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY: Eric Panchy

DATE OF INTERPRETATION:

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		168.55-169.05	42	0.37	0.37/0.00	11	1598		Kb	6	1541.79		
							-		Kh	151.17	1396.62		
B11		182.40-183.05	23	0.57	0.57/0.00	89	1600						
B10		211.32-211.63	15	0.30	0.30/0.00	90							
B9	1305.4	234.97-242.42	25	5.57	4.37/1.20	60	1580-84						
B8		256.57-257.09	30	0.45	0.45/0.00	56	--						
													HOLE NUMBER MUD 81-15

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		19/6/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 81-16	Coates	90	--	194.2	HQ		022 / 9500	4522	23	4.0

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1530.80	6,065,456.27 N	646,322.04 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		17.30-18.44	5	1.14	1.08/0.06	74	1601						
B11		33.57-34.10	5	0.53	0.53/0.00	99	--						
B10		48.00-49.00	10	0.98	1.00/0.00		--						
B9		61.88-63.40	15	1.36	1.33/0.03	93	1586						
B8		72.68-74.47	10	1.77	1.05/0.72	100	1587-91						
B7		119.79-123.17	18	3.21	2.68/0.53	93	1592-96						
B6(u)		144.76-147.40	10	2.64	2.61/0.03	81	1597						HOLE NUMBER MUD 81-16

473-8010

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	.	18/7	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MND 81-01	Midwest	90	--	214.4	NQ		F9/45,000S	4519	18.7	47.4

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1420.15	6,019,508.49 N	676,447.52 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X			X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B3		65.01-65.57	20	0.53	0.53/0.00	100	1602		Kg	133.3	1286.85		
B3		66.87-71.30	20	4.18	3.95/0.23	96	1603-06		Kmb	189.53	1230.62		
									Kbs	200.7	1219.45		
Kgt		202.49-205.68	20	2.98	2.63/0.35	100	1607-09						
Kgt		208.97-209.85	20	0.83	0.83/0.00	92	1610						

HOLE NUMBER MND 81-01

473-8010

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		24/7	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MND 81-02	MIDWEST	90	--	176.3	NQ		F9/ 47,000S	3132	0	1.7

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1300.88	6,017,611.83 N 677,588.37 E	N E	

GENERAL COMMENTS

Gething Seams

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X			X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
Kgt		83.39 - 86.45	20	2.88	2.64/0.24	65	1611-13		Kg	8.6	1292.28		
									Kmb	70.6	1230.28		
Kgt		105.74-107.27	20	1.45	1.11/0.34	85	1616-18		Kbs	81.3	1219.58		
									Kgt?	122.9	1177.98		
									Kcd	154.5	1146.38		

HOLE NUMBER MND 81-02

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/2/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 81-01	Alta. Southern	90°		201			023/11500N	3205	3	31

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1259.2	6067435.51 N	645448.66 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100					x	x				

INTERPRETED BY: Eric Panchy

DATE OF INTERPRETATION:

GENERAL COMMENTS

Boomerang

Hole caved — only GRN through rods.

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
									KL	100.0			Seam picks from log are not
B12		113.00-114.00	30°	0.86									accurate.
B11		132.60-133.25	30°	0.56									
B10		143.80-144.80	30°	0.86									
B9	1092.6	163.40-166.60	30°	2.77									
		175.00-175.50	30°	2.77									
													HOLE NUMBER MH 81-01

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		03/06/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 81-02	ALTA. SOUTHERN	90		262		18 @ 7.D.	023/11500 N	3205	22	5

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1292.8	6,067,603.62 N 645,812.57 E	N E	

GENERAL COMMENTS

Boomerang

Faulted

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9(r)	1223.1	64.08 - 69.70	40	4.30	3.93/0.37								Fault repeat
		72.45 - 73.25	40	0.61	0.61/0.00								
B9	1198.8	88.64 - 93.96	40	4.08	3.81/0.27								
B5		161.72 - 167.99	40	1.74	half & half								High ash
		172.04 - 172.52	40	0.37	0.37/0.00								
		174.02 - 174.60	40	0.44	0.44/0.00								
B4	1102.1	187.45 - 190.73	40	2.51	2.07/0.44								
		195.66 - 196.81	40	0.88	half & half								High ash zone
													HOLE NUMBER MH 81-02

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MH 81-02	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B3	1072.5	216.39 - 220.27	40	2.97	2.14/0.83								
B2		224.22 - 224.72	40	0.51	0.51/0.00								
B1	1052.5	237.23 - 240.33	40	2.38	1.28/1.10								
													HOLE NUBMER MH 81-02

473A 8106

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/8/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 81-03	Alta. Southern	90°		219.0		25 @ 219	023/12,000N	3205	14	6

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1343.80	6067962.38 N	645342.19 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY
DATE OF INTERPRETATION

GENERAL COMMENTS

Boomerang

Same site as MRc81-04

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9	1330.5	8.78-13.25	40	3.35	3.07/0.28								
B5		77.90-78.45	40	0.42	0.42/0.00								
		79.35-79.55	40	0.15	0.15/0.00								
B4	1242.9	97.87-100.85	40	2.28	1.84/0.44								
		106.21-107.37	40	0.89	0.60/0.29								
B3	1217.5	123.60-126.34	40	2.08	1.80/0.28								
		130.55-130.95	40	0.31	0.31/0.00								
													HOLE NUMBER MH81-03

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/9/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MRC81-04	Alta. Southern	-90°		128	7.6cm		023/12000N	3205	3	8

COORDINATES

COLLAR ELEV	UTM				MINE GRID		NTS
1343.3	6067961.50	N	645345.19	E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x									
1.40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Boomerang

On same site as MH 81-03

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9	1329.2	9.15-14.10	40	3.80	3.65/0.15	7							
		17.90-18.40	40	0.38	0.38/0.00								Not cored.
B5		78.20-79.80	40	1.22	0.97/0.25								Not cored.
		89.75-90.25	40	0.38	0.38/0.00								Not cored.
B4	1242.2	98.00-101.12	40	2.39	2.01/0.38	16							
		106.97-108.00	40	0.71	0.56/0.15								Not cored.
B3	1216.2	124.25-127.10	40	2.17	1.96/0.21	85							HOLE NUMBER MRC 81-04

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/13/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 81-06	Alta. Southern	-90°		292		9 @ T.D.	N25/16500N	6863	25	6

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1046.9	6077881.67 N	650599.06 E	N	E	

GENERAL COMMENTS

Shaftesbury

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x			x	x

INTERPRETED BY
DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
													HOLE NUMBER MH 81-06

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/15/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 81-07	Alta. Southern	-90°		302		45 @ TD	N25/15500N	3959	1	9

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1062.52	6075984.66 N	649525.51 E	N	E	

GENERAL COMMENTS

Shaftesbury

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x			x	x

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
													HOLE NUMBER MH 81-07

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/17/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 81-08	Alta. Southern	-90°		302		33 @ 7.0	025/18,000N	6865	23	6

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
997.9	6077728.84 N	646164.74 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x			x	x

INTERPRETED BY
DATE OF INTERPRETATION

GENERAL COMMENTS

Shaftesbury

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
													HOLE NUMBER MH 81-08

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	20/07 -23/07	22/07	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
M D 80-08	Coates	90°		186.5	HQ	N/A	M22/7000N	5162	0	14.3

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1322.6	6066889.66 N	651782.30 E	7111 N	6045 E	93-1-10, c-88-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100					x	x				

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Spudded in Shaftesbury

Hole abandoned due to excessive water.

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
									Ksh	38.02	1284.58		

HOLE NUMBER MD 80-08

473-8010

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	24/07 -25/07		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MD 80-9A	Coates	-90°	--	12.5	HQ	N/A	N22/8000N	3943	N/A	3.6

COORDINATES

COLLAR ELEV	UTM				MINE GRID				NTS
1455.2	6067094.22	N	650684.54	E	7973	N	5336	E	93-1-10,e-87-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
													HOLE NUMBER MD 80-9A

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	25/07 -26/07		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MD 80-9B	Coates	-90°	--	28.6	HQ	N/A	N22/8000N	3943	N/A	37

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1455.2	6067094.22 N	650684.54 E	7973 N	5336 E	93-1-10, 93-87-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
													HOLE NUMBER MD 80-9B

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	26/07 -03/08	03/08	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MD 80-10	D.W. COATES	-90°	--	392.5	HQ	N/A	N23/8500 N	3944	1.5	27.5

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1384.0	6067681.09 N 650396.97 E	8610 N 5493 E	93-I-10,d-97 J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x			x	
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12	1304.57	77.72- 79.39		1.53	0.99/0.54	100	--		kh	64.85	1319.15		
B11	1296.62	86.31- 87.34		0.93	0.87/0.06	95	5320						
B10		115.09-115.96		0.75	0.72/0.03	55	--						
B9	1228.37	148.22-155.59		6.74	6.19/0.55	97	5374-78						
B8	1211.22	170.34-172.74	50	1.62	1.33/0.29	94	5371-73						
B6	1189.33	192.58-194.63	32	1.44	1.24/0.20	74	5381						
B7	1202.0	101.60-182.00	40	0.31	0.31/0.00								HOLE NUMBER MD 80-10

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MD 80-10	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV BASE	TRUE THICKNESS	
B5	1153.89	224.46-230.07	45	3.78	3.07/0.71	87	5362-69						
B4(u)		282.43-289.79	60	3.73	3.31/0.42	61	5393-99						
B4(1)	1087.50	292.05-296.46	60	1.84	1.84/0.00	60	5451-52						
B3	1051.97	328.97-331.99	50	2.06	1.73/0.33	50							
B2(u)	1114.22	368.87-369.74	41	0.68	0.68/0.00								
B2(1)	1005.10	375.69-378.86	32	2.63	2.33/0.33	100	5385-5387						
B1		380.76-382.85	30	1.78	1.38/0.40	69	5388-89						
	998.51	383.90-385.45	30	1.33	1.33/0.00	100	5391						
													HOLE NUBMER MD 80-10

473A 8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	03/09	03/09	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 80-71	Alta. Southern	-90°	--	111.3	--	11.76° @96.3	P23/12500N	3217	9.4	2.5

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1320.9	6067981.67 N 644714.24 E	124.91 N 133.2 E	93-1-10,g-109-K

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9	1297.11	15.85 - 23.83											

HOLE NUMBER MH 80-71

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	28/08 -29/08	30/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	TD	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 80-72	Alta. Southern	-90°	--	86.9	--	14.96° @78.0	023/12500 N	3205	0	3.7

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1369.5	6068131.30 N	644968.14 E	12478 N	1624 E	93-1-10,d-100-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1.40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9	1359.21	6.10-10.33	33	3.54									
	1356.01	12.95-13.53	33	0.48									
B5	1299.74	66.50-69.80	33	2.76									
	1290.17	77.40-79.37	33	1.65									

HOLE NUMBER MH 80-72

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	30/08,	03/09	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MRC 80-73	Alta. Southern	90		18.2	7.6	N/A	0.23/12500N	3205	0	4.3

COORDINATES

COLLAR ELEV	UTM				MINE GRID			NTS
1369.2	6068133.48	N	644966.88	E	12445	N	1624 E	93-1-10,d-100-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x						x		x	
1:40	x									

INTERPRETED BY: E. Panchy

DATE OF INTERPRETATION:

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B3	1360.13	5.00-9.38	30	3.67	3.29/0.38	69%							

HOLE NUMBER: MRC 80-73

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	31/08/81-01/09/81		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 80-74	Alta. Southern	-90°	--	202.8	--	37.84° @197.5m	023/12500N	3205	10.9	5.4

COORDINATES

COLLAR ELEV	UTM				MINE GRID				NTS
1408.3	6068276.73	N	644958.88	E	12560	N	1710	E	93-1-10,d-100-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x			x	x
1:40	x									

INTERPRETED BY
DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B4	1374.47	30.39-33.78	33	2.84					Kg	110.08	1298.22		
B3	1349.73	55.65-58.52	33	2.40									
	1344.18	63.65-64.07	33	0.35									
B1	1331.57	73.10-76.68	33	3.00									

HOLE NUMBER MH 80-74

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	01/09		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MRC 80-75	Alta. Southern	-90°	--	203.0	7.6	N/A	023/12500N	3205	N/A	5.4±

COORDINATES

COLLAR ELEV	UTM				MINE GRID				NTS
1408.3	6068277.40	N	644957.18	E	12561	N	1709	E	93-1-10,d-100-J

GENERAL COMMENTS

Log from MH 80-74 used for interpretation.

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
									Kg	110.08±			
B4		30.39 - 31.78	25	1.24	1.24/0.00	100	5473						
B4	1374.47	32.53 - 33.78	25	1.09	1.09/0.00	61	5475						
													HOLE NUMBER MRC 80-75

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	02/09		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MRC 80-76	Alta. Southern	90°		203.0	7.6	N/A	023/12500N	3205	N/A	5.4

COORDINATES

COLLAR ELEV	UTM				MINE GRID				NTS
1408.3	6068279.40	N	644958.20	E	12563	N	1711	E	93-1-10,d-100-J

GENERAL COMMENTS

Log from MH 80-74 used for interpretation.

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B4	1374.47	30.39-33.78	25	2.98					Kg	110.08±			
B3	1349.73	55.65-58.52	22	2.54	2.29/0.25	76%							
													HOLE NUMBER MRC 80-76

473 8010

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	03/09		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MH 80-77	Alta. Southern	90°		20.0		N/A	P23/13500N	3217	N/A	20.0+

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1471.60	6068731.28 N	643796.79 E	13645 N	1112 E	93-1-10,g-109-K

GENERAL COMMENTS

Only drilled overburden.

Abandoned.

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
													HOLE NUMBER MH 80-77

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	21/04-25/04		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MDH 79-25	Alta. Southern	-90°	--	274.32	75 mm	31.6° @260 m	13000N	3217	59.2	0.91

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1475.17	6068648.23 N	644677.723 E	13020 N	1745 E	93-1-10,d-91-K

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
A		141.73-142.34							Kmb	112.02	1363.15		
									Kbl	123.72	1351.45		
									Kgt	237.55	1237.62		
													HOLE NUMBER MH 79-25

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman	28/07-03/08		1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-14	D. W. COATES	-90°	--	288.6	HQ	7.02@ 280m	9000 N	3944	30.5	3.66

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1532.12	6070458.53 N 649727.26 E	8866 N 4837.1 E	93-I-10,b-84-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X

INTERPRETED BY
DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		6.40-6.95	10	0.54	0.54/0.00	67	--		Kg	266	1266.12		
B11		17.55-18.50	10	0.94	0.94/0.00	68	0421						
B10		43.70-44.50	10	0.79	0.79/0.00	73	0422						
B9	1452.59	66.10-79.41	10	13.11	11.43/1.68	92	0423-32						Fault thickened
B8		88.45-89.01	14	0.54	0.54/0.00	100	0433						
B7		99.27-100.44	14	1.02	1.02/0.00	100	0435						
B6		106.30-107.82	14	1.47	1.28/0.19	100	0436-37						HOLE NUMBER MUD 78-14

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-14	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B5		121.55-125.15	14	3.50	2.70/0.80	100	0438-40						
B4		165.57-167.30	14	1.68	1.68/0.00	86	481						
B4		167.94-171.39	14	3.35	2.80/0.55	100	443-46						
B4		173.15-175.38	14	2.16	2.16/0.00	100	447-48						
B3		189.12-190.10	20	0.92	0.92/0.00	100	449						
B3		190.64-191.44	20	0.75	0.75/0.00	100	450						
		211.73-212.60	22	0.31	0.31/0.00	71	0451						
B2		223.10-225.73	23	2.43	2.27/0.16	100	0452-54						
B1		228.23-231.94	23	3.41	2.41/1.00	100	0455-57						
													HOLE NUBMER MUD 78-14

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman	13/08 26/07-28/07/ 28/08	30/08	1 OF 3

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-15	COATES	-90°	--	382.0	HQ	3.30@ 300m	8000 N	3200	69	3.82

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1693.15	6065685.51 N 649064.34 E	7934.24 N 3189.61 E	93-I-10,b-65-J

GENERAL COMMENTS

Faulted B9, B8 & B7

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100										

INTERPRETED BY
DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		20.25-22.17	15	1.85	1.34/0.51	90	0420		Kb	46.06	1647.09		
									Kh	129.86	1563.29		
B12		134.95-135.65	12	0.69	0.69/0.00	70	0516						
B11		150.50-151.75	11	1.22	0.93/0.29	67	--						
B10		174.90-175.34	10	0.44	0.44/0.00	50	--						
B9R		156.50-192.11	12	5.49	5.11/0.38	88	0516-19						
B9		193.82-199.17	12	5.24	4.80/0.44	79	052-23						
													HOLE NUMBER MUD 78-15

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B8R		211.50-212.00	13	0.49		--	--						Stoney
B7R		242.32-245.09	13	2.63	2.04/0.59	100	0525-26						
		251.95-252.49	?	<0.50m			0527						Fault zone
													No BCA's - high ash
		256.07-257.10	?	< 1m			0528						No BCA's high ash
B8		263.00-263.92	?	< 1m			0529						High ash
B7		283.96-285.39	21	1.34	1.10/0.24	96	0530						
B7		285.94-287.38	21	1.34	1.21/0.13	100	532-33						May be thinner
		295.00-295.80											
		298.69-299.25	10	0.55	0.55/0.00	--	--						High ash
													HOLE NUMBER MUD 78-15

PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-15	3 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B5		301.08-301.52	10	0.43	0.43/0.00	--	--						
B5		302.50-302.95	10	0.44	0.44/0.00	--	--						
B4(U)		342.33-343.30	11	0.95	0.95/0.00	42	--						
B4(L)		344.00-344.62	11	0.61	0.61/0.00	84	0546						
		350.70-351.29	11	0.58	0.58/0.00	66	--						
B3		365.60-366.55	20	1.03	1.03/0.00	73	0547						
B3		367.52-368.64	20	1.05	1.05/0.00	100	0548						
													HOLE NUBMER MUD 78-15

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman	27/07 - 30/07	05/09	1 OF 3

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-16	D. W. COATES	-90°	--	404.5	HQ	7.17@ 400m	8000 N	3197	24	3.00

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1741.81	N E	8009.84 N 2245.39 E	93-I-10,c-56-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100										

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		16.71-18.00	31	1.78	1.63/0.15	97	0549		Kg	344	1397.81		
B7		94.78-99.10	54	2.49	2.49/0.00	83	0550-52						
		105.09-105.42	54	0.19	0.19/0.00	?	--						High ash
		108.37-108.92	54	0.32	0.32/0.00	?	--						High ash
		119.35-120.65	54	0.76	0.67/0.09	?	--						
B6(u)		144.20-144.50	1.35										
B6(L)		151.19-152.14	54	0.56	0.46/0.10	100	0553						
													HOLE NUMBER MUD 78-16

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-16	2 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B5		186.17-186.58	54	0.24	0.24/0.00	--	--						
		194.30-194.70	54	0.24	0.24/0.00	--	--						
B4		215.53-218.02	46	1.80	1.80/0.00	98	0556						
B4		219.00-221.10	46	1.51	1.51/0.00	81	0554						
		238.55-239.00	52	0.28	0.28/0.00	0	--						
		256.13-256.62	56	0.27	0.27/0.00	0	--						
B3		277.48-279.80	56	1.29	1.17/0.12	0	--						
B2		284.33-284.76	48	0.29	0.29/0.00	0	--						
B1R		297.06-298.60	48	1.03	1.03/0.00	72	0557						
													HOLE NUBMER MUD 78-16

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-16	3 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV BASE	TRUE THICKNESS	
B1	1431.63	308.75-310.18	45	0.94	0.94/0.00	77	0558						Faulted
B1		312.22-313.40	45	0.83	0.83/0.00	100	0559						at 301 m

HOLE NUBMER
MUD 78-16

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	30/07 - 09/08	09/08	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-17	D. W. COATES	-90°	--	450.2	HQ	3.33° @ 10.72 m	7500 N	3198	9.8	8.23

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1566.29	6064240.85 N	647961.70 E	7536.32 N	1416.33 E	93-1-10, 1-47-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x			x

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		164.28 - 164.70	26	0.38	0.38/0.00	--	--		Ksh	8.07	1485.59		
		176.71 - 175.65	26	0.86	0.86/0.00	--	--		Kb	202.50	1363.79		
		179.62 - 180.09	26	0.42	0.42/0.00	--	--		Kh	288.67	1277.62		
B12		299.09 - 299.68	12	0.58	0.58/0.00	--	--						
B11		316.00 - 317.00											
B9		346.64 - 350.20	16	3.43	3.43/0.00	88	0474-75						
B8		362.29 - 363.07	12	0.76	0.76/0.00	100	0476						Relatively high ash
B7		393.94 - 396.81	12	2.81	2.56/0.25	100	0477-79						HOLE NUMBER MUD 78-17

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-17	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		408.90 - 409.80	13	0.88	0.69/0.19	57	0480						
B6(u)		430.18 - 430.85	12	0.66	0.66/0.00	100	0482						
B6(l)		433.94 - 434.41	12	0.47	0.47/0.00	100	0483						

HOLE NUBMER MUD 78-17

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	06/08 -12/08	11/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD78-18	Coates	90°		300.8	HQ	2.49° @29 5m	7000N	3197	29	16.96

COORDINATES

COLLAR ELEV	UTM				MINE GRID		NTS
1572.31	6064903.82	N	649287.32	E	7192.10	N 2857.97 E	93-1-10,b-55-J

GENERAL COMMENTS

Boulder Creek coal

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		130.10-132.10	70	0.68	0.68/0.00	100	0484						
		134.68-135.55	70	0.30	0.30/0.00	80	0485						
		156.58-157.18	72	0.19	0.19/0.00	0	---						
		195.65-197.19	72	0.48	0.48/0.00	100	0487						
		285.57-287.32	71	0.57	0.48/0.00	0	--						
		289.38-291.62	71	0.73	0.73/0.00	0	--						
													HOLE NUMBER MUD 78-18

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PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	31/07 -05/08	04/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-19	Coates	90°		232.5	HQ	5.07°@220m	6500N	3196	0	22.86

COORDINATES

COLLAR ELEV	UTM				MINE GRID		NTS
1411.14	6065518.01	N	650908.23	E	6620.69 N	4494.95 E	93-1-10,c-53-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:00	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Boulder Creek faulted below

Gates B9 @ 79.28m

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9		55.12-59.05	14-83	2.91	2.55/0.36	99	0458-61		Kg	79.28	1331.86		Gates Fm. Faulted
													into Boulder Creek
B9		65.70-73.33	48-83	3.14	2.41/0.73	100	0462-67						
β c.		195.14-198.11	70	1.02	0.87/0.15	76	0468-69						
													HOLE NUMBER MUD 78-19

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	10/08 -27/08	27/08	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-20	D. W. COATES	-90°	--	398.0	HQ	6.60° @ 380 m	9000N	3198	33	4.97

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1635.36	6065432.72 N	647208.13 E	8933.74 N 1605.18 E	93-I-10,d-58-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		32.61 - 33.86	35	1.02	1.02/0.00	100	0490		Kh	19.30	1616.06		
									Kg	380.82	1254.54		
B11		51.70 - 57.82	35	5.01	0.00/5.01	15	0491						
B10		76.17 - 76.79	28	0.55	0.55/0.00	0	--						
B9		107.40 - 111.00	30	2.27	2.27/0.00	87	0492-93						
		121.96 - 122.39	29	0.38	0.38/0.00	100	0494						
B8		124.61 - 125.59	29	0.86	0.86/0.00	100	0495						
													HOLE NUMBER MUD 78-20

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PETRO-CANADA

DRILL HOLE SUMMARY · CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-20	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B7		162.14 - 165.57	32	2.91	2.52/0.39	100	0511-13						
B6(u)		189.59 - 190.74	32	0.98	0.98/0.00	81	0514						
B6(l)		200.26 - 201.52	32	1.07	0.99/0.08	86	0515						
B5		276.05 - 276.54		0.41	0.34/0.07	100	0534						
		280.20 - 280.60		0.33	0.33/0.00	58	--						
B4		287.50 - 288.94		1.22	1.22/0.00	100	0535						
		289.55 - 290.89		1.14	1.14/0.00	100	0537						
B3		321.59 - 322.84		1.13	0.96/0.17	100	0539						
		323.78 - 325.74		1.76	1.76/0.00	100	0540						
B2		331.66 - 332.36		0.63	0.63/0.00	100	0542						
B1	1297.03	336.21 - 338.15	26	1.74	1.33/0.41	93	0543-45						
													HOLE NUBMER MUD 78-20

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	03/09 -07/09	08/09	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-21	D. W. COATES	-90°	--	335.9	HQ	5.24° @ 335 m	8000 N	3199	86.5	5.44

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1642.62	N E	3013.03 N 4399.19 E	93-1-10,b-74-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		42.86 - 43.33	23	0.43	0.43/0.00	60	--		Kh	33.5	1609.12		
									Kg	297	1345.62		
B11		49.88 - 50.63	17	0.72	0.66/0.06	100	0560						
B10		77.50 - 78.12	15	0.60	0.60/0.00	100	--						
B9	1533.82	102.84 - 108.80	15	5.76	5.24/0.52	100	0561-68						
B8		117.90-119.33	15	1.39	0.51/0.88	100	--						
B7	1510	135.66-137.18	15	1.47	1.34/0.13	96	0575-77						
													HOLE NUMBER

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-21	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B5	1488.03	153.60 - 154.59	15	0.96	0.92/0.04	100	0578-79						
B4	1441.31	196.65 - 201.31	14	4.54	2.67/1.87	89	0580-87						
		203.06 - 204.31	14	1.22	1.12/0.10	100	0588						
B3		219.40 - 220.18	14	0.76	0.76/0.00	100	0593						
	1421.13	220.86 - 221.49	14	0.61	0.61/0.00	100	0595						
B2(u)		256.20 - 256.82	17	0.60	0.60/0.00	40	--						
B1(1)		258.98 - 261.51	17	2.46	2.42/0.04	98	0598						
B1	1376.62	262.82 - 266.00	17	3.11	2.51/0.60	92	0601-04						
													HOLE NUMBER MUD 78-21

473A-8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	08/78	07/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUH 78-15	Interior W.W.	-90°	--	103.6	--	N/A	8500N	3199	14.3	1.8

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1512.88	6067372.94 N	649888.27 E	8697.27 N	4905.44 E	93-1-10, c-74-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		21.04 - 22.85	20	1.70	0.94/0.76	--	--						
B11		30.95 - 31.81	20	0.81	0.81/0.00								
B10		56.11 - 56.79	20	0.64	0.64/0.00								
B9	1425.18	76.42 - 86.82	20	9.80	9.80/0.00								
		89.25 - 89.69	20	0.41	0.41/0.00								
B8		96.78 - 97.15	20	0.35	0.35/0.00								
													HOLE NUMBER MUH 78-15

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	08/78	09/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUH 78-16	Interior W W.	-90°	--	94.5	--	N/A	9000N	3199	0.15	1.8

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1518.15	6067416.83 N 649803.80 E	8785.19 N 4868.94 E	93 I-10, c-74-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x								x	

INTERPRETED BY
DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		11.60 - 13.45	20	1.74	1.39/0.35								
B11		22.25 - 23.15	20	0.85	0.85/0.00								
B10		49.05 - 49.75	20	0.66	0.66/0.00								
B9		70.76 - 82.26	20	10.78	10.52/0.26								Fault thickened
													HOLE NUMBER MUH 78-16

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		08/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUH 78-17	Interior W.W.	-90°	--	63.4	--	N/A	9000N	3944	35.5	2.5

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1490.10	6067570.07 N	649723.27 E	8954.34 N	4905.75 E	93-1-10, 6-84-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x								x	

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B10		11.92 - 12.62	20	0.66	0.66/0.00								
B9	1443.68	40.00 - 46.32	20	5.94	5.94/0.00								
		49.00 - 49.49	20	0.46	0.46/0.00								
B8		55.95 - 56.37	20	0.39	0.39/0.00								
													HOLE NUMBER MUH 78-17

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PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	08/78	08/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUH 78-18	Interior W.W.	-90°	--	39.6	--	N/A	9000N	3203	28.8	0.8

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1476.17	6067591.88 N	649661.86 E	9010.52 N 4872.73 E	92-1-10, a-85-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X			X	

INTERPRETED BY
DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B9	1450	18.69 - 25.19	20	6.10	6.00/0.10								
		23.21 - 28.72	20	0.48	0.48/0.00								
B8		35.81 - 36.72	20	0.86	0.86/0.00								
													HOLE NUMBER MUH 78-18

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	08/78	09/08	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUH 78-20	Interior W.W.	-90°	--	79.2	--	N/A	9000N	3203	43.7	0.6

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1522.02	6067503.64 N	649685.89 E	8927.48 N	4834.42 E	92-1-10, a-85-J

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1.100	X						X		X	

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B11		7.39 - 8.03	20	0.60	0.60/0.00								
		8.79 - 9.19	20	0.38	0.38/0.00								
B10		33.08 - 33.86	20	0.73	0.73/0.00								
B9	1461.70	55.61 - 60.03	20	4.15	4.15/0.00								fault repeat
B9	1452.69	63.15 - 69.31	20	5.79	5.79/0.00								
		72.08 - 72.50	20	0.39	0.39/0.00								

HOLE NUMBER MUH 78-20

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	03/09 -07/09	08/09	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 78-21	D.W. COATES	-90°	--	335.9	HQ	5.24° @ 335m	8000 N	3199	86.5	5.44

COORDINATES

COLLAR ELEV	UTM	MINE GRID	NTS
1642.62	N E	8013.03 N 4399.19E	93-I-10,b-74-J

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY	DATE OF INTERPRETATION
W.P.	May 1981

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		42.86 - 43.33	23	0.43	0.43/0.00	60	--		kh	33.5	1609.12		
									kg	297	1345.62		
B11		49.88 - 50.63	17	0.72	0.66/0.06	100	0560						
B10		77.50 - 78.12	15	0.60	0.60/0.00	100	--						
B9	1533.82	102.84 - 108.80	15	5.76	5.24/0.52	100	0561-68						
B8		117.90 - 119.33	15	1.39	0.51/0.88	100	--						
B7	1510	135.66 - 137.18	15	1.47	1.34/0.13	96	0575-77						

HOLE NUMBER: MUD 78-21

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 78-21	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B5	1488.03	153.60 - 154.59	15	0.96	0.92/0.04	100	0578-79						
B4	1441.31	196.65 - 201.31	14	4.54	2.67/1.87	89	0580-87						
		203.06 - 204.31	14	1.22	1.12/0.10	100	0588						
B3		219.40 - 220.18	14	0.76	0.76/0.00	100	0593						
	1421.13	220.86 - 221.49	14	0.61	0.61/0.00	100	0595						
B2(u)		256.20 - 256.82	17	0.60	0.60/0.00	40	--						
B2(1)		258.98 - 261.51	17	2.46	2.42/0.04	98	0598						
B1	1376.62	262.82 - 266.00	17	3.11	2.51/0.60	92	0601-04						
													HOLE NUMBER MUD 78-21

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	24/08 -31/08	18/09	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 77-4	D. W. COATES	90°	--	398.4 m	HQ		8500 N	3199	27.13	5.79 m

COORDINATES

COLLAR ELEV	UTM				MINE GRID		NTS
1508.81 m	6067323.20	N	650004.01	E	8584.77 N	4962.13 E	c-74-J, 93-I-10

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Duchess Area

Fault at 123 m.

SEAM	ELEVATION BASL	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B12		31.98 - 32.38	14°	0.39					Kg	309	1199.81		
B11		40.58 - 41.43	15°	0.82									
B10		67.07 - 67.68	16°	0.59									
B9	1409.61	93.57 - 99.20	15°	5.43	4.72/0.71	100	5 - 9						
B8		107.16 - 107.47	15°	0.30									
B7	1369.97	138.18 - 139.28	14°	0.89	0.89/0.00	100	10						
B6		152.59 - 153.05	11°	0.45									HOLE NUMBER MUD 77-4

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 77-4	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAG NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
B5	1352.91	152.78 - 155.86	20°	2.62	1.76/0.86	100	11						
B4		198.56 - 202.57	18	3.77	3.47/0.30	77	12 - 14						
B4	1300	205.74 - 208.17	18	2.29	2.29/0.00	90	--						
B3		223.42 - 224.70	13	1.25	1.25/0.00	54	15						
B3		225.72 - 226.64	13	0.90	0.90/0.00	100	16						
B3	1279	227.53 - 229.06	13	1.49	1.49/0.00	42	--						
B2		264.77 - 267.49	17	2.60	2.60/0.00	92	17 - 18						
B1		270.34 - 274.02	17	3.52	2.81/0.71	100	--						

HOLE NUBMER
MUD 77-4

473A 8106

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	01/09 -07/09	16/09	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 77-5	Coates	70°	218°	300.8m	HQ		6500N	3196	15.52m	3.05m

COORDINATES

COLLAR ELEV	UTM		MINE GRID	NTS
1454.29m	6064737.69 N	650440.35 E	6323.68 N 3634.45 E	a-54-J,93-1-10

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
Rider		76.40-76.80	18	0.38	0.38/0.00				Kh	62.9	1391.39		
B11		81.98-83.11	18	1.08	0.99/0.09		0019		Kg	232.	1222.29		
B10		106.37-106.77											
B9		123.53-129.63	10	6.02	5.56/0.46	99	0020-24						
B8		141.12-143.38	6	2.25	0.00/2.25								All stoney.
B7		160.13-163.32	10	3.14	2.84/0.30	95	0025-27						
		179.58-181.48	11	1.86	1.13/0.73	100	0028						
													HOLE NUMBER MUD 77-05

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PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	08/08/81-14/08/8		1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T D	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 77-06	Coates	-70°	045°	224.6m	HQ	N/A	8000N	3198	N/A	4.57m

COORDINATES

COLLAR ELEV	UTM		MINE GRID		NTS
1599.16m	6064605.45 N	647737.88 E	7959.49 N	1479.24 E	b-57-J,93-1-15

GENERAL COMMENTS

Boulder Creek

No Geophysical Control

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		148.44-149.16	31	0.62	0.62/0.00	100			Ksh	32.44	1566.72		
									Kb	199.03	1400.13		

HOLE NUMBER MDD 77-06

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	19/08/81-24/08/81	24/08/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	TD	CORE SIZE	MAX DEV	MAP/SECTION NO	COAL LICENCE	WATER LEVEL	O B THICKNESS
MUD 76-09	D. W. Coates	72	214°	303.4m	NQ	N/A	10000N	3203	0	12.5m

COORDINATES

COLLAR ELEV	UTM				MINE GRID				NTS
1289.74m	6068329.20	N	649207.87	E	9867	N	4998	E	b-95-J,93-1-10

GENERAL COMMENTS

Duchess Area

Gething coal; drilled oblique to regional dip - corrected on cross section

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:200	x				x	x	x		x	

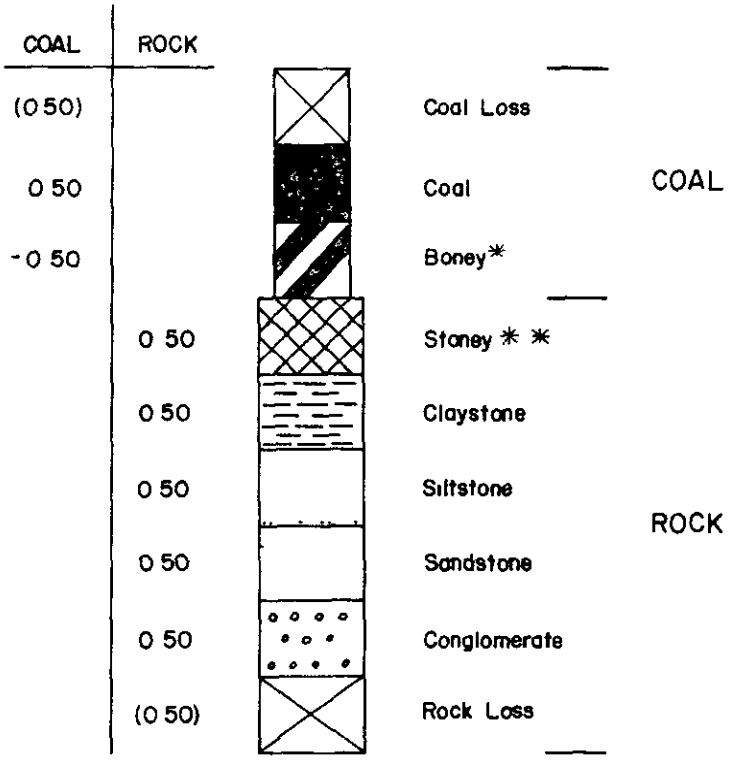
INTERPRETED BY

DATE OF INTERPRETATION

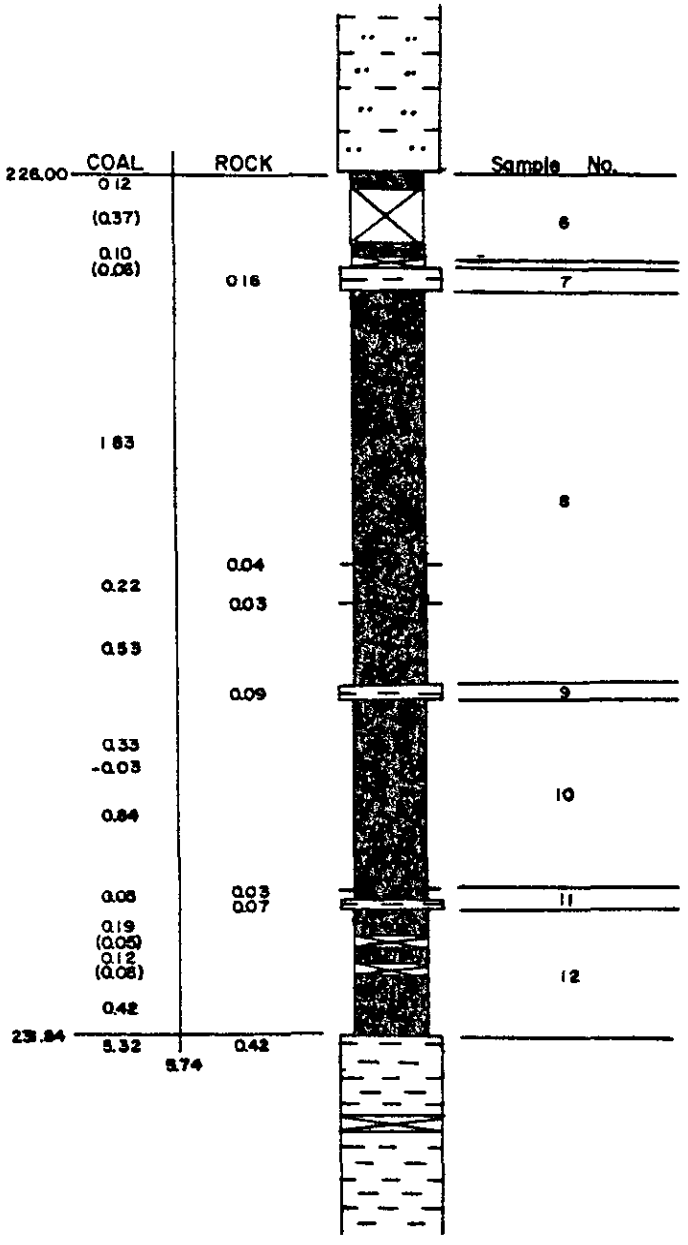
SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC	SAMPLE TAG NO	COMP LAB NO	Gp/Fm/Mbr NAME	BASE	ELEV BASE	TRUE THICKNESS	COMMENTS
		151.75-152.30	41	0.42	0.42/0.00				Kmb	186.5	1,103.24		
									Kbs	208	1,081.74		
		162.90-163.60	41	0.53	0.53/0.00								
		212.77-214.77	42	1.49	1.49/0.00	100							
		248.61-252.90	43	3.14	2.69/0.45	100	8045						
		256.35-258.27	43	1.41	1.16/0.25	100	8046						
		272.00-273.90	38	1.50	1.50/0.00	100	8047						
		275.28-277.28	38	1.58	1.36/0.22	84	8048						
													HOLE NUMBER MDD 76-09

473 8010

MINEABLE SEAM
DETAIL LEGEND



* Coal containing up to 49% ash
** Rock containing up to 50% coal



COAL DIVISION

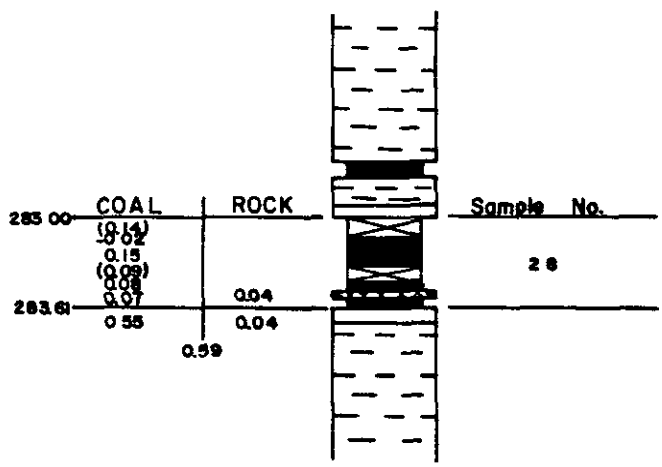
DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. R
DRAFTED	S. K
SCALE	1 50

SEAM DETAIL

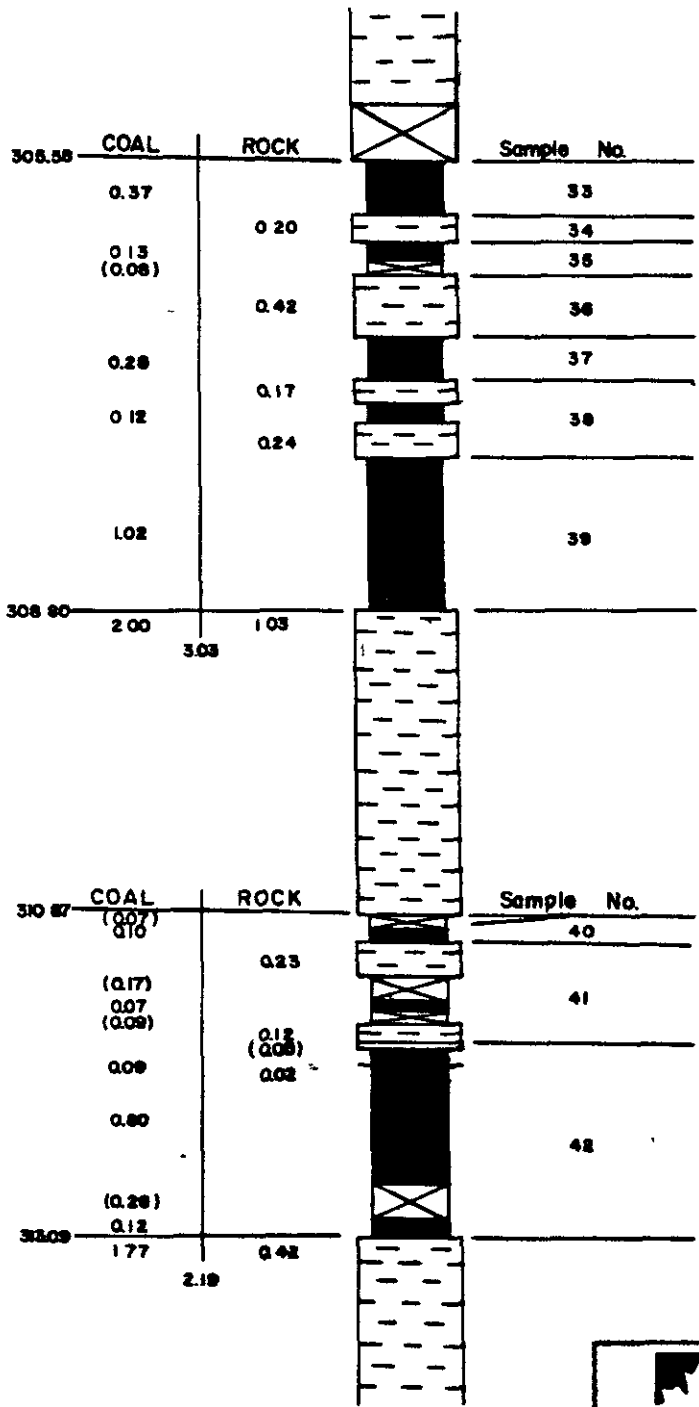
HOLE MDD 81-01

SEAM · B 9

(Repeat)



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MDD 81-01
REVISED	
AUTHOR W. P.	SEAM : B 7
DRAFTED S. K.	
SCALE 1:50	



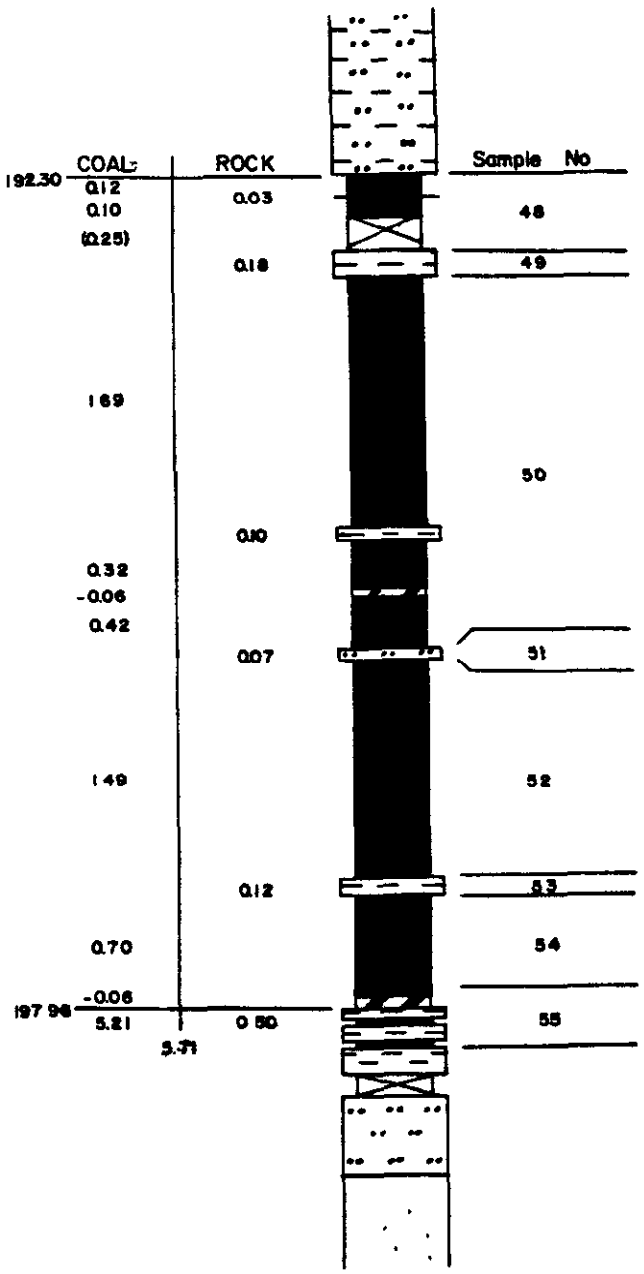
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1:50

SEAM DETAIL

HOLE : MDD 81-01

SEAM : B 5
UPPER AND LOWER



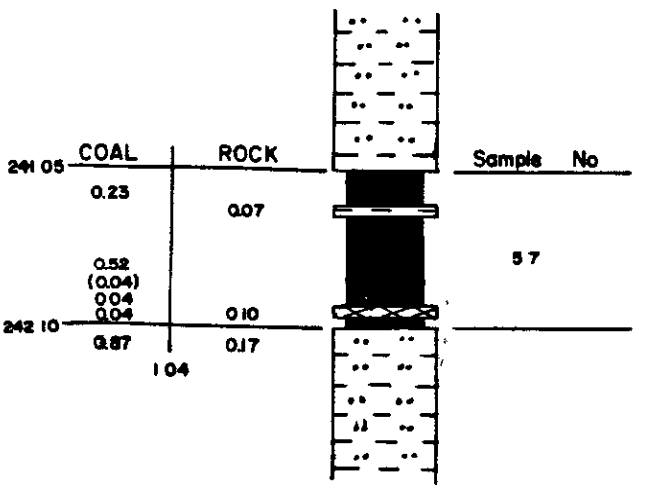
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. K.
SCALE	1:50

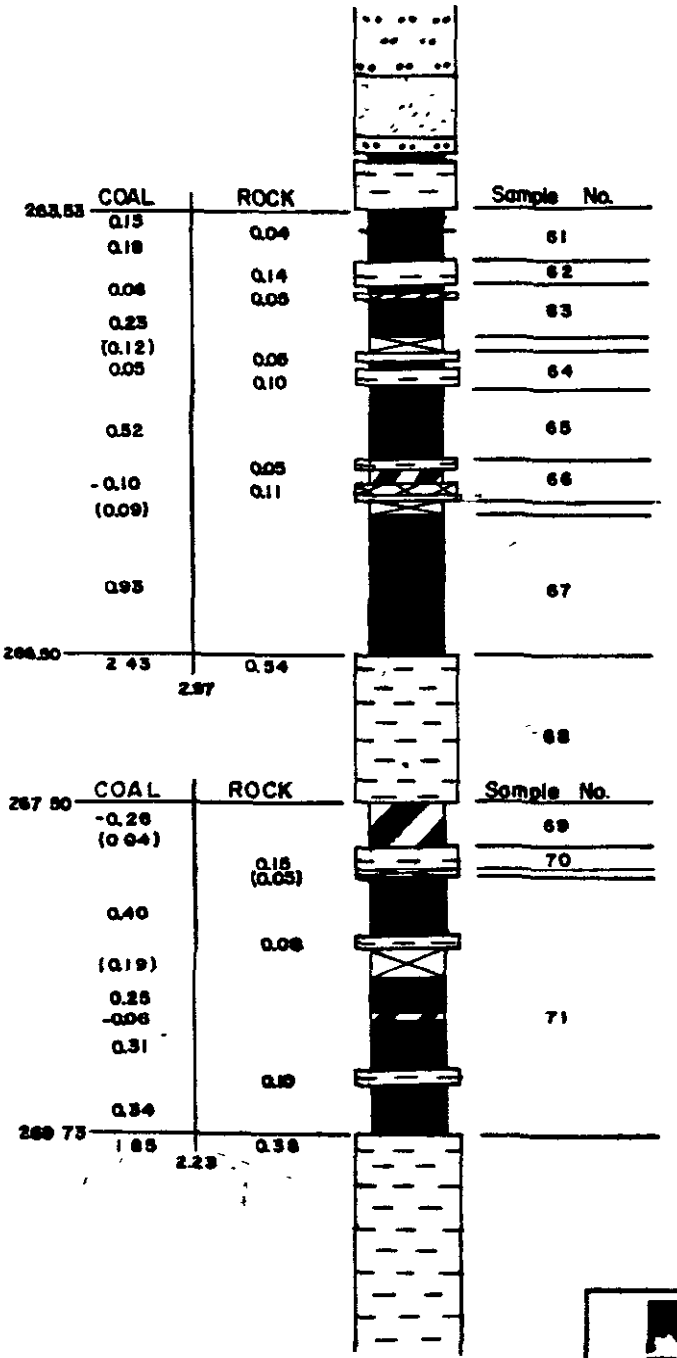
SEAM DETAIL

HOLE · MDD 81-02

SEAM B 9



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1985	HOLE : MDD 81-02
REVISED	
AUTHOR W. P	SEAM : B 7
DRAFTED S.K.	
SCALE 1:50	



COAL DIVISION

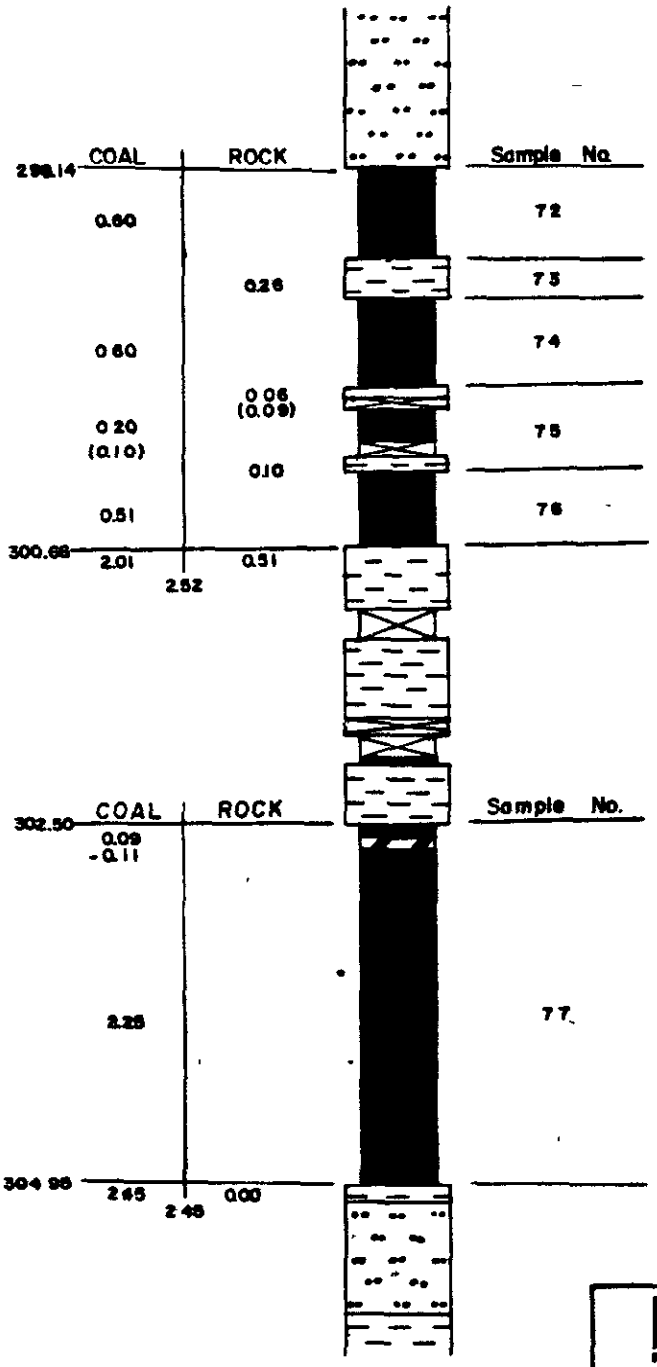
DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S.K.
SCALE	1:50

SEAM DETAIL

HOLE MDD 81-02

SEAM: B 5

UPPER AND LOWER



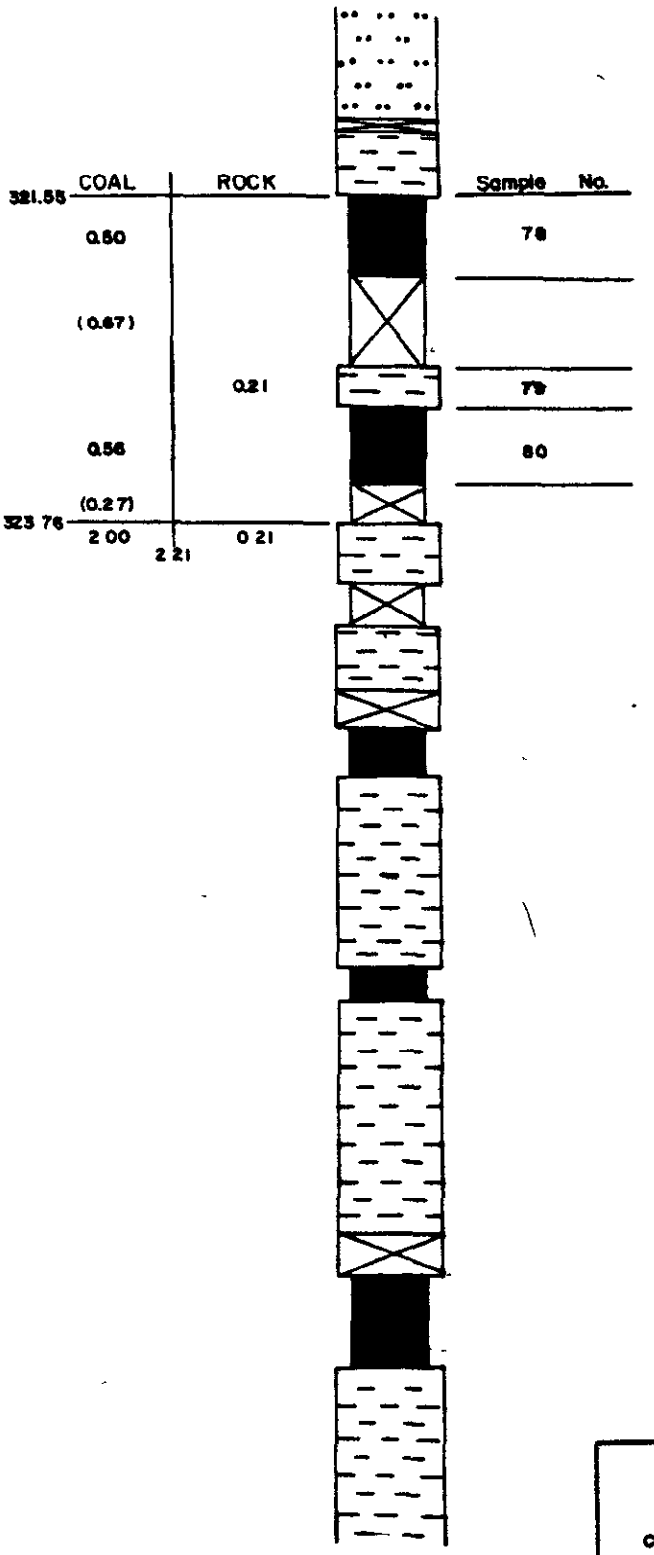
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1 50

SEAM DETAIL

HOLE : MDD 81-02

SEAM : B 4



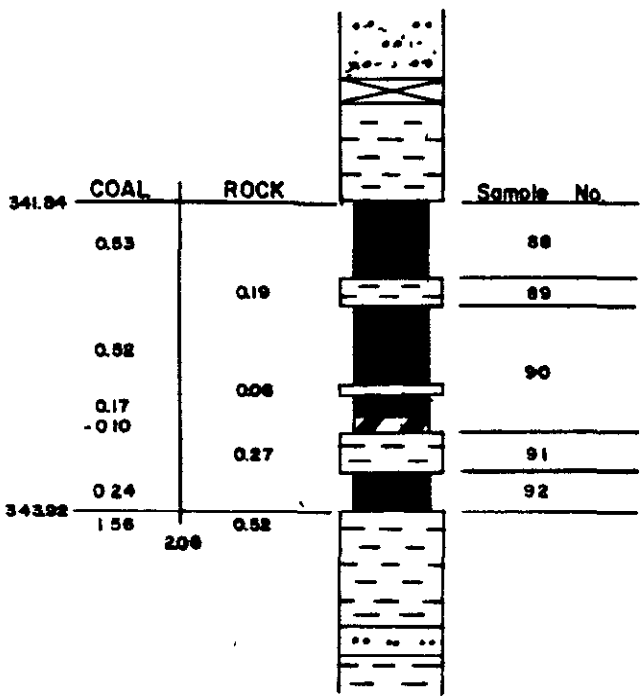
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1:50

SEAM DETAIL

HOLE : MDD 81-02

SEAM : B 3



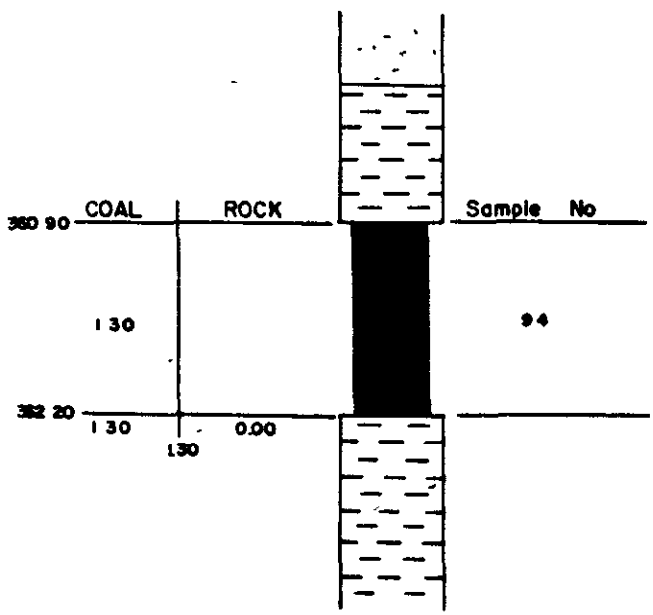
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.P.
DRAFTED	S.R.
SCALE	1:50

SEAM DETAIL

HOLE : MDD 81-02

SEAM : B 2 (u)



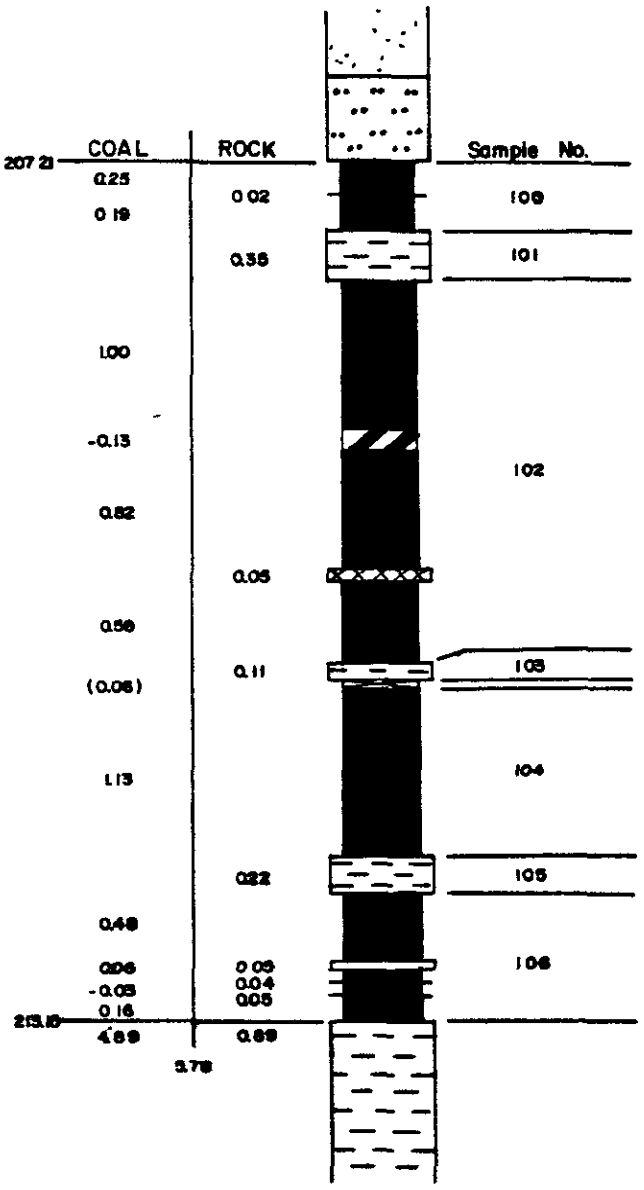
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S.R.
SCALE	1:50

SEAM DETAIL

HOLE : MDD 81-02

SEAM : B 1



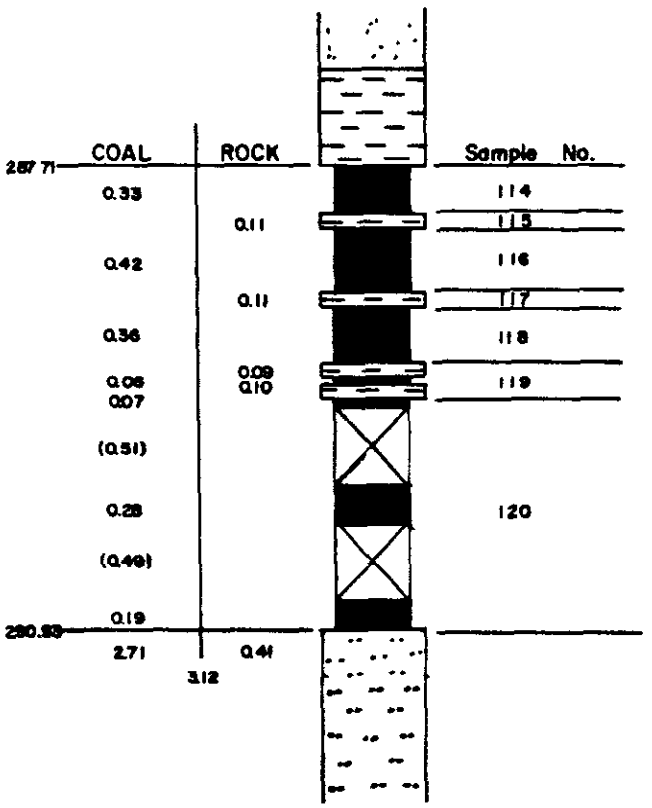
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. K.
SCALE:	1:50

SEAM DETAIL

HOLE : MUD 81-03

SEAM : B 9



COAL DIVISION

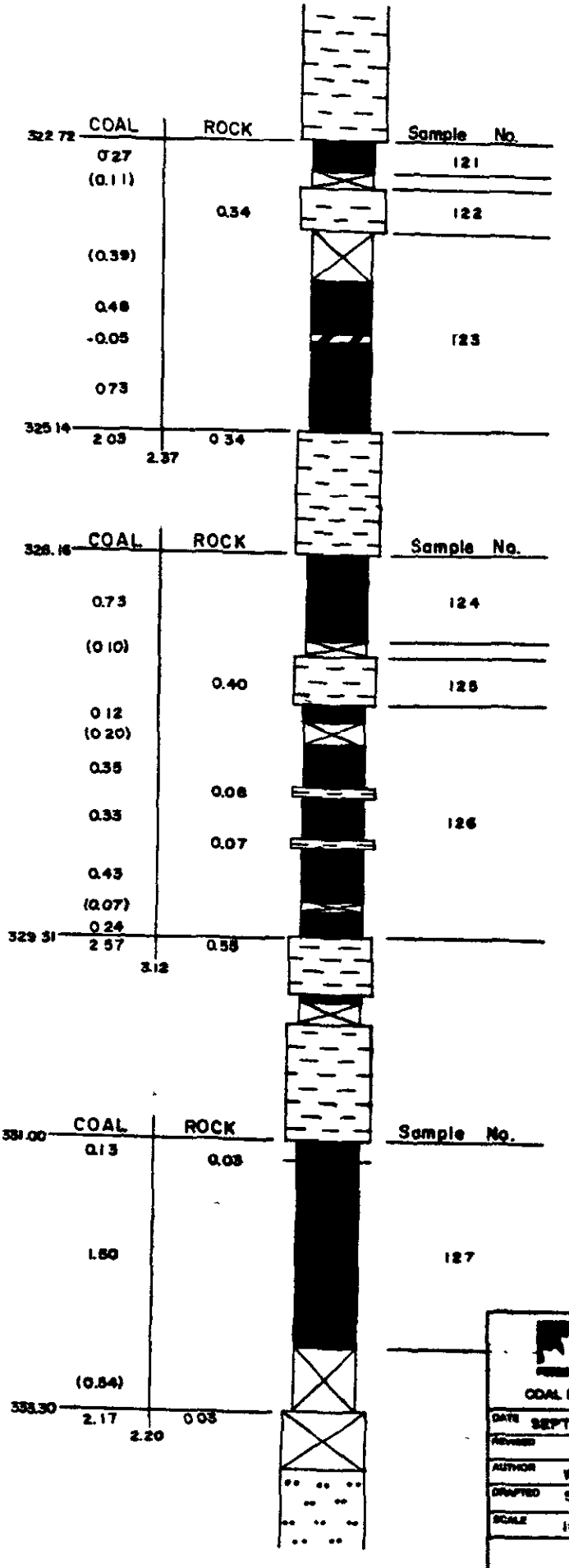
DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-03

SEAM : B 5

UPPER



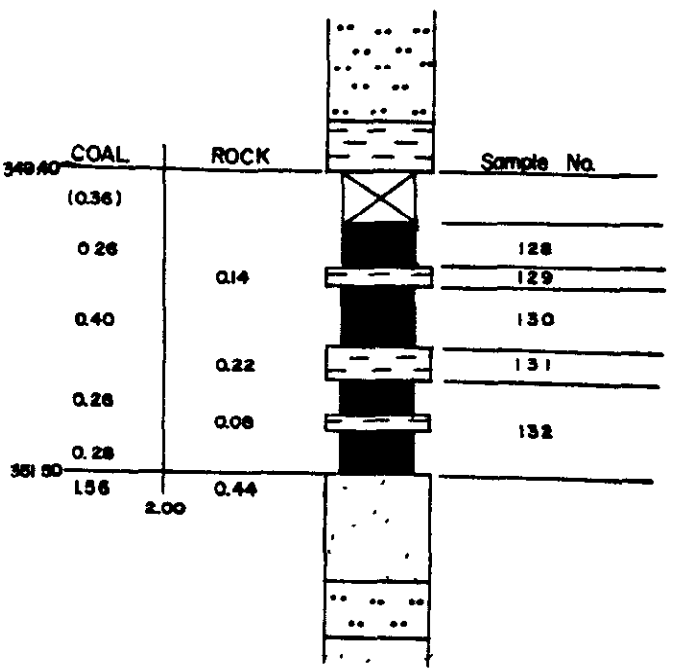
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.P.
DRAFTED	S.K.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-03

SEAM : B 4



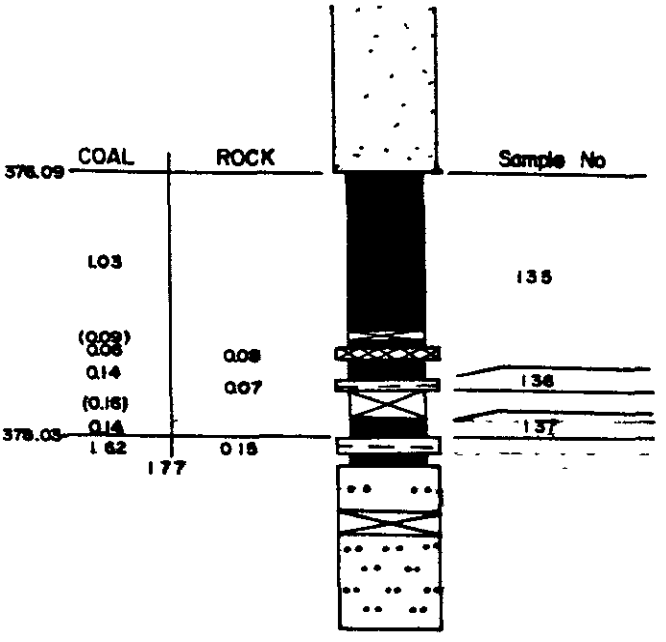
COAL DIVISION

DATE	SEPTEMBER, 1989
REVISED	
AUTHOR	W P
DRAFTED	S R
SCALE	1:50

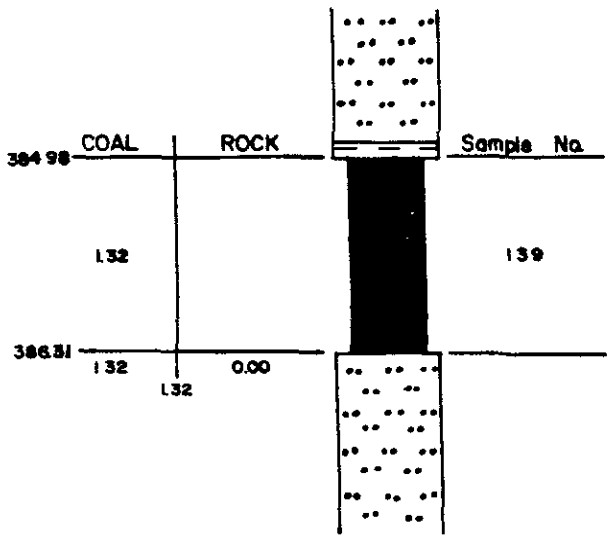
SEAM DETAIL

HOLE : MUD 81-03

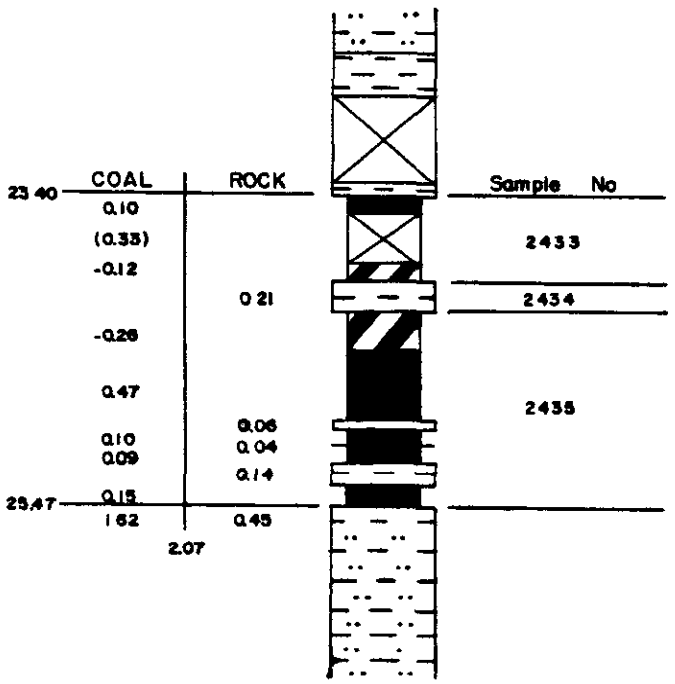
SEAM : B 3



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1989	HOLE : MUD 81-03
REVISED	
AUTHOR W. P.	SEAM: B 2 (1)
DRAFTED S. K.	
SCALE 1:50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-03
REVISED	
AUTHOR W. P.	SEAM : B 1
DRAFTED S. K.	
SCALE 1:50	



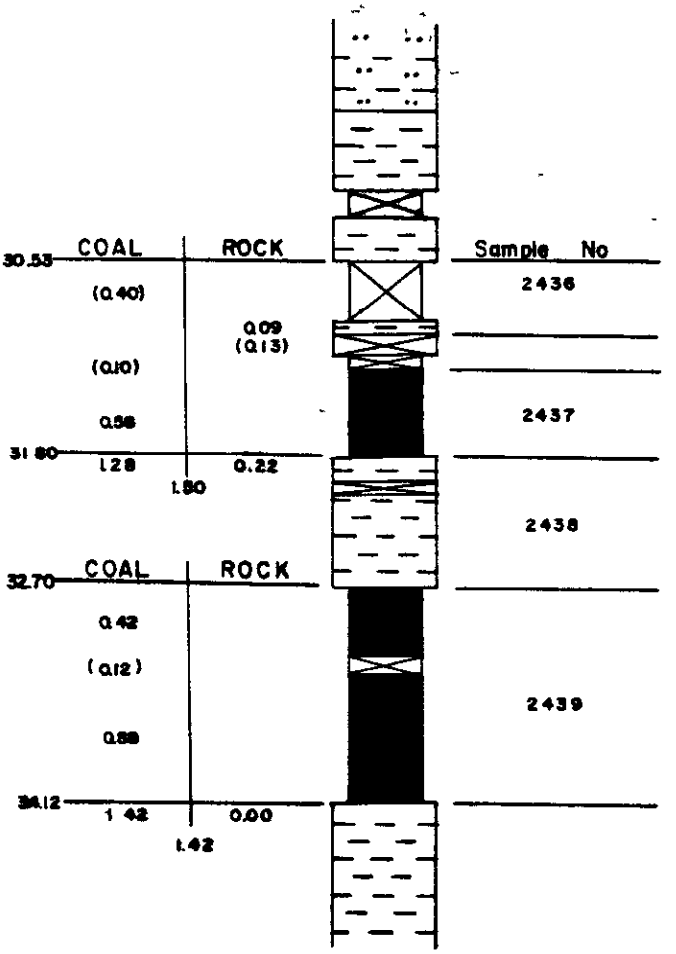
COAL DIVISION

DATE	SEPTEMBER 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. K.
SCALE	1:50

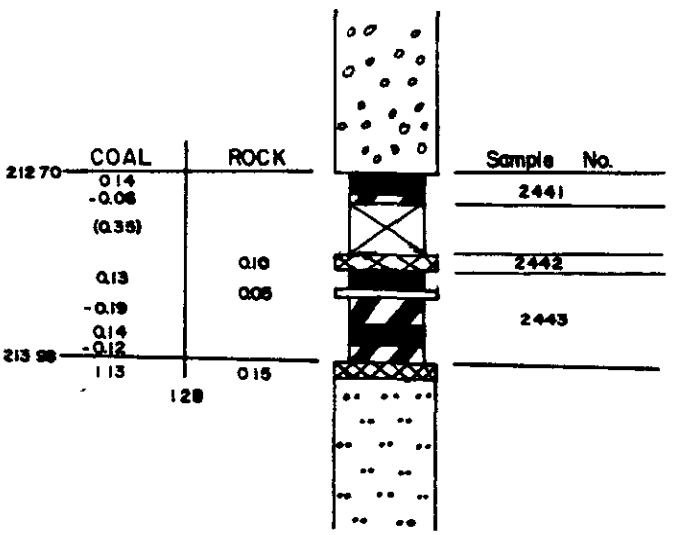
SEAM DETAIL

HOLE: MUD 81-04

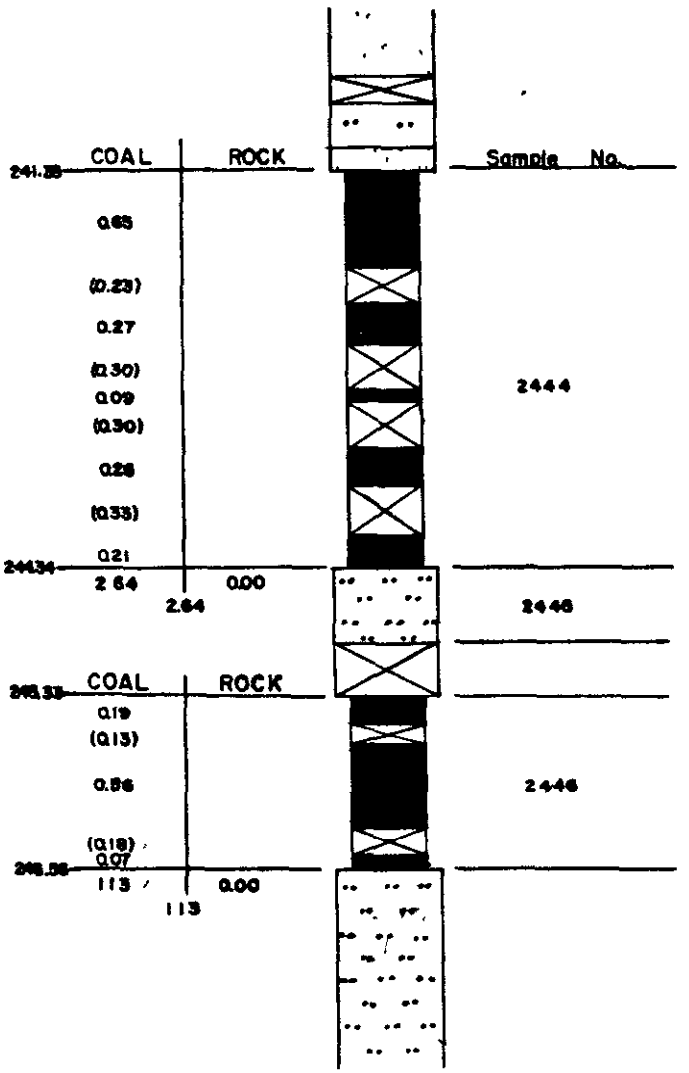
SEAM: B 2 (1)



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-04
REVISED	
AUTHOR W.P	SEAM : B 1
DRAFTED S.K.	UPPER AND LOWER
SCALE 1:50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-04
REVISED	
AUTHOR W. R.	GETHING
DRAFTED S. K.	
SCALE 1:50	



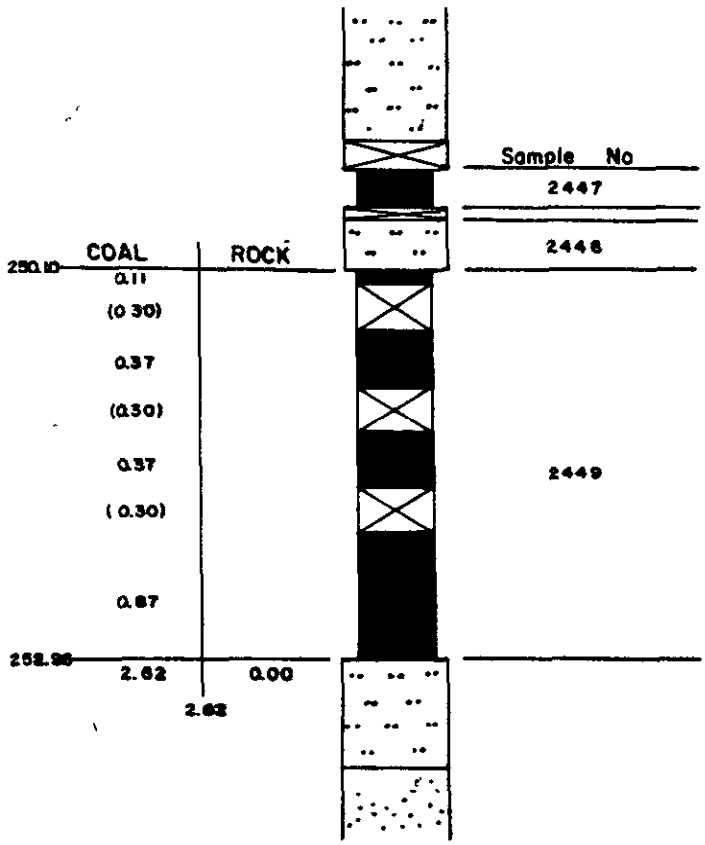
COAL DIVISION

DATE	SEPTEMBER 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. N.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-04

GETHING



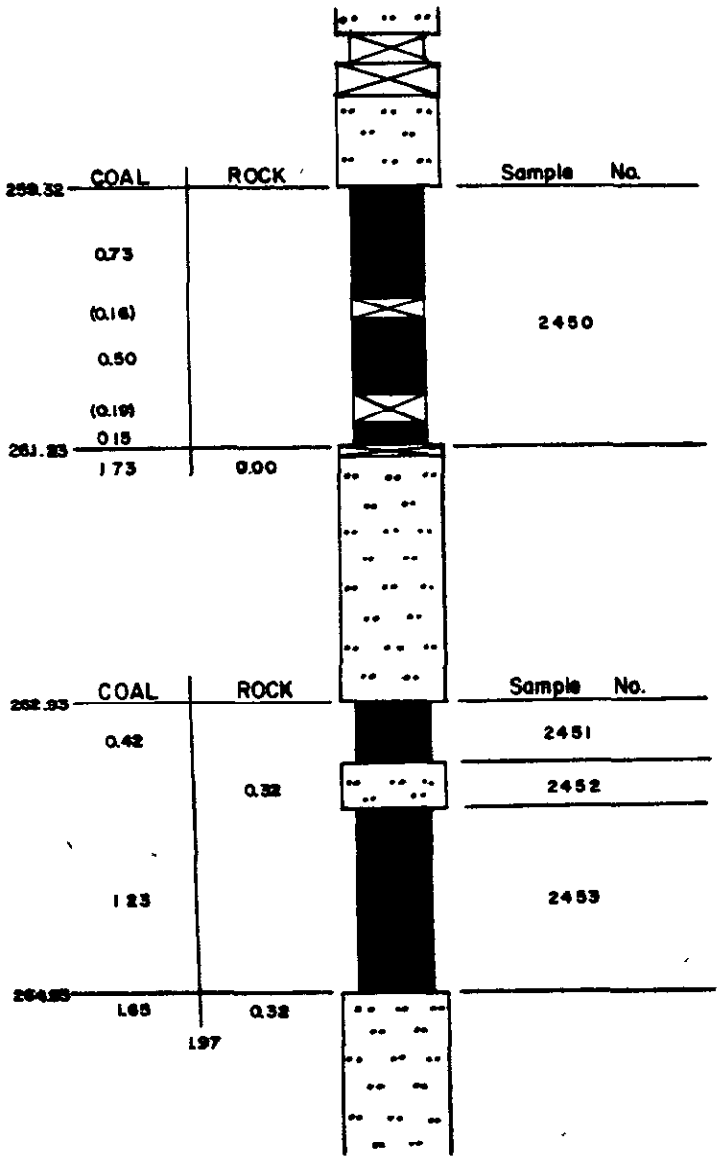
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1:50

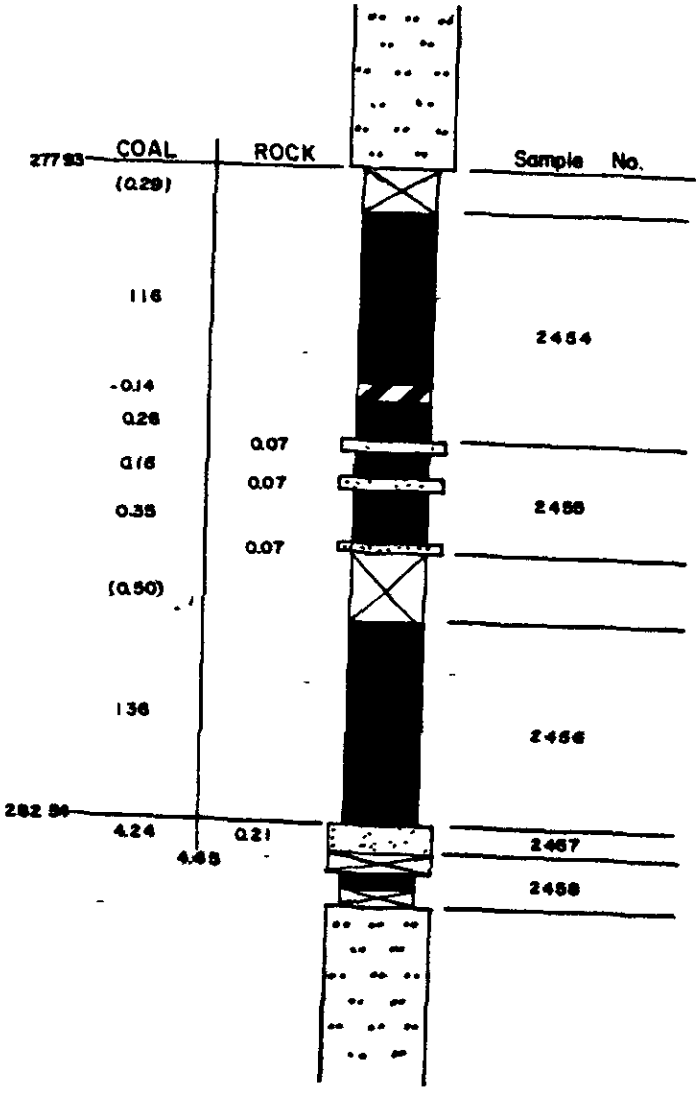
SEAM DETAIL

HOLE : MUD 81-04

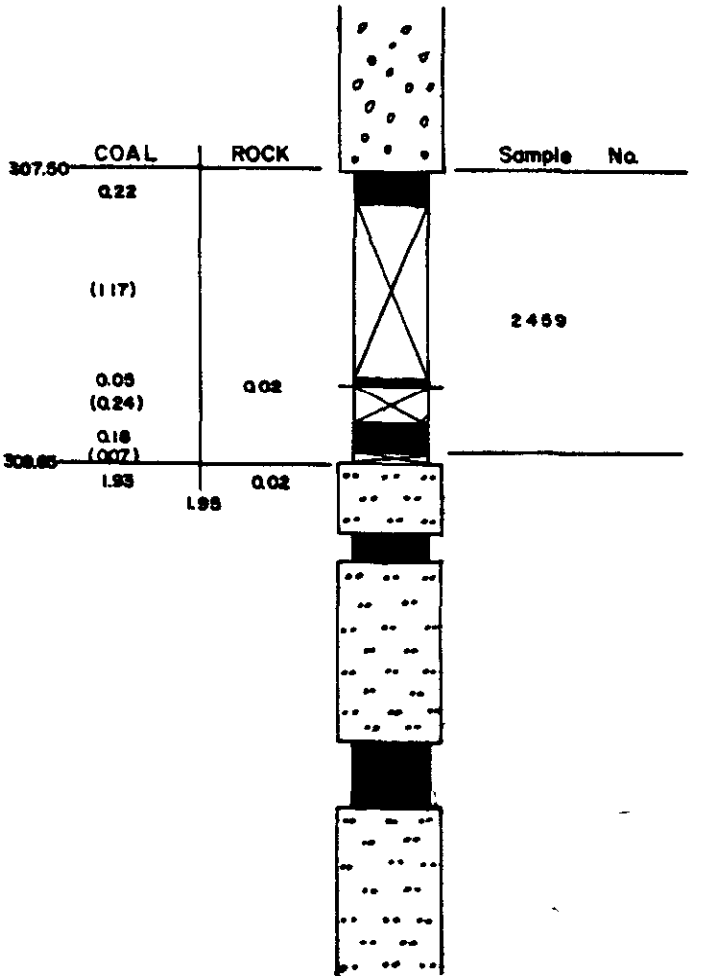
GETHING



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE: MUD 81-04
REVISED	GETHING
AUTHOR W. P	
DRAFTED S. E.	
SCALE 1:50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1969	HOLE : MUD 81-04
REVISED	
AUTHOR W. R.	GETHING
DRAFTED J. S. L.	
SCALE 1:50	



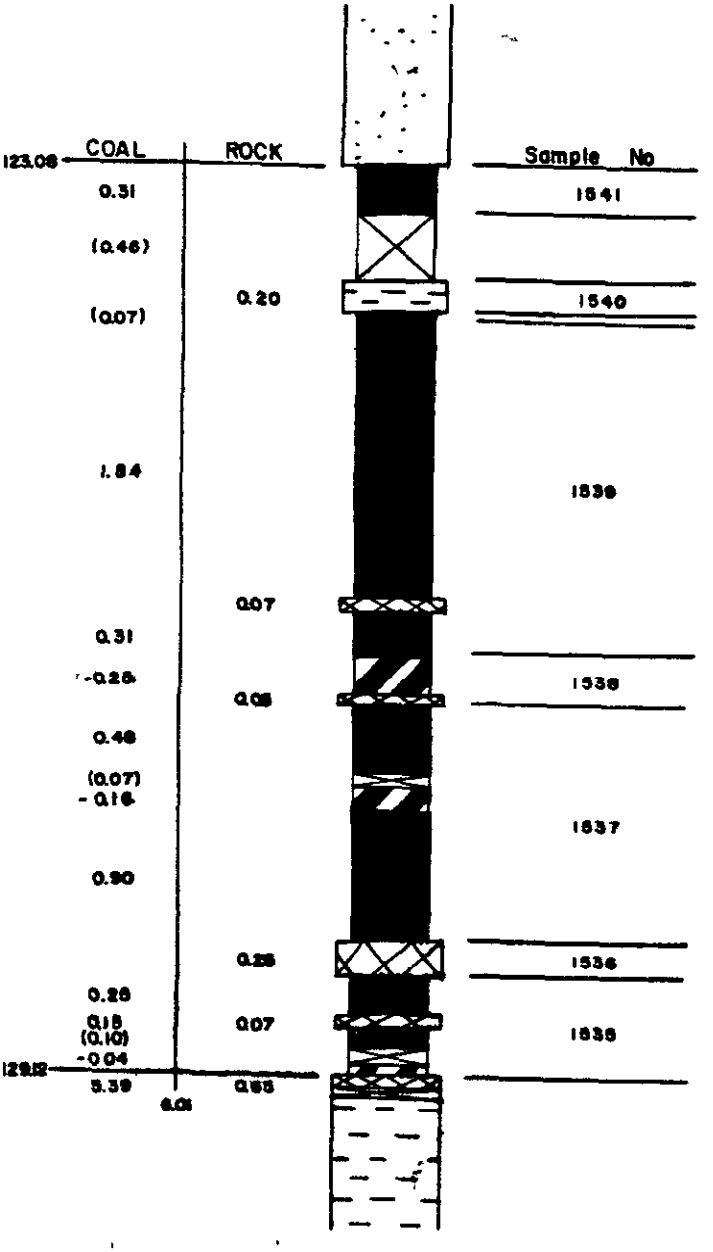
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-04

GETHING



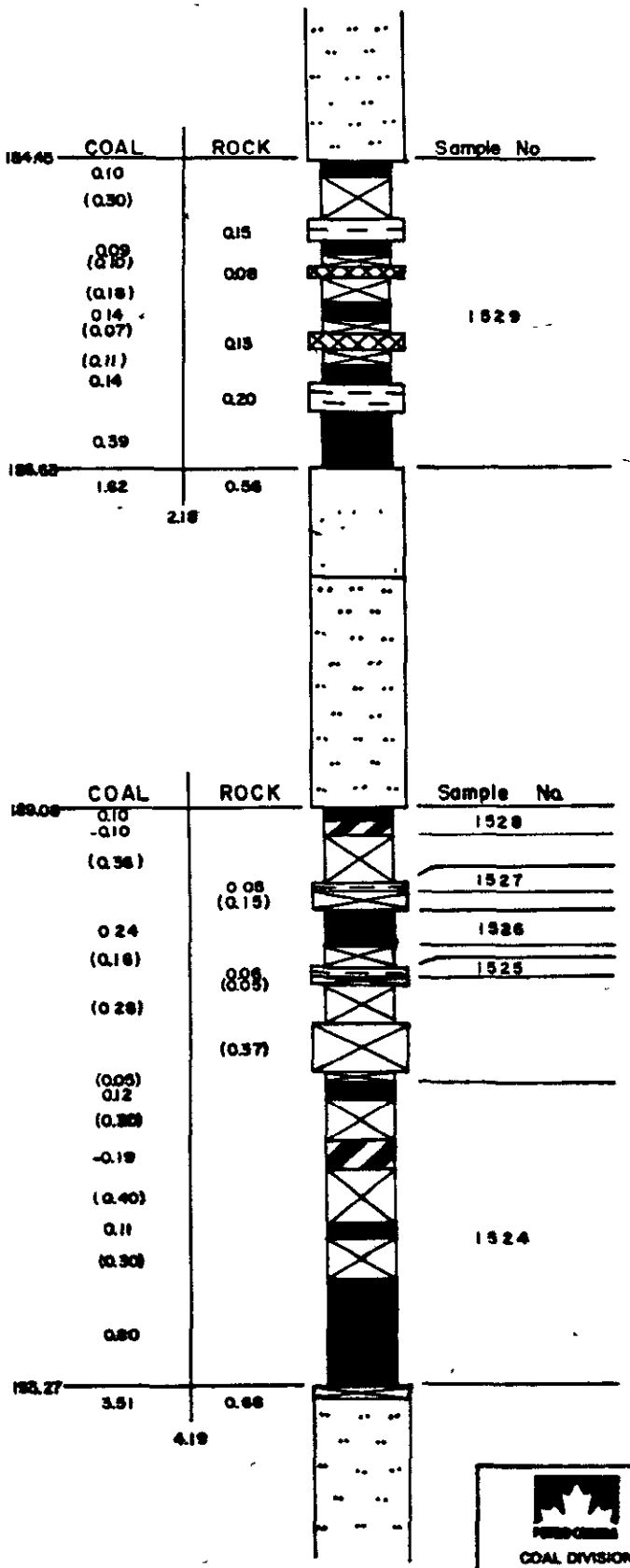
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.R
DRAFTED	S.K.
SCALE	1:50

SEAM DETAIL

HOLE · MUD 81-05

SEAM : B·9



COAL DIVISION

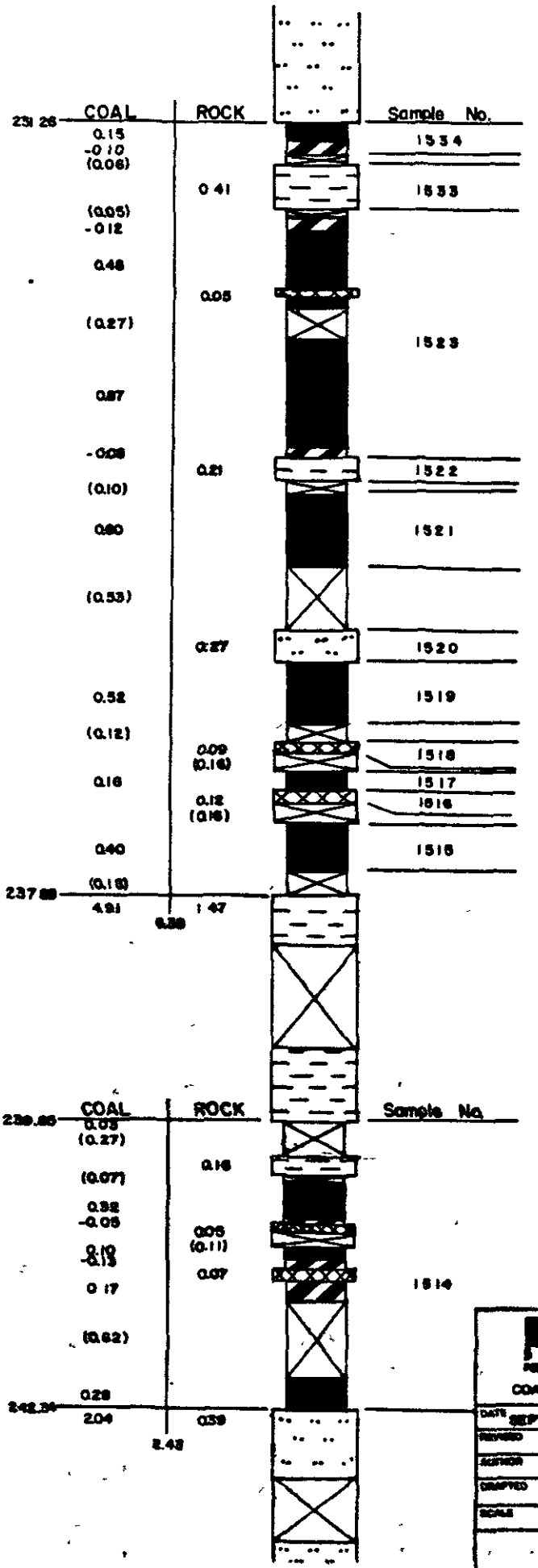
DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.P.
DRAFTED	S.E.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-05

SEAM : B 5

UPPER AND LOWER



COAL DIVISION

DATE SEPTEMBER, 1981

REVISED

AUTHOR W.P.

DRAFTED S.K.

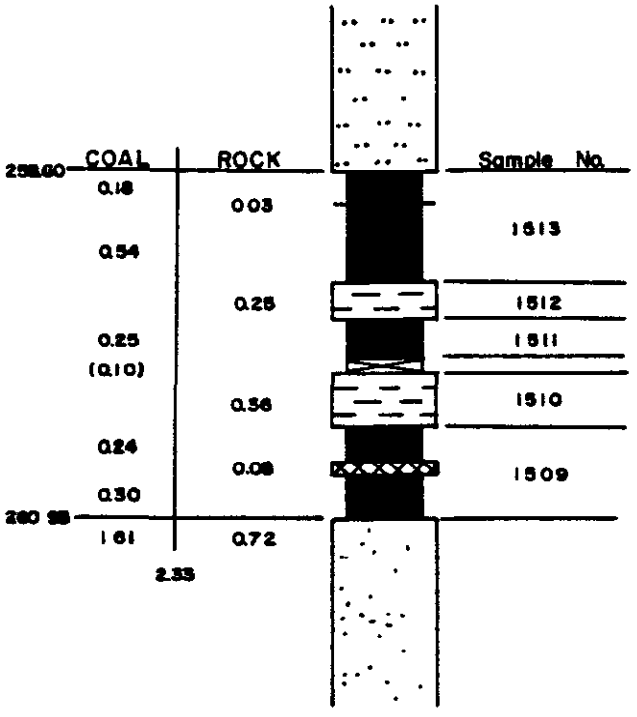
SCALE 1:60

SEAM DETAIL

HOLE MUD 81-05

SEAM : B4

UPPER AND LOWER



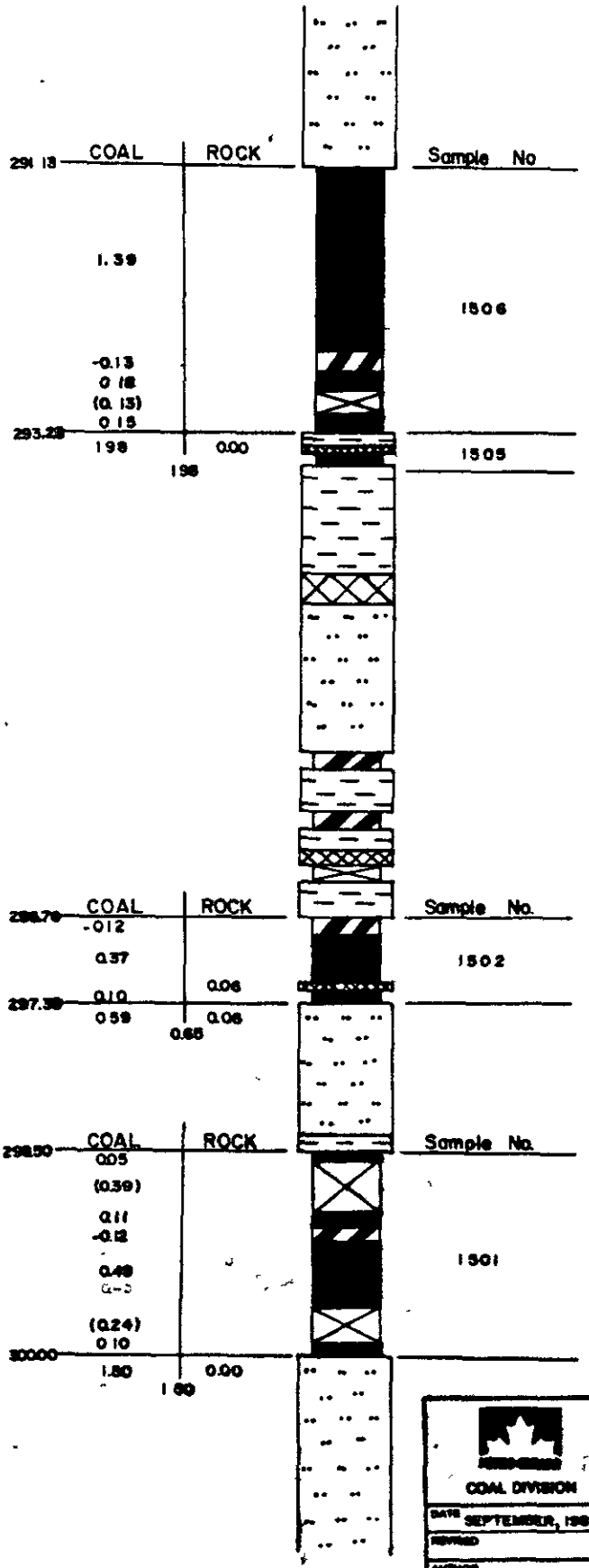
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. K.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-05

SEAM : B3



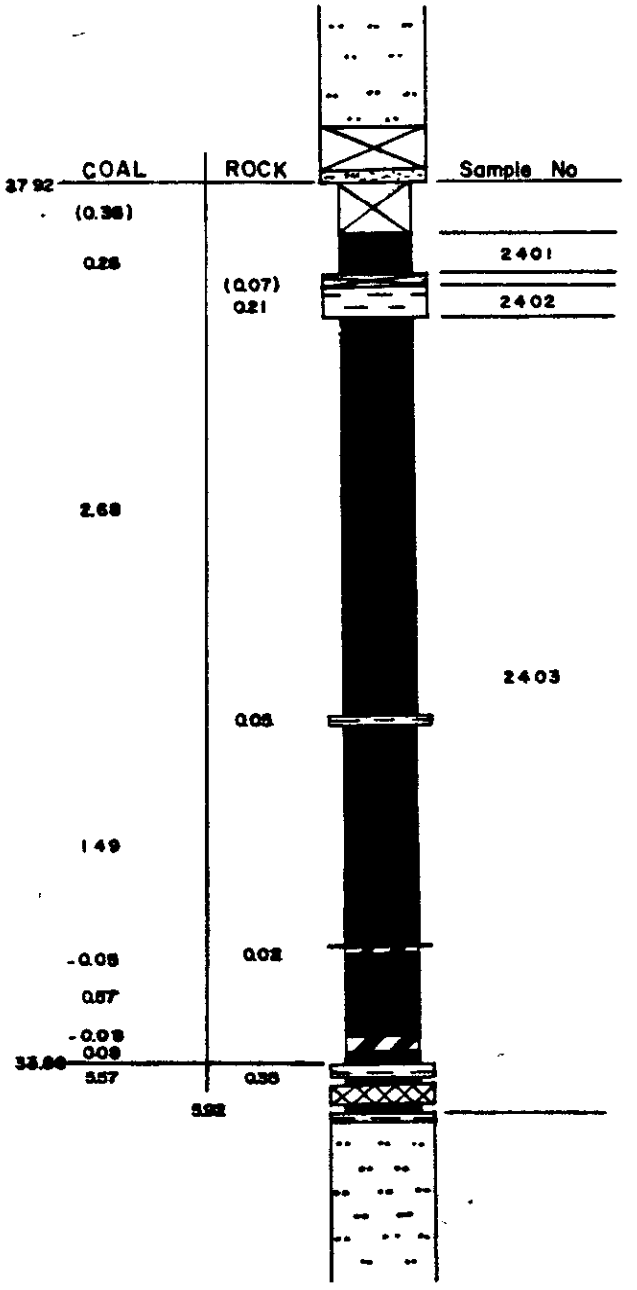
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAWER	S. K.
SCALE	1:50

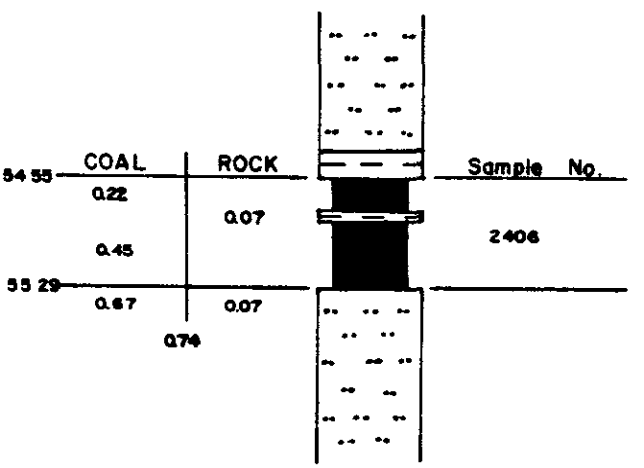
SEAM DETAIL

HOLE : MUD 81-05

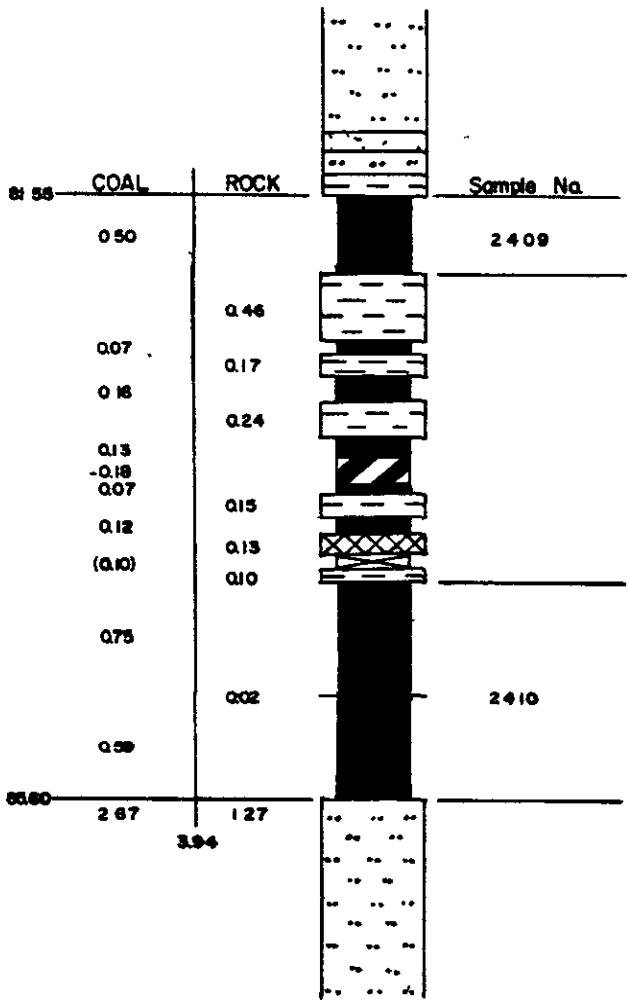
SEAM: B 2(1), B1 (u & l)



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-06
REVISED	
AUTHOR W.P.	SEAM : B9
DRAFTED S.B.	
SCALE 1:50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-06
REVISED	
AUTHOR W. P.	SEAM : B 7
DRAFTED S. K.	
SCALE 1:50	



COAL DIVISION

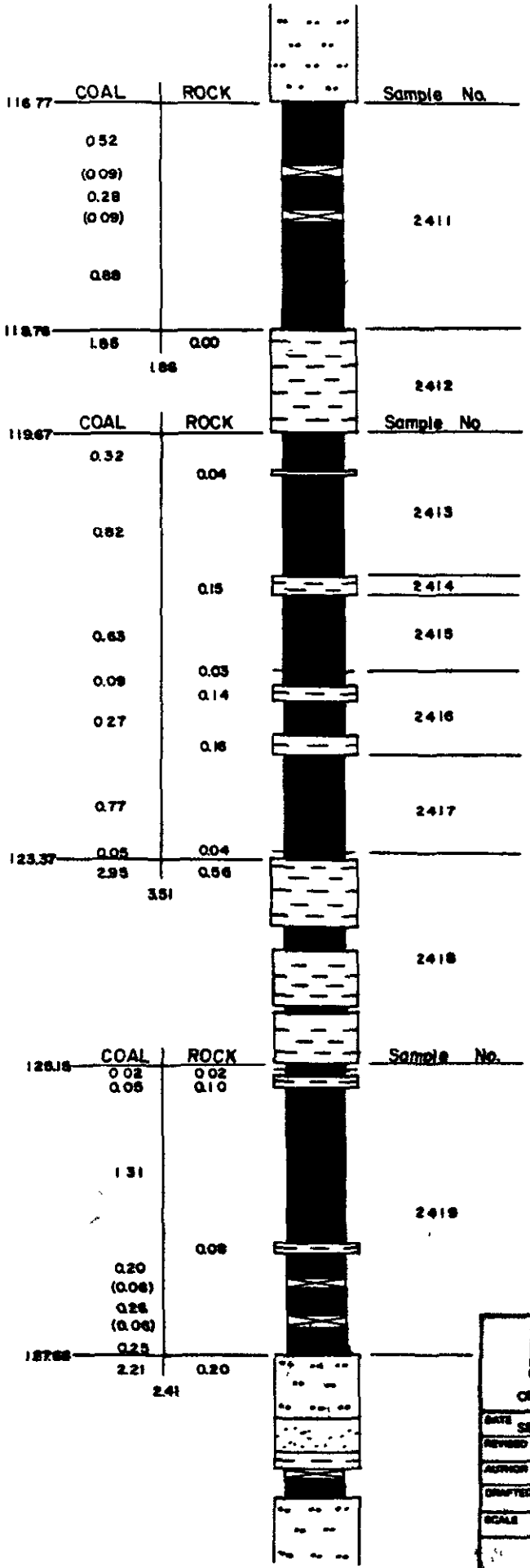
DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.F.
DRAFTED	S.E.
SCALE	1:50

SEAM DETAIL

HOLE = MUD 81-06

SEAM: B5

UPPER AND LOWER



COAL DIVISION

DATE SEPTEMBER, 1991

REVISED

AUTHOR W.P.

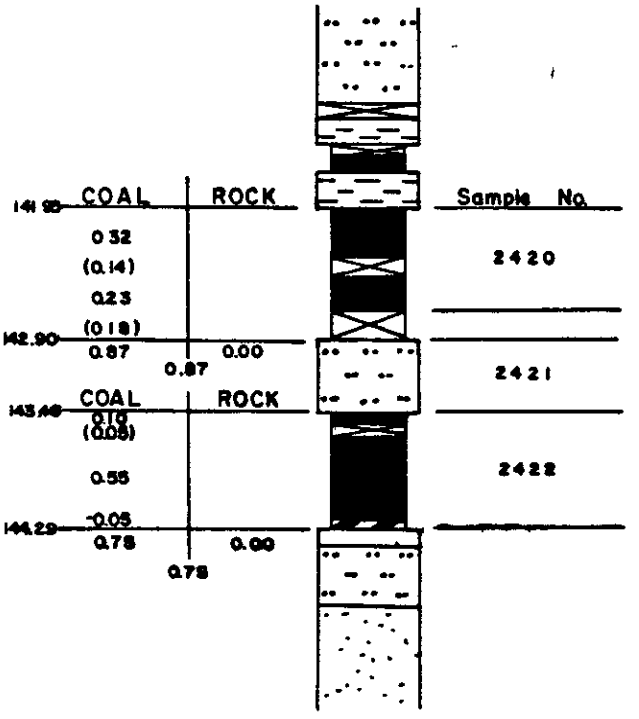
DRAFTED S.K.

SCALE 1:50

SEAM DETAIL

HOLE : MUD 81-06

SEAM : B4



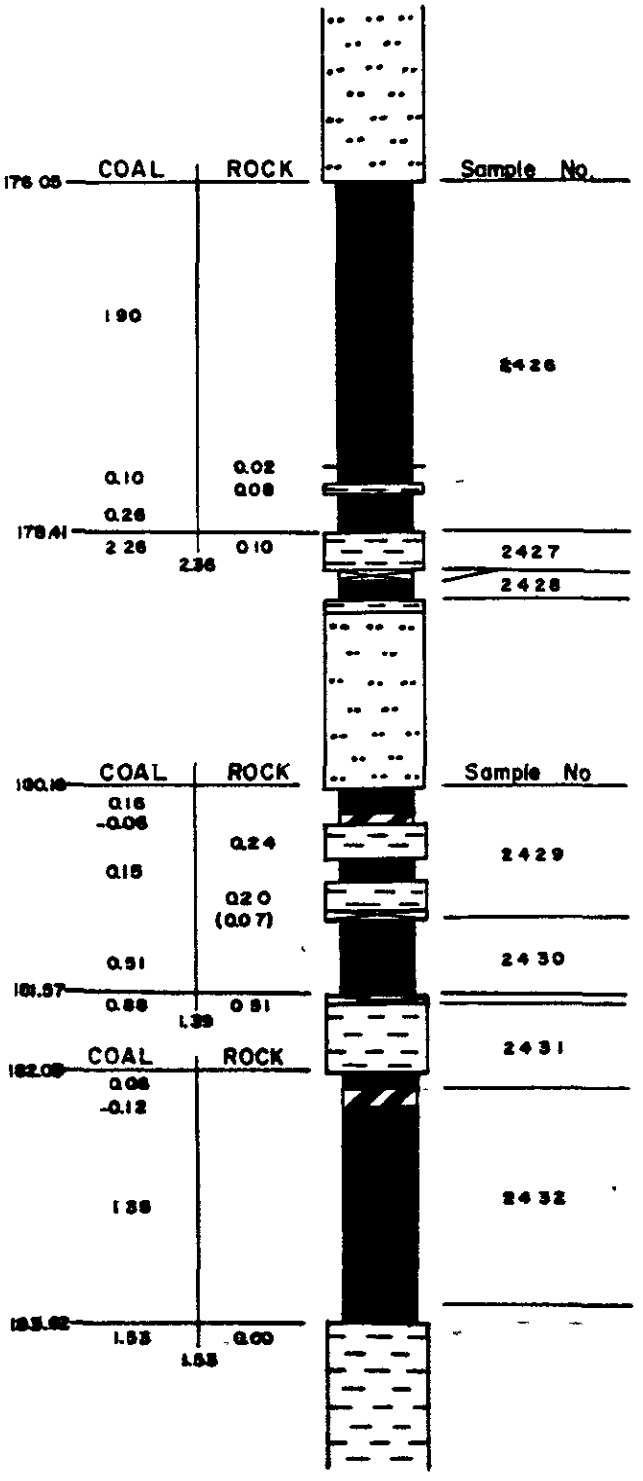
COAL DIVISION

DATE	SEPTEMBER, 1988
REVISED	
AUTHOR	W. P.
DRAFTED	S. K.
SCALE	1:50

SEAM DETAIL

HOLE : MUD 81-06

SEAM : B 3



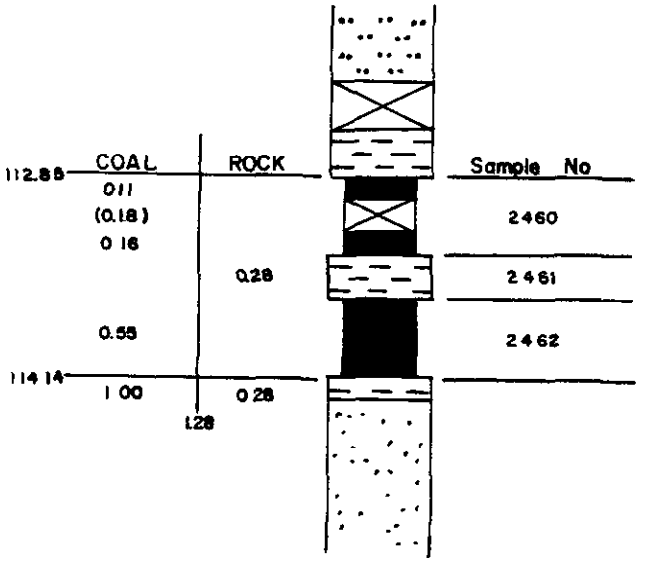
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P.
DRAFTED	S. R.
SCALE	1:60

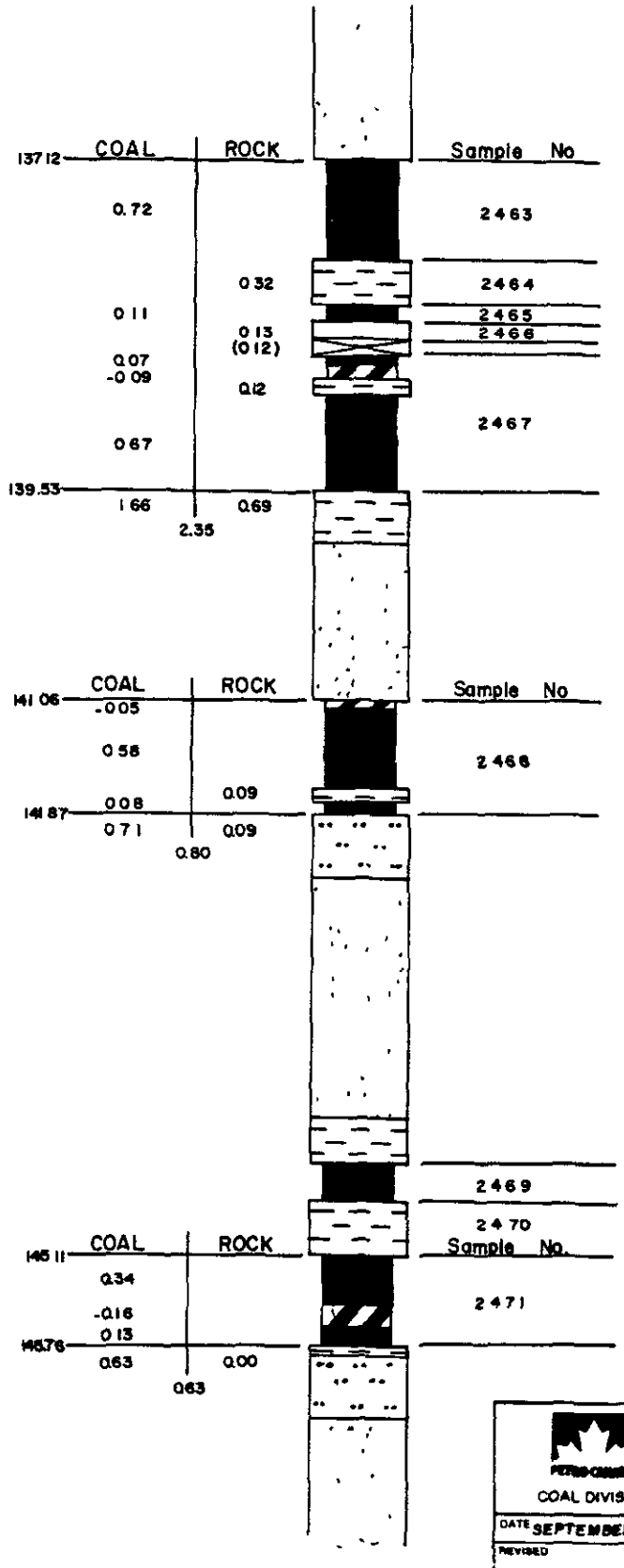
SEAM DETAIL

HOLE : MUD 81-06

SEAM: B2(I), B1(u81)



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-07
REVISED	
AUTHOR W P	GETHING
DRAFTED S. K	
SCALE 1:50	



PETRO-CANADA

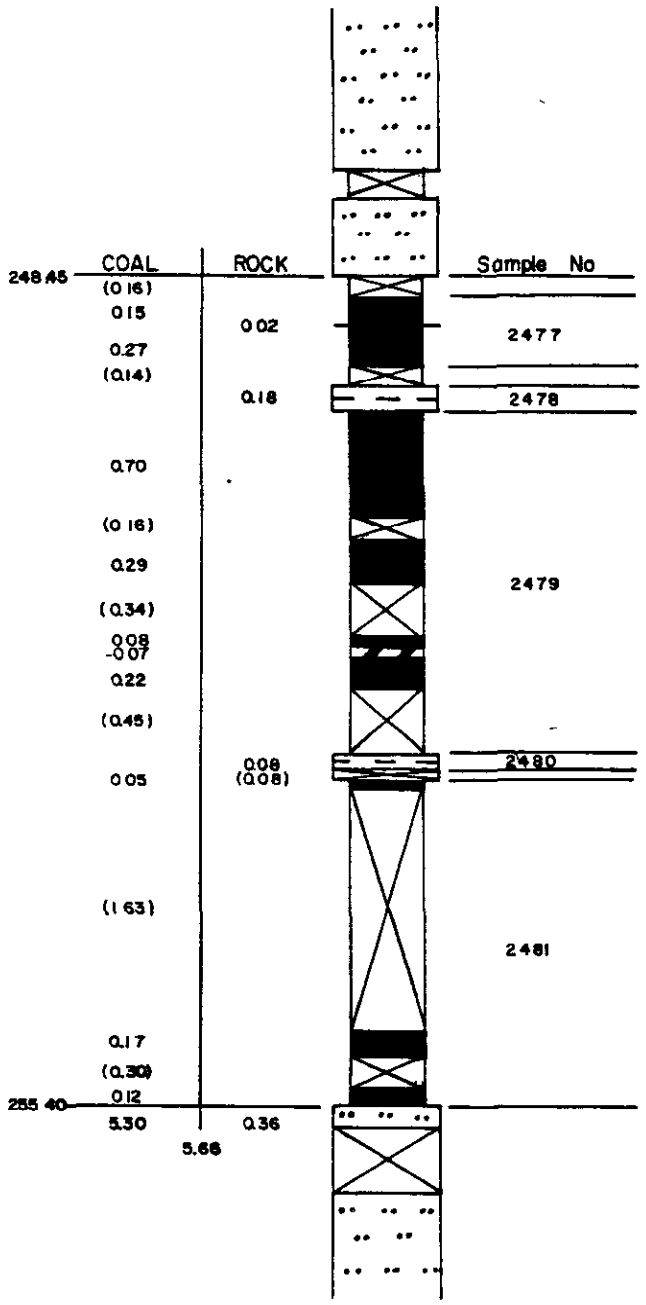
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S K
SCALE	1:50

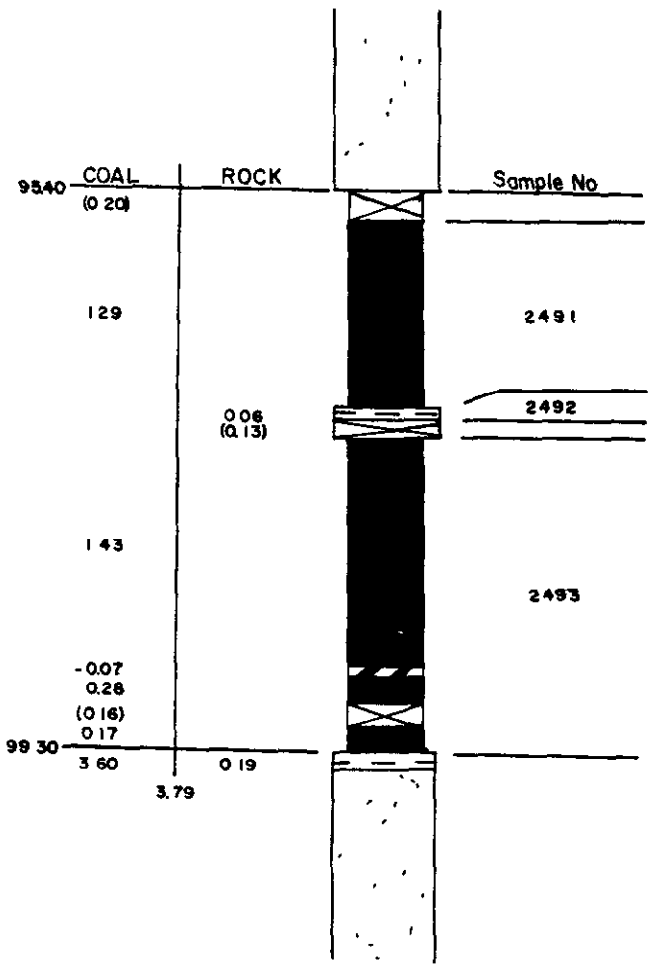
SEAM DETAIL

HOLE · MUD 81-07

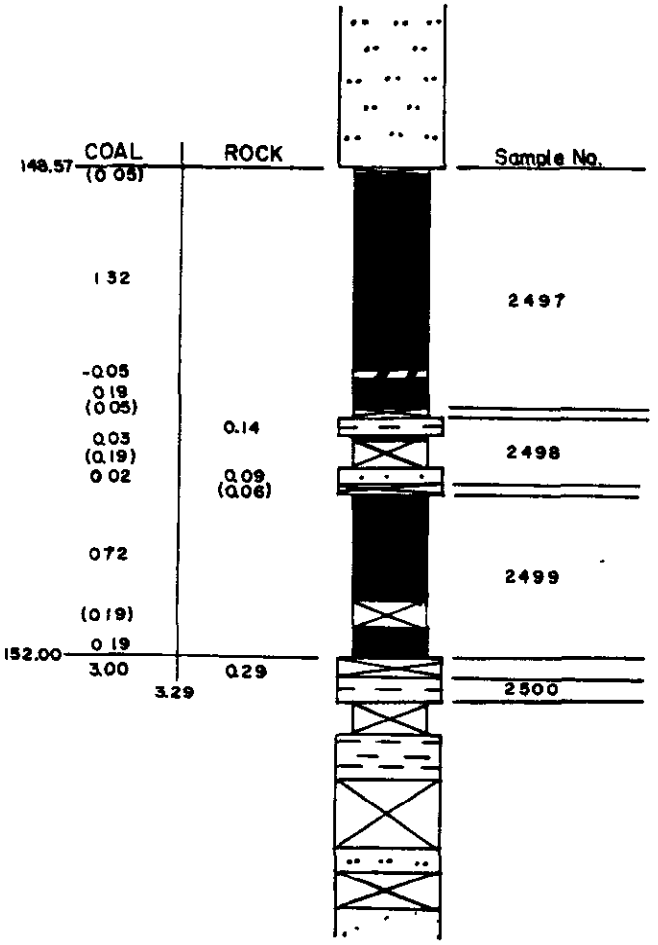
GETHING



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 81-08
REVISED	
AUTHOR W. P	
DRAFTED S. K	SEAM · B9
SCALE 1:50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-09
REVISED	
AUTHOR W. P	
DRAFTED S K	SEAM · B9
SCALE 1:50	



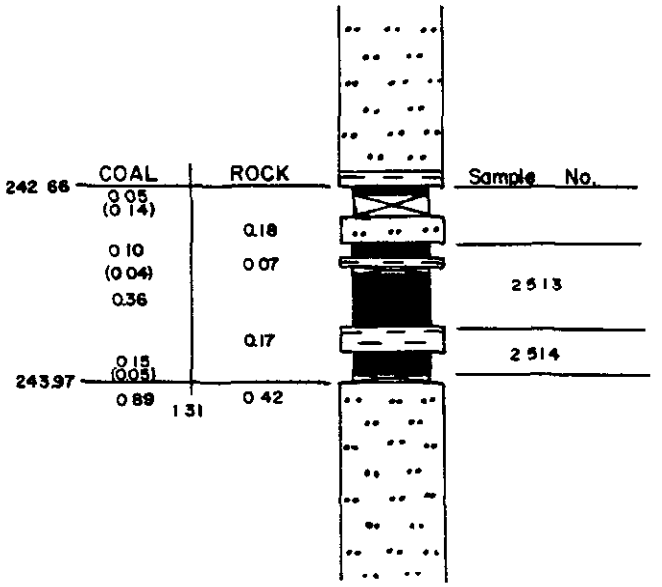
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S.K
SCALE	1 50

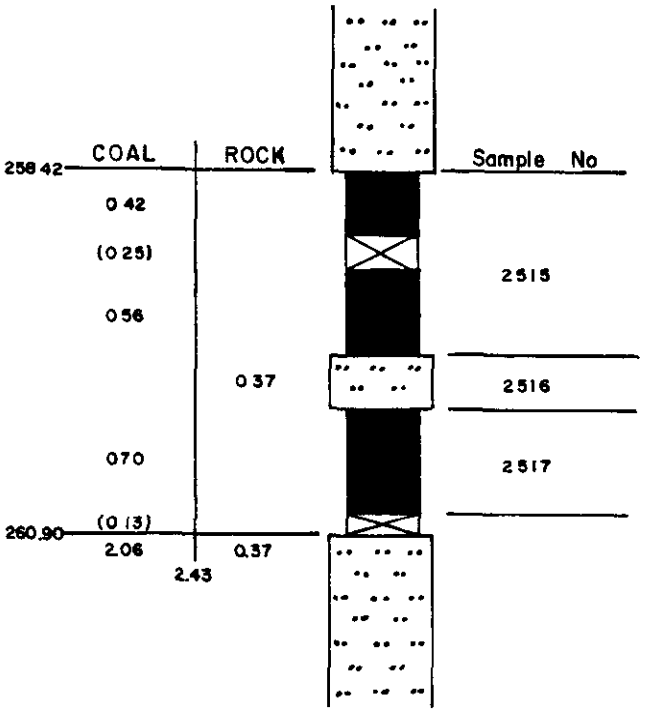
SEAM DETAIL

HOLE : MUD 81-09

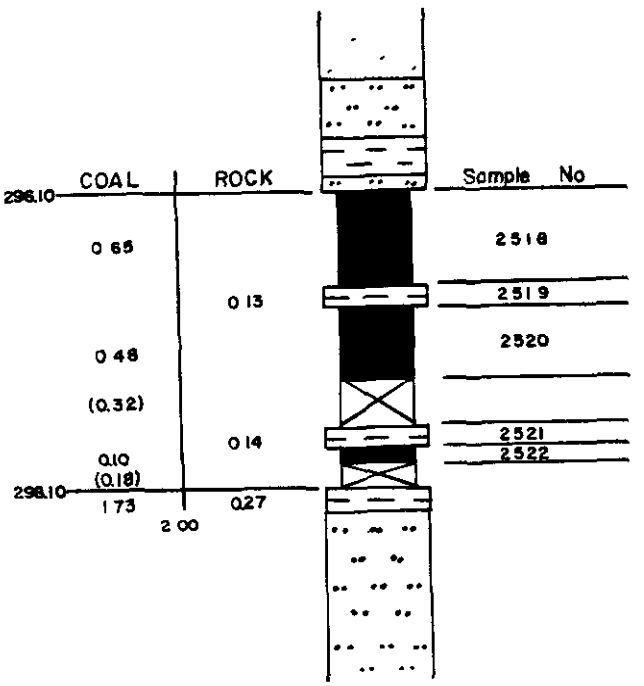
SEAM : B7 R



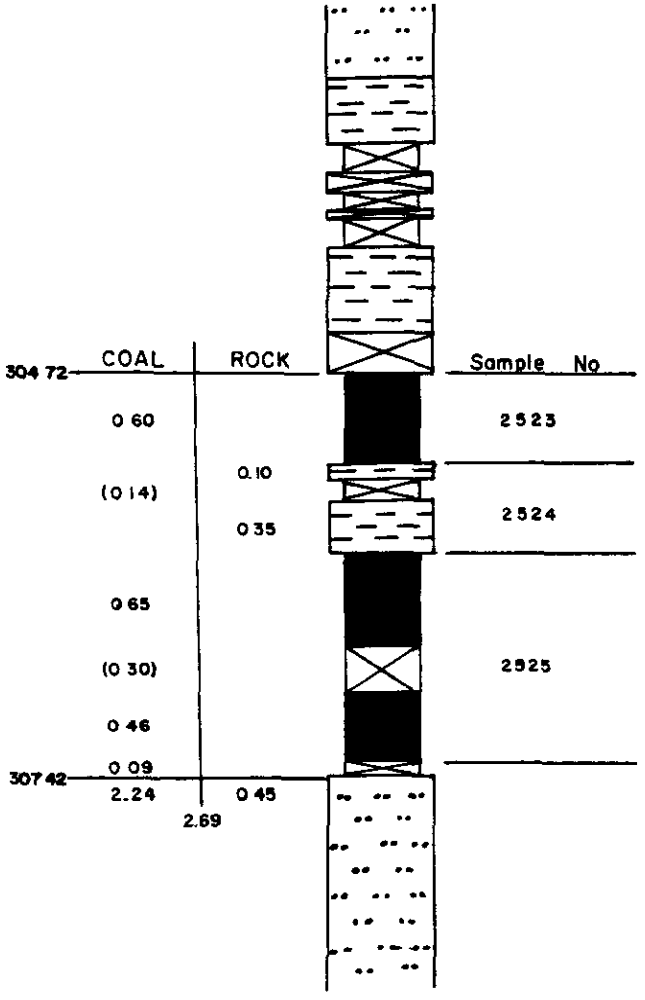
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 81-09
REVISED	
AUTHOR W P	SEAM · B 5
DRAFTED S K	
SCALE 1 50	



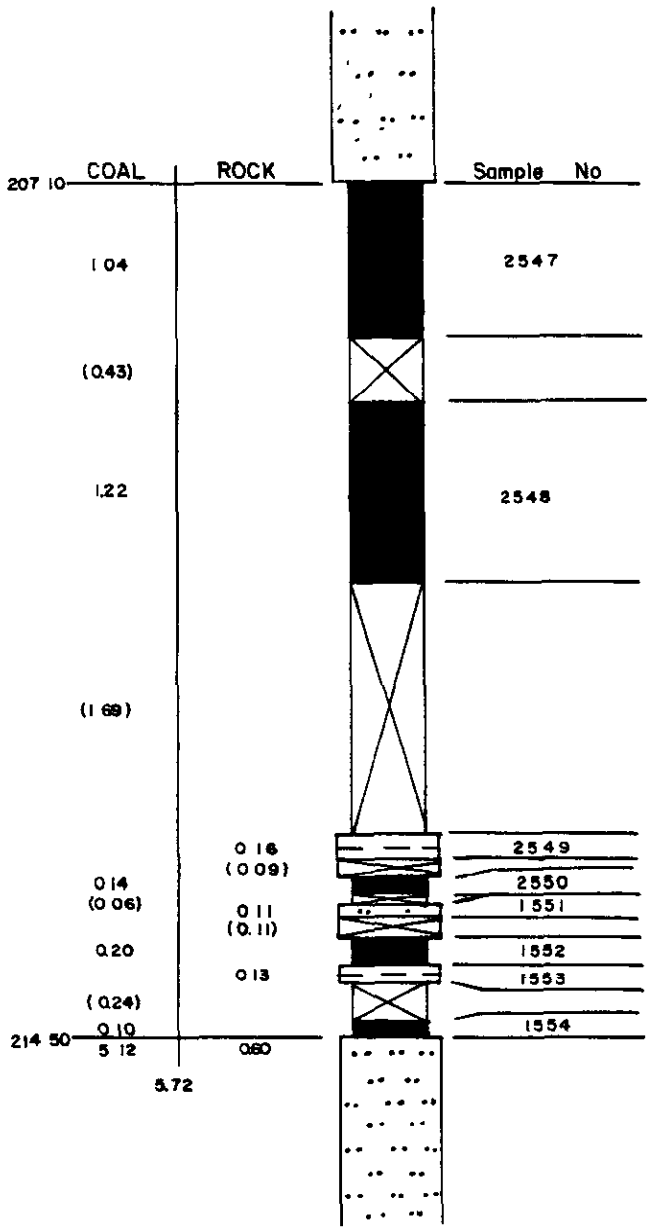
COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1980	HOLE : MUD 81-09
REVISED	
AUTHOR W. P	SEAM B 4
DRAFTED S. K	
SCALE 1:50	



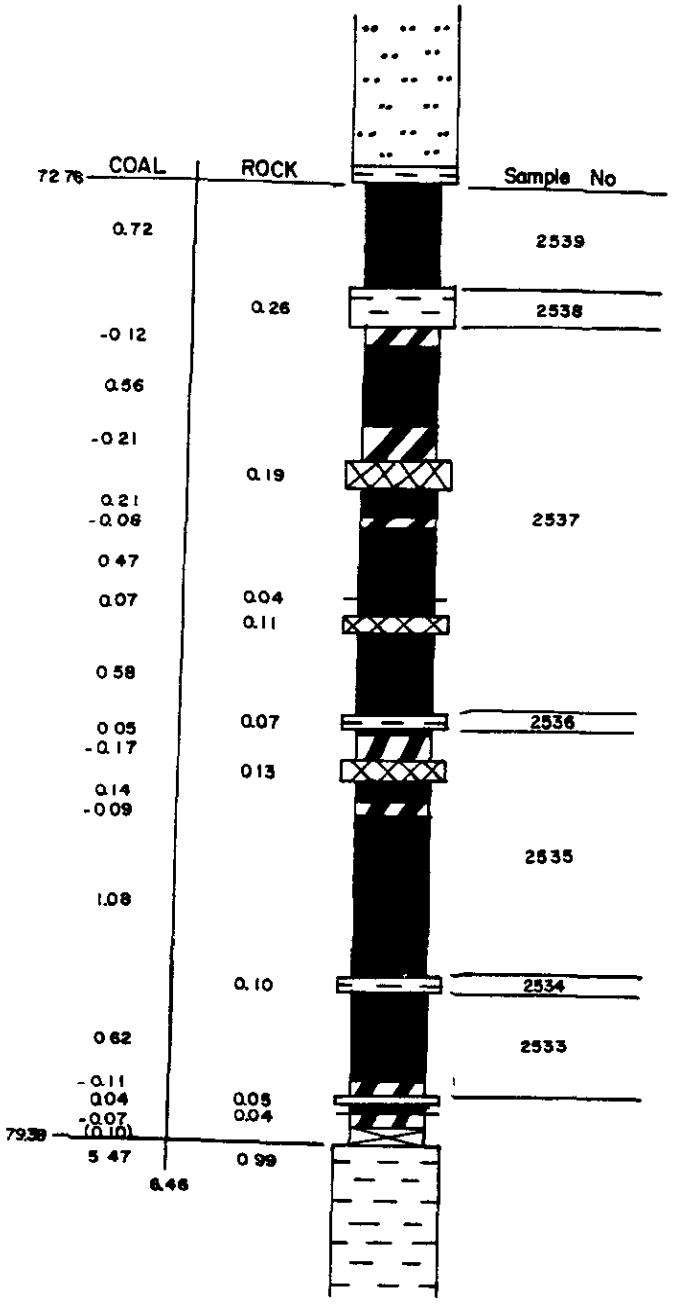
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 81-09
REVISED	
AUTHOR W P	SEAM: B 3
DRAFTED S K	
SCALE 1: 50	



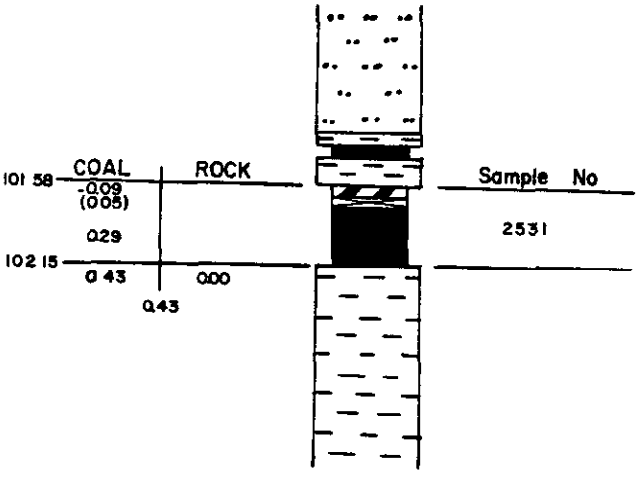
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 81-09
REVISED	
AUTHOR W P	
DRAFTED S K	SEAM : B 1
SCALE 1 50	



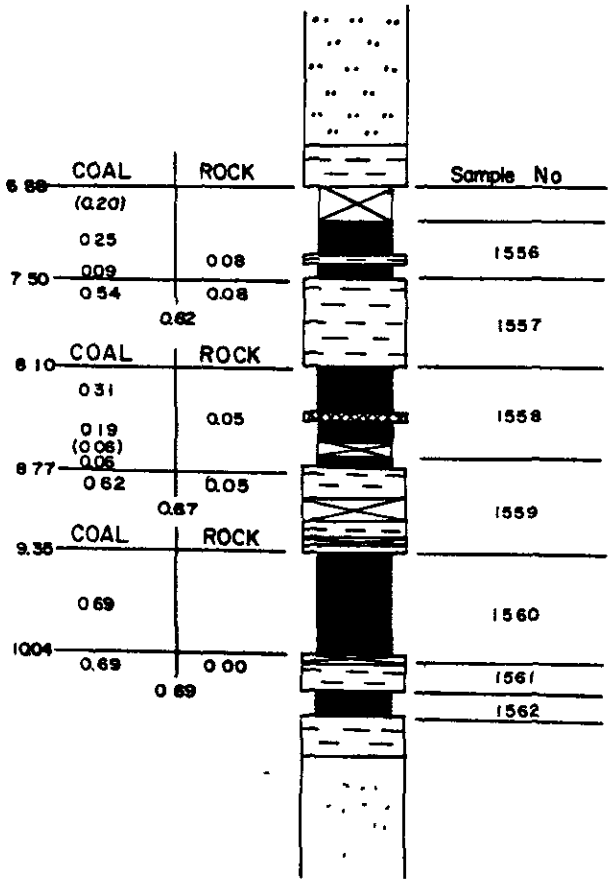
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 81-11
REVISED	
AUTHOR W P	SEAM B 9
DRAFTED S K.	
SCALE 1:60	



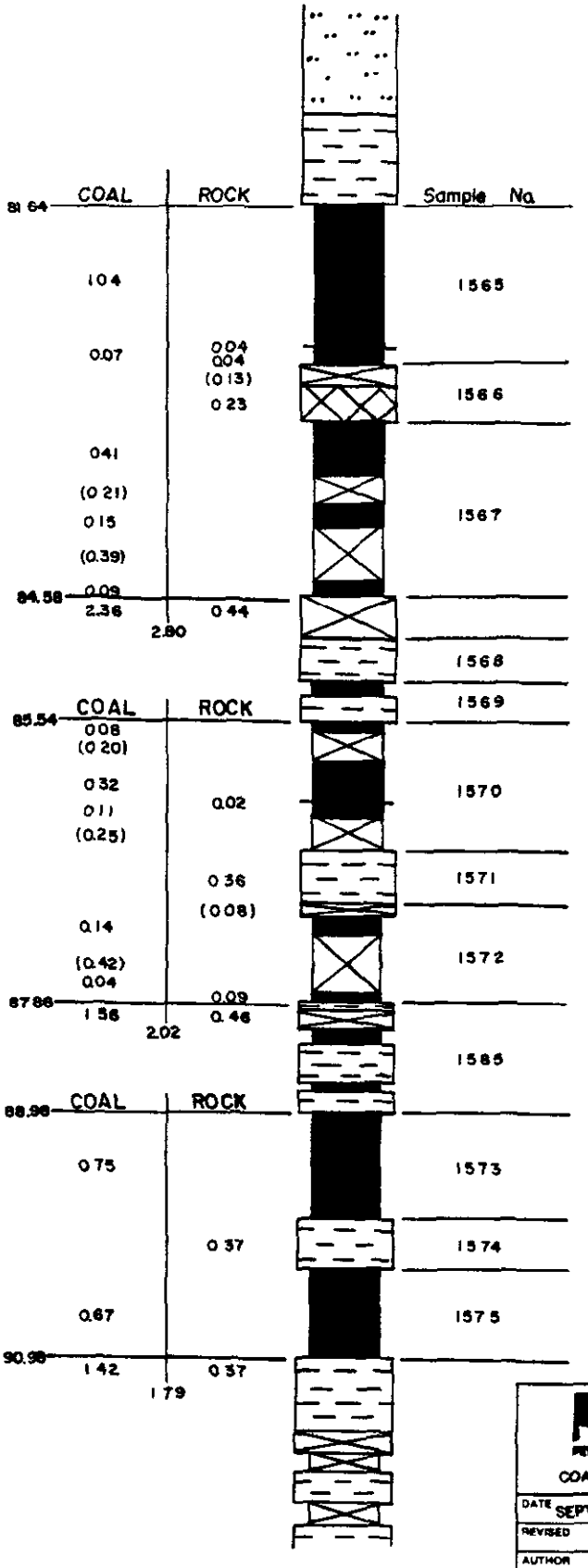
PITTSBURG COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 81-13
REVISED	
AUTHOR W. P	SEAM · B9
DRAFTED S. K	
SCALE 1:50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 81-13
REVISED	
AUTHOR W P	SEAM: B7
DRAFTED S K	
SCALE 1:50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 81-14
REVISED	
AUTHOR W. P	SEAM : B 7
DRAFTED S. K.	
SCALE 1:50	

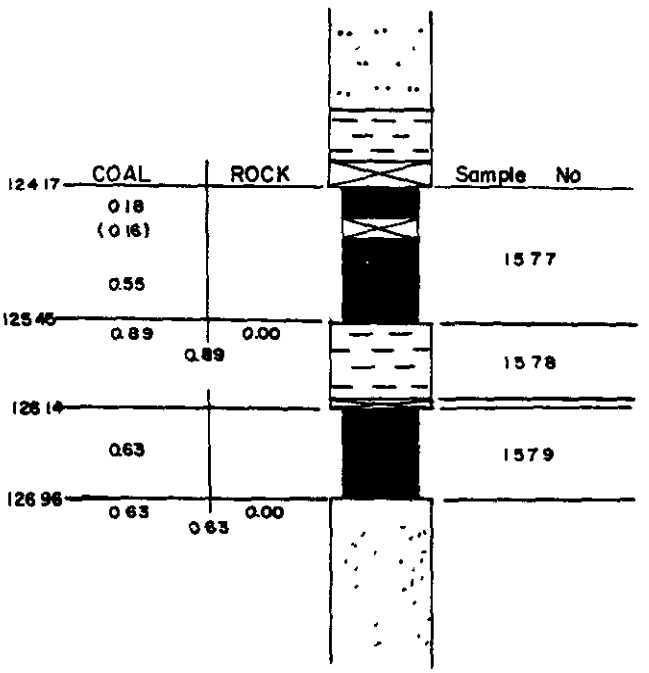


COAL DIVISION	
DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S K
SCALE	1 50

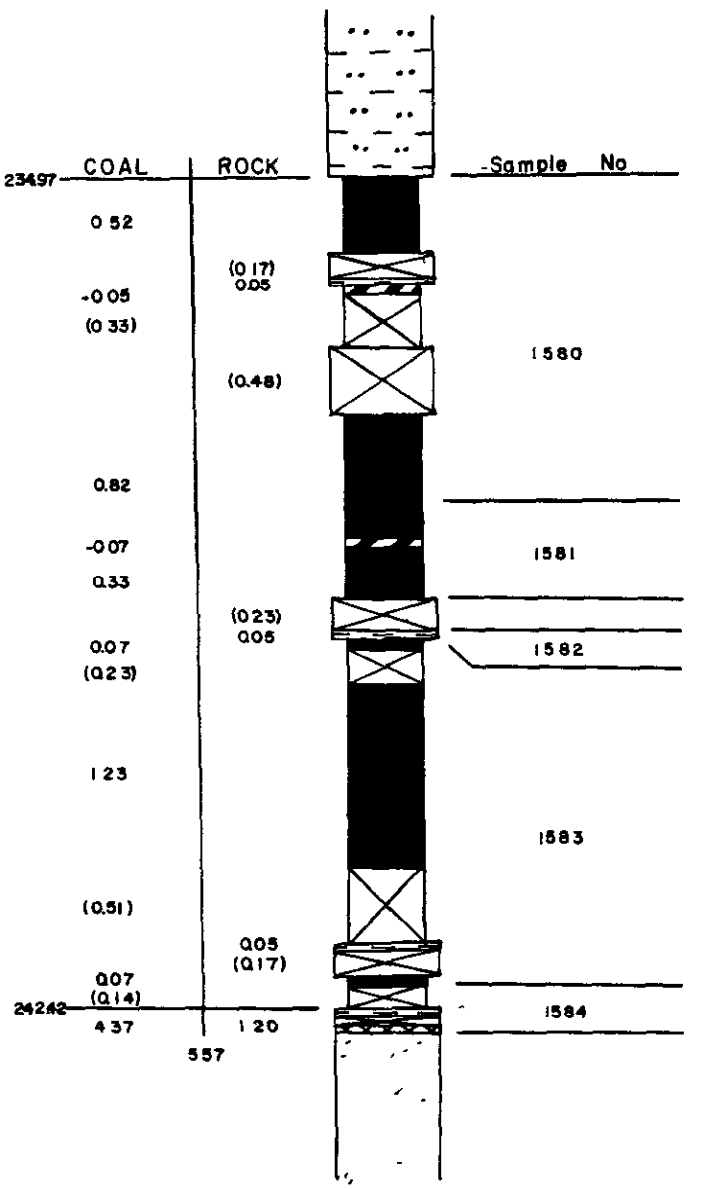
SEAM DETAIL

HOLE : MUD 81-14

SEAM : B4



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 81-14
REVISED	
AUTHOR W P	SEAM · B3
DRAFTED S K	
SCALE 1 50	



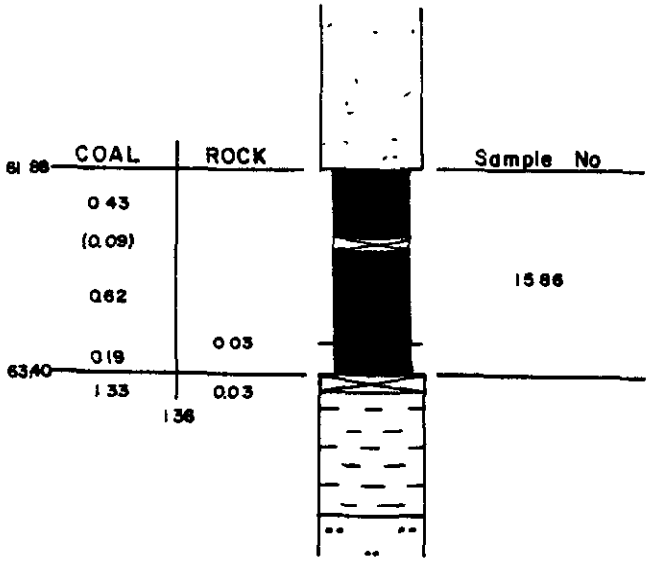
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S K
SCALE	1-50

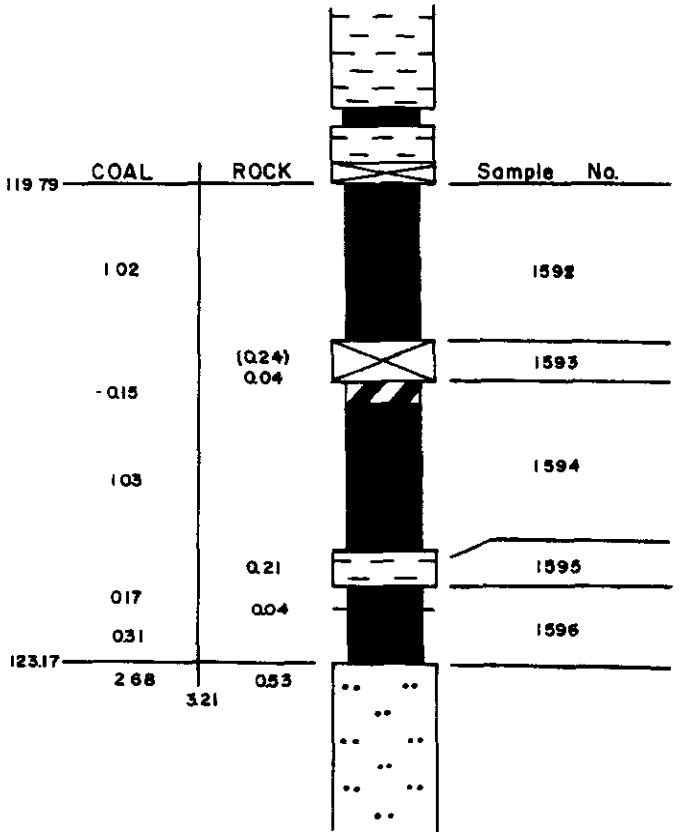
SEAM DETAIL

HOLE · MUD 81-15

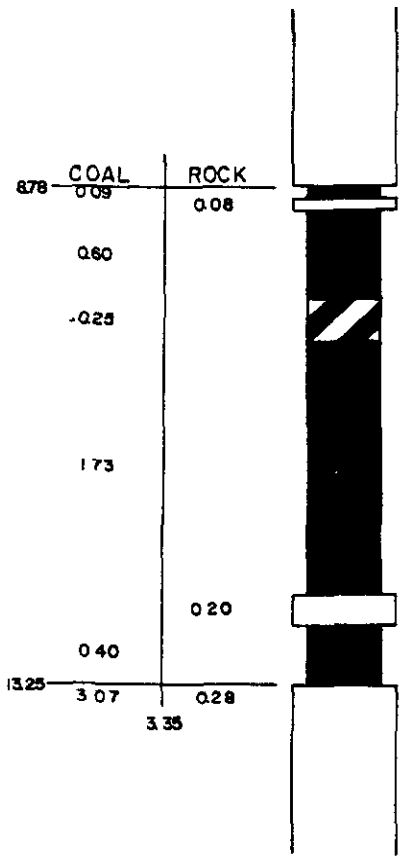
SEAM · B 9



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 81-16
REVISED	
AUTHOR W P	SEAM · B 9
DRAFTED S K.	
SCALE 1 50	

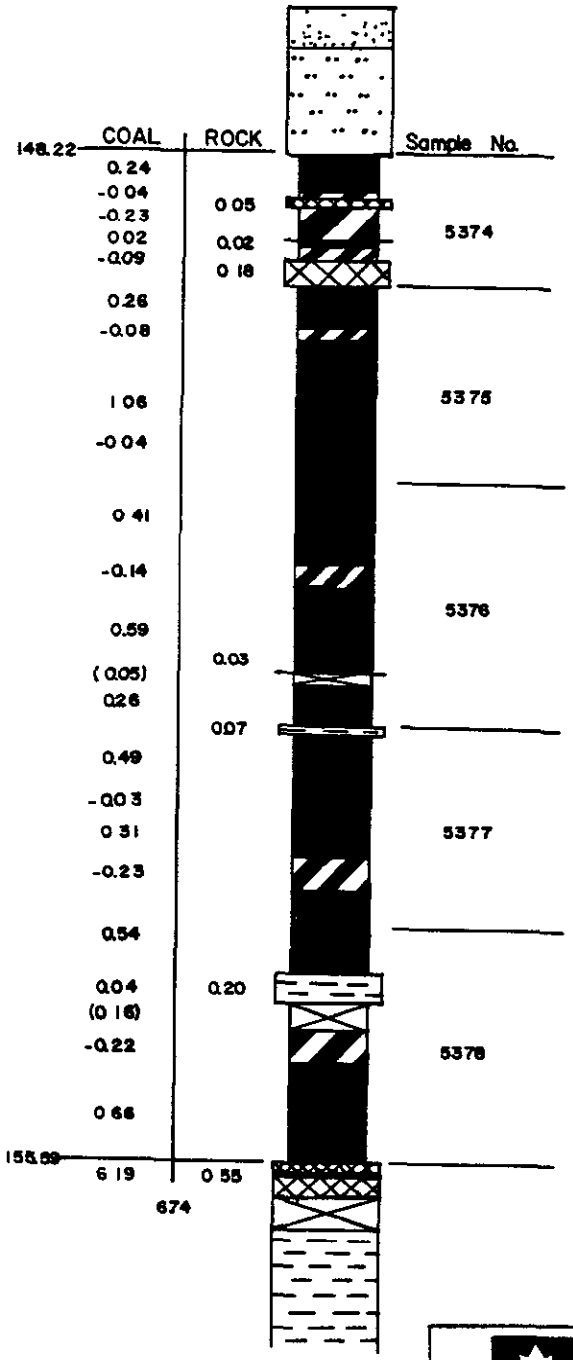


PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 81-16
REVISED	
AUTHOR W. P	SEAM B 7
DRAFTED S. K	
SCALE 1:50	



FROM GEOPYSICAL LOG

PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	MH 81-03
REVISED	
AUTHOR W.P.	SEAM · B9
DRAFTED S. K.	
SCALE 1:50	



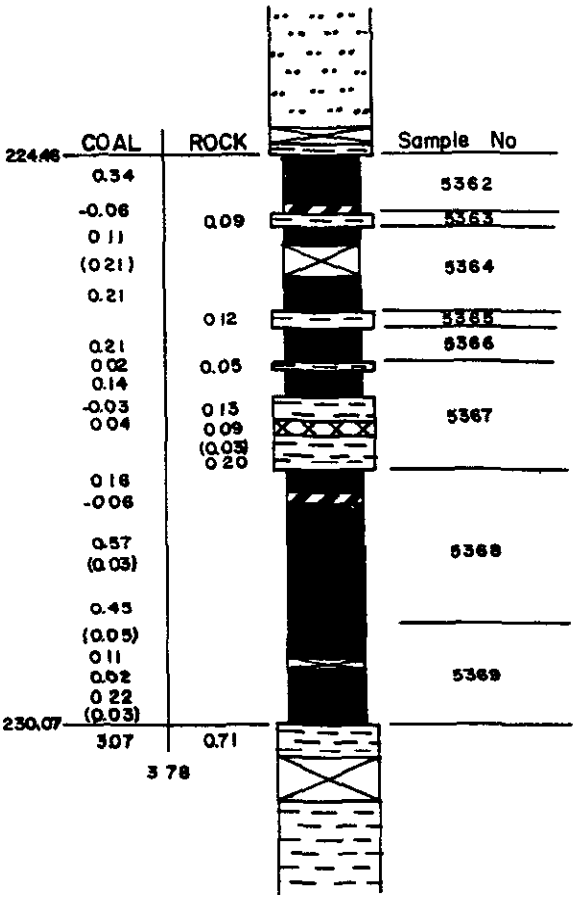
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. K.
SCALE	1:50

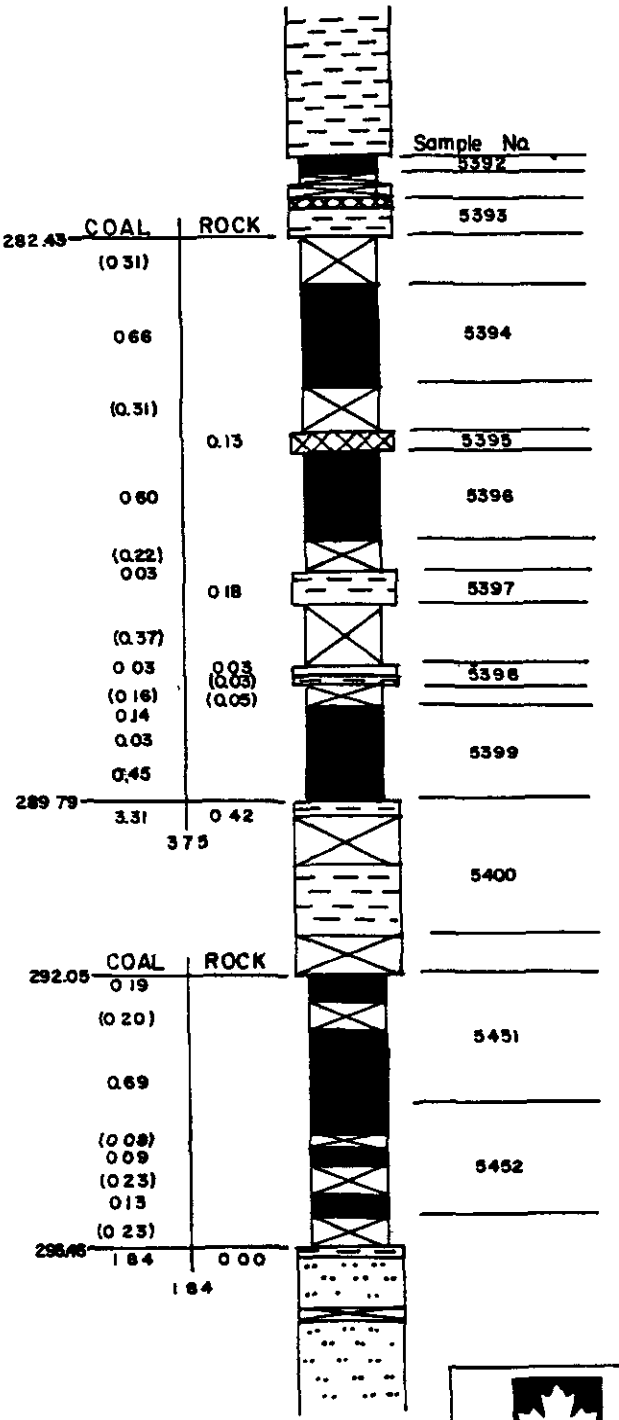
SEAM DETAIL

HOLE · MDD 80-10

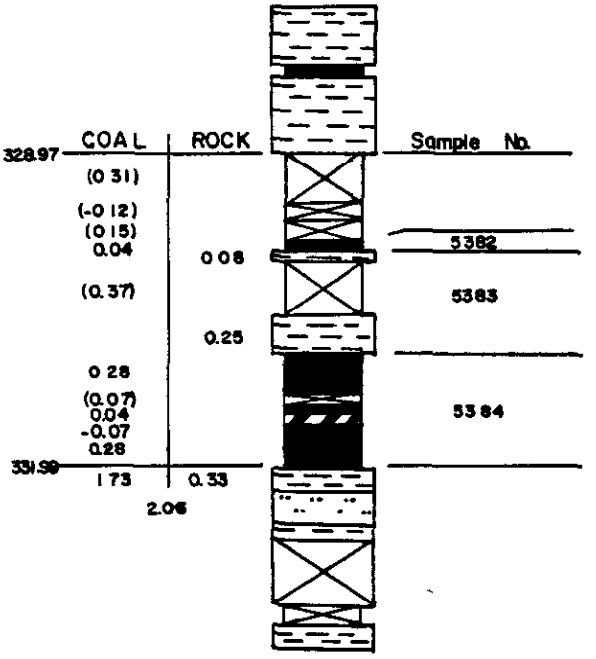
SEAM: B 9



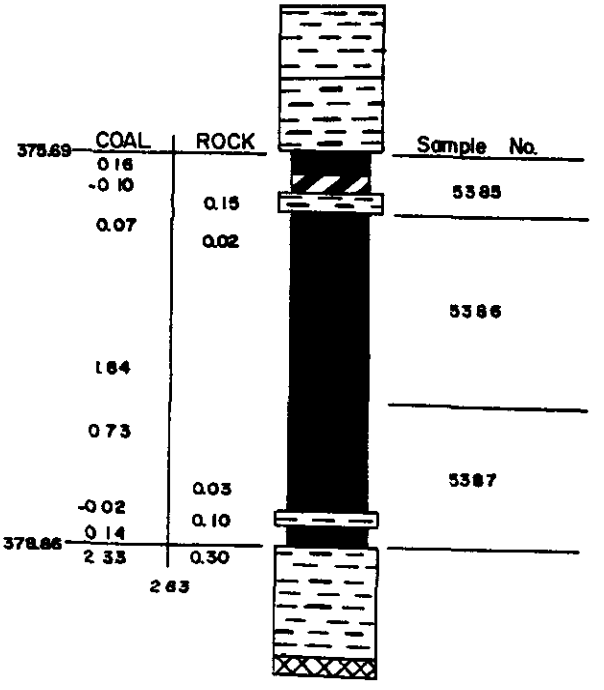
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE: MDD 80-10
REVISED	
AUTHOR W P	SEAM: B 5
DRAFTED S. K	
SCALE 1:50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE: MDD 80-10
REVISED	
AUTHOR W P	SEAM: B 4
DRAFTED S. K	
SCALE 1:50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MDD 80-10
REVISED	
AUTHOR W. P	SEAM: B 3
DRAFTED S. K.	
SCALE 1:50	



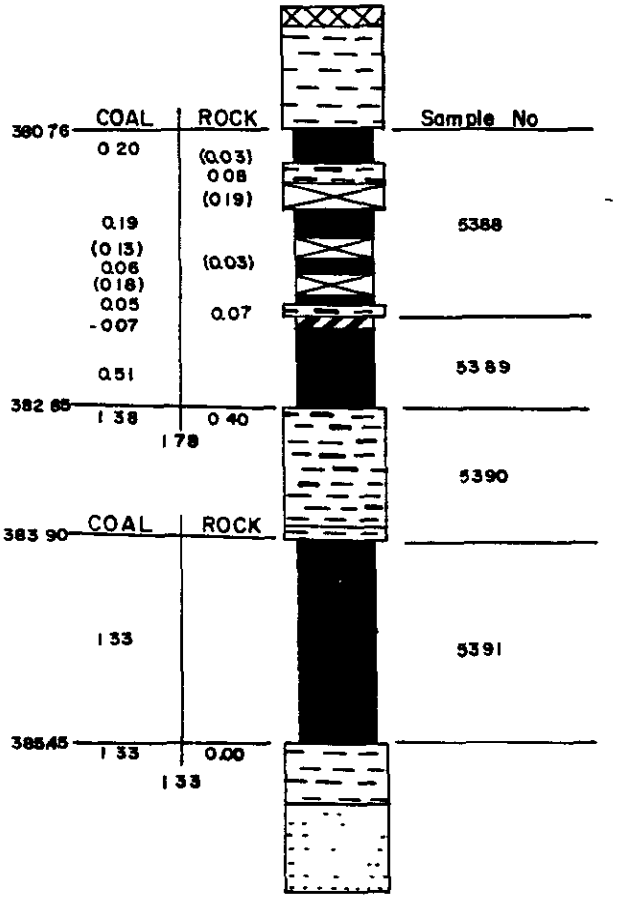
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.P
DRAFTED	S. K.
SCALE	1 50

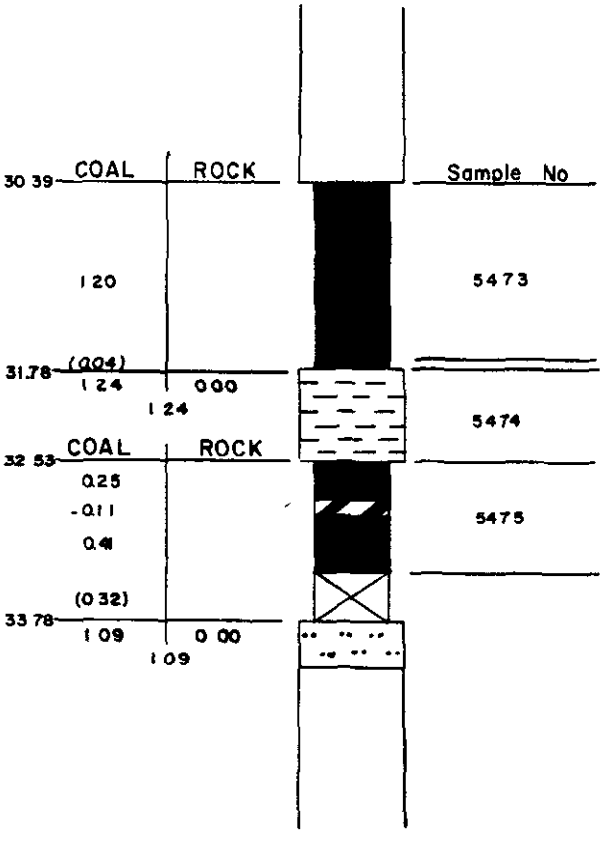
SEAM DETAIL

HOLE MDD 80-10

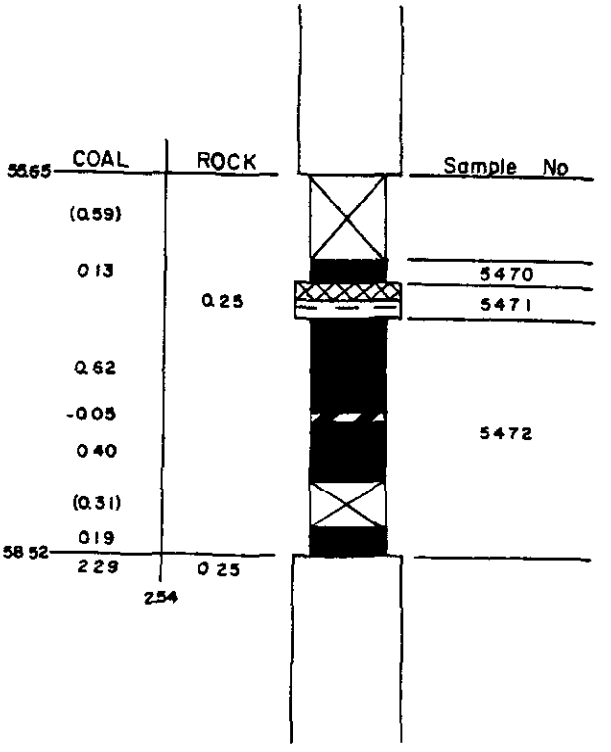
SEAM: B 2



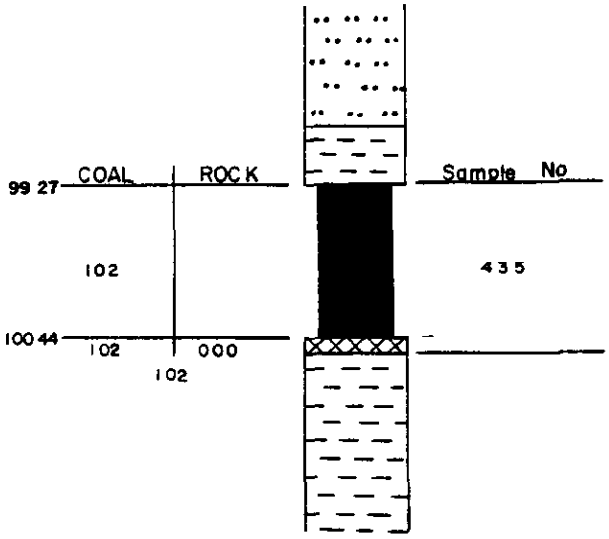
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MDD 80-10
REVISED	
AUTHOR W P	SEAM B 1
DRAFTED S K	
SCALE 1 50	



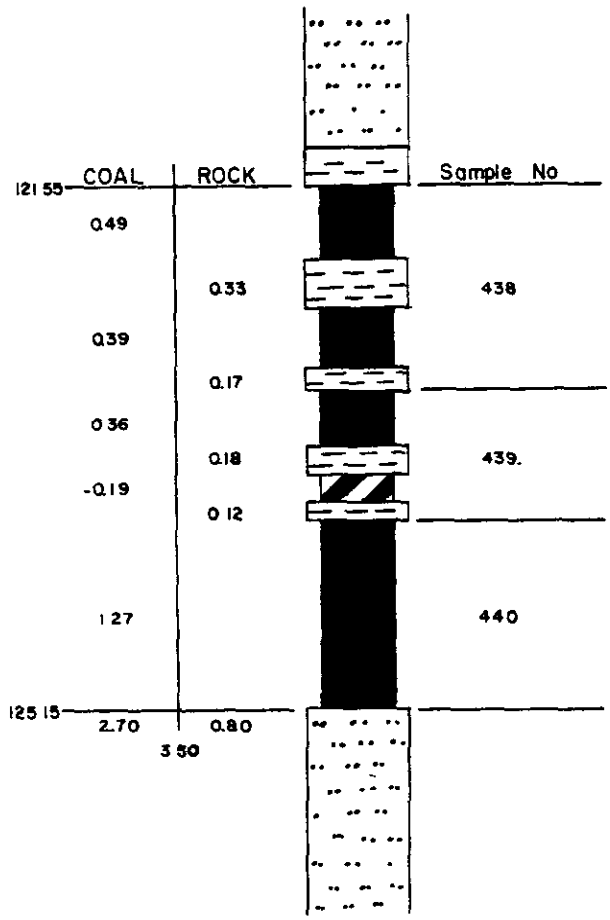
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	MRC 80-75
REVISED	SEAM B4
AUTHOR W P	
DRAFTED S K	
SCALE 1 50	



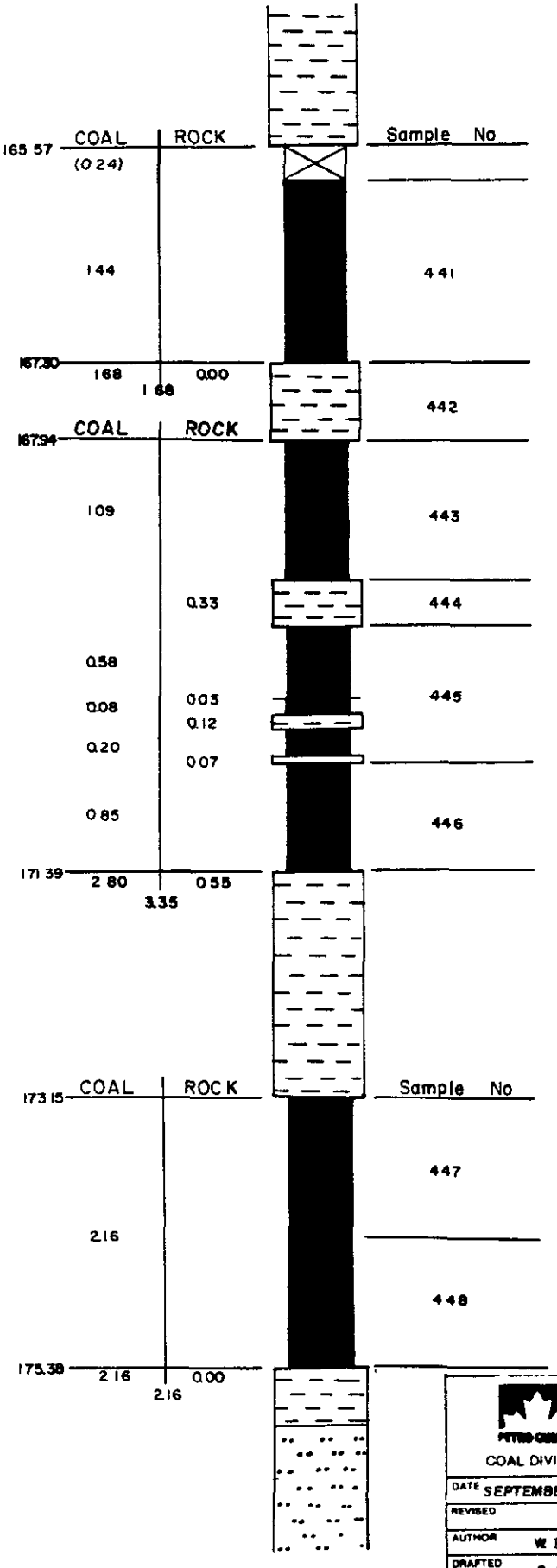
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	MRC - 80-76
REVISED	
AUTHOR W P	SEAM B3
DRAFTED S K	
SCALE 1 50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	MUD 78-14
REVISED	SEAM : B7
AUTHOR W. P	
DRAFTED S. K	
SCALE 1 50	



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	MUD : 78-14
REVISED	SEAM: B5
AUTHOR W P	
DRAFTED S. K.	
SCALE 1 50	



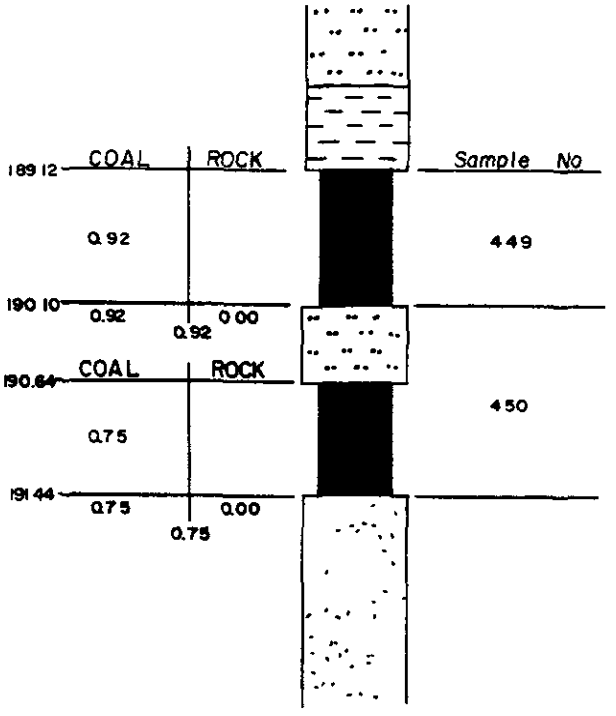
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S K
SCALE	1 50

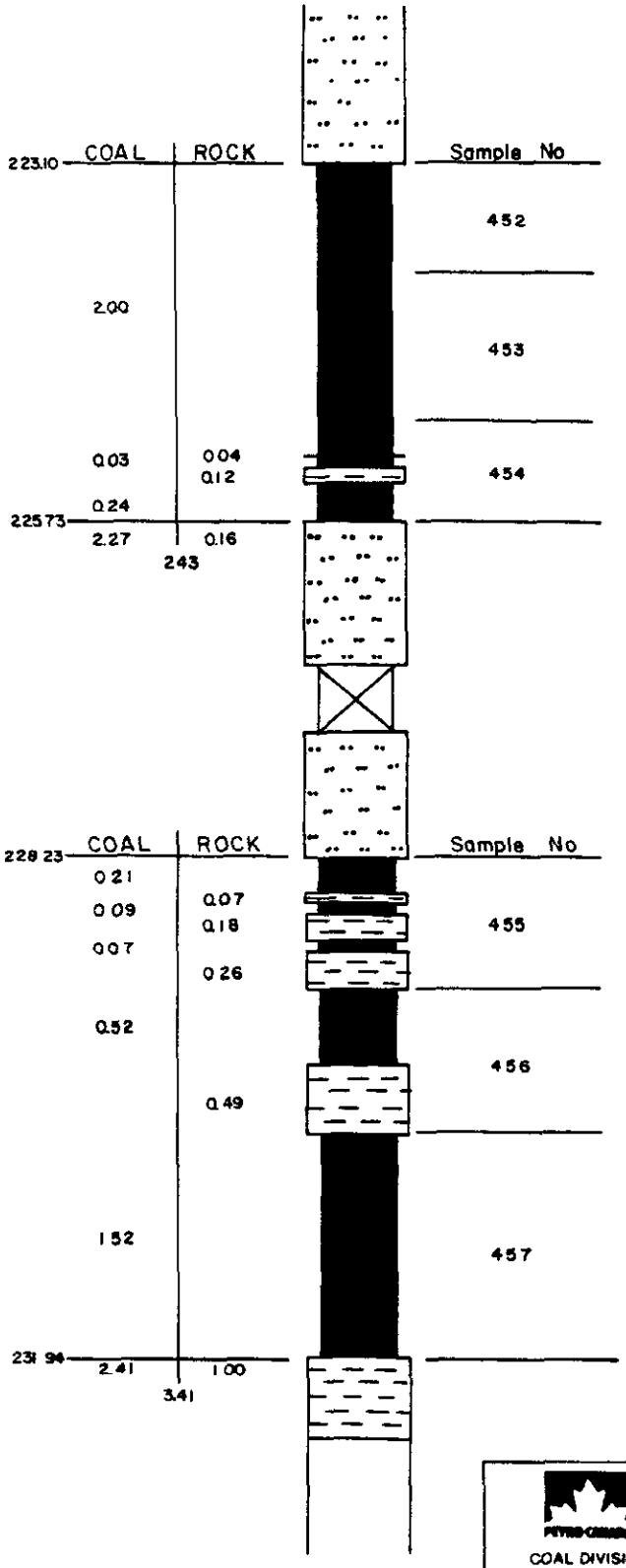
SEAM DETAIL

MUD 78-14

SEAM B4



COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	MUD 78-14
REVISED	SEAM B3
AUTHOR W P	
DRAFTED S K	
SCALE 1 50	



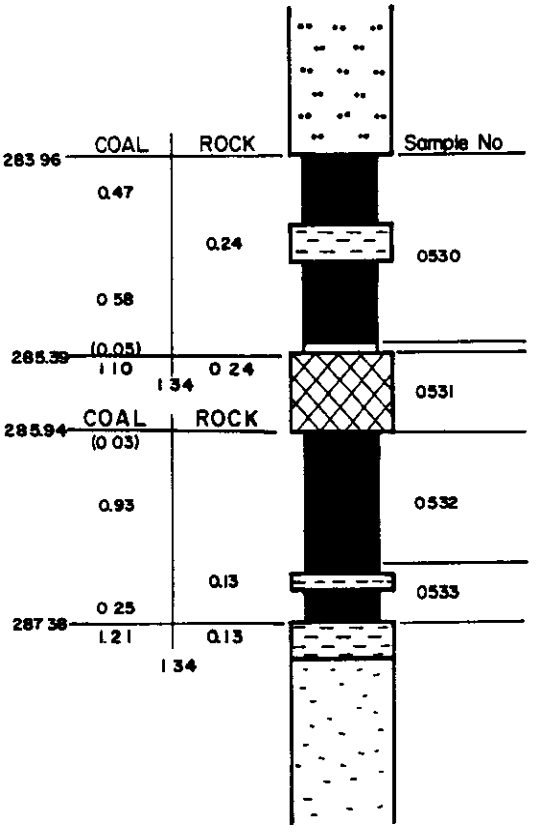
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S K
SCALE	1 50

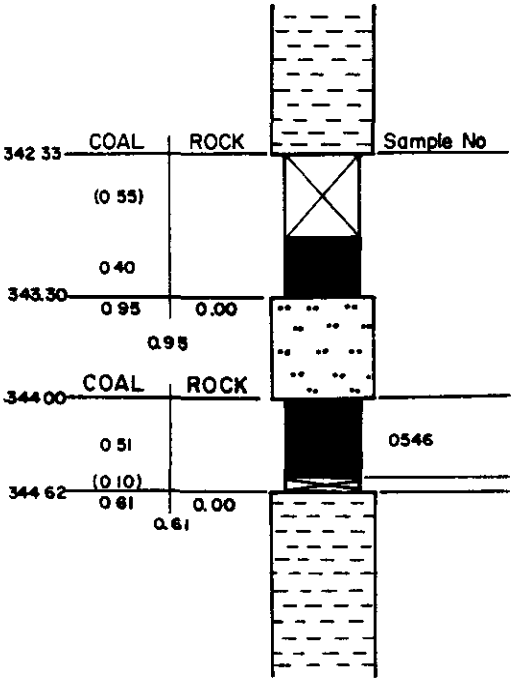
SEAM DETAIL

MUD 78-14

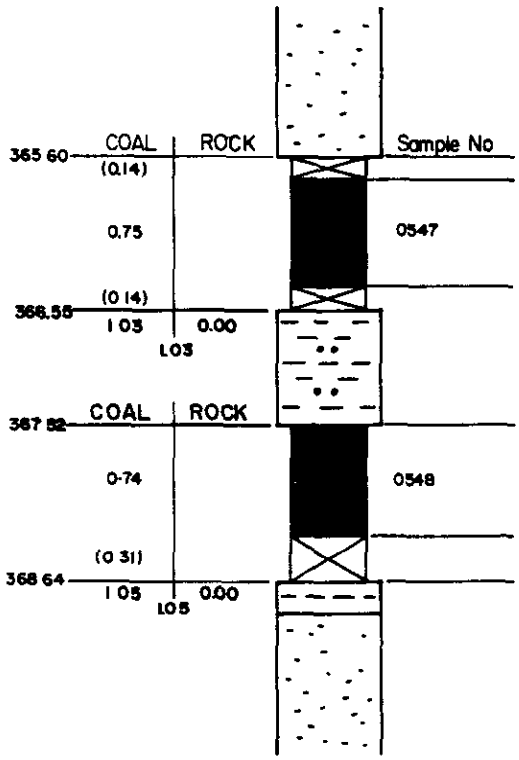
SEAM B2-B1



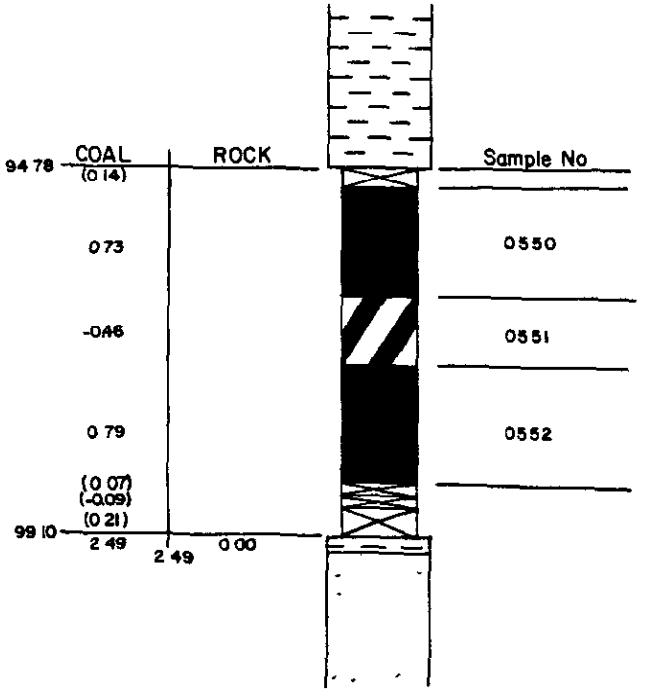
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-15
REVISED	
AUTHOR W.P.	SEAM : B 7
DRAFTED edy	
SCALE 1:50	



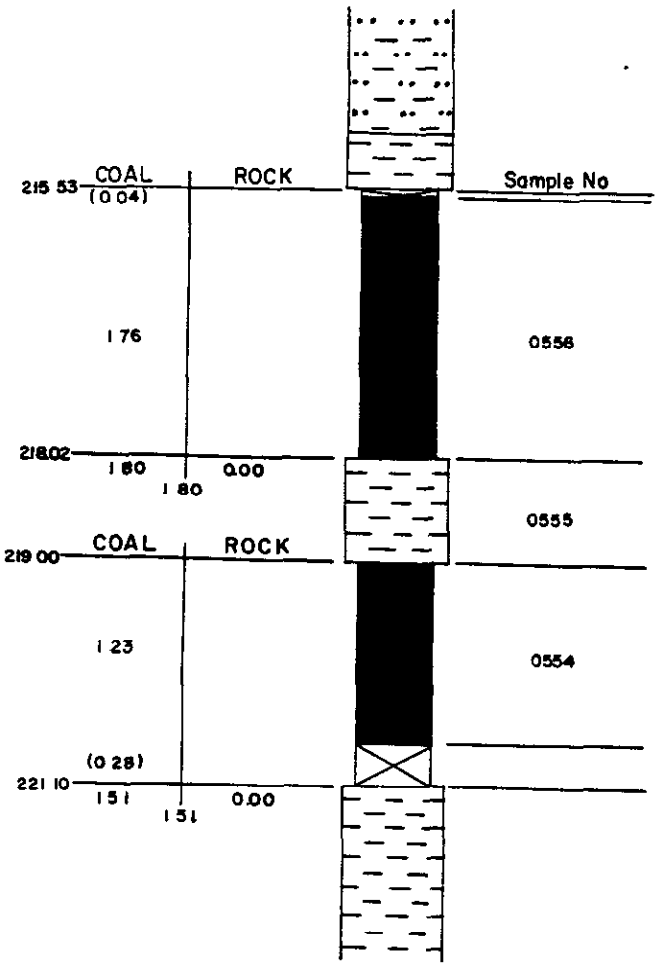
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-15
REVISED	
AUTHOR W.P	SEAM : B5(u&l)
DRAFTED edy	
SCALE 1 50	



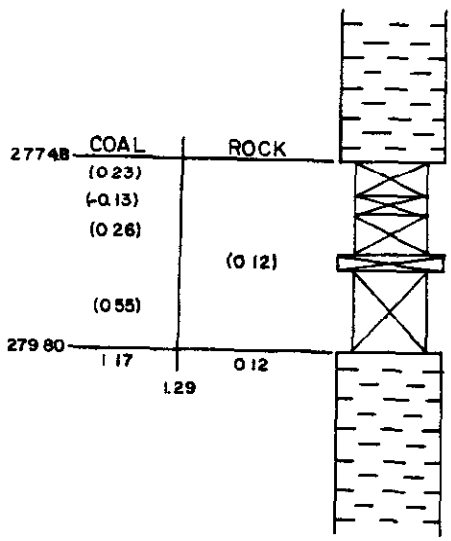
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-15
REVISED	
AUTHOR W.P	SEAM : B 4
DRAFTED edy	
SCALE 1 50	



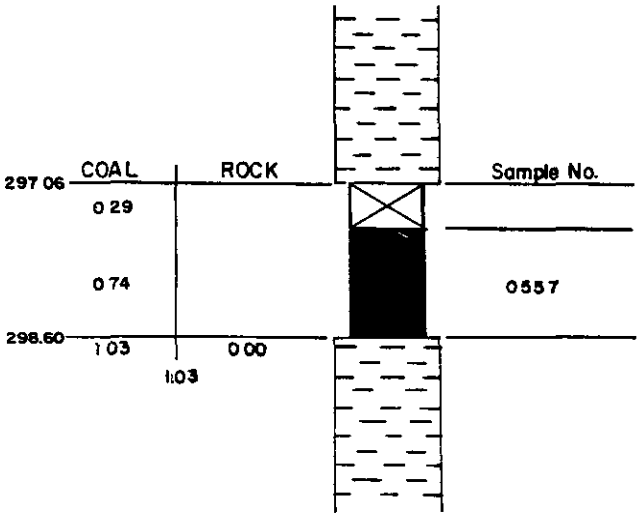
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-16
REVISED	
AUTHOR W P	SEAM : B7
DRAFTED S K	
SCALE 1 50	



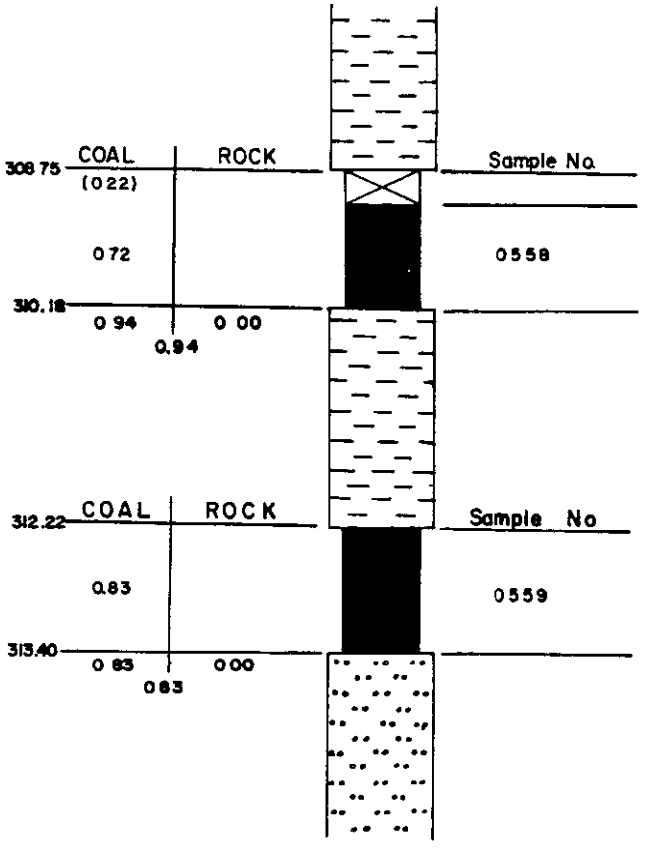
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-16
REVISED	
AUTHOR W. P	SEAM · B 4
DRAFTED S K	
SCALE 1 50	



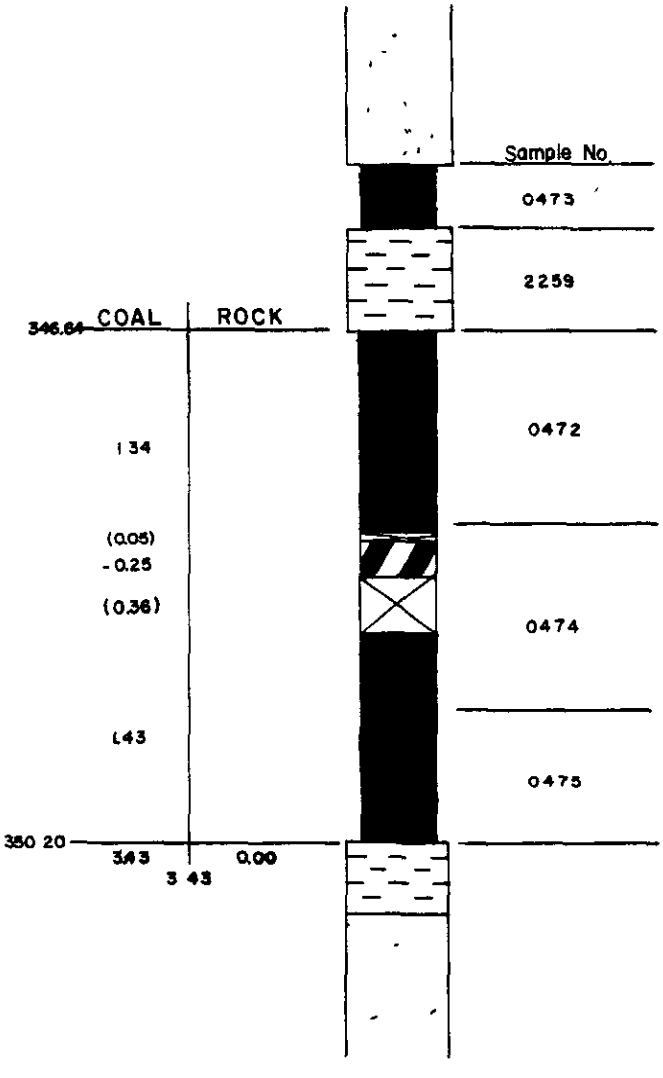
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-16
REVISED	
AUTHOR W P	SEAM : B 3
DRAFTED S K.	
SCALE 1 50	



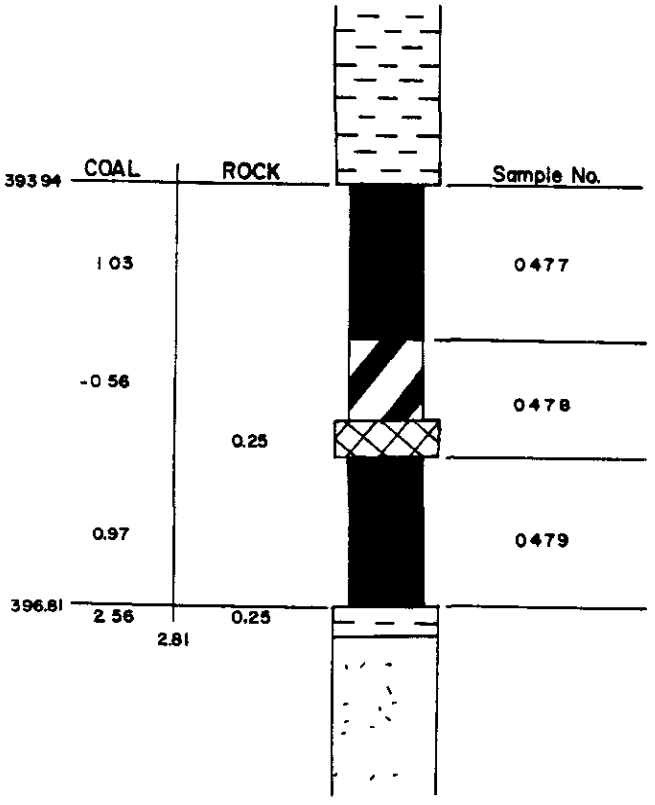
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-16
REVISED	
AUTHOR W P	SEAM : B I R
DRAFTED S K	
SCALE 1 50	



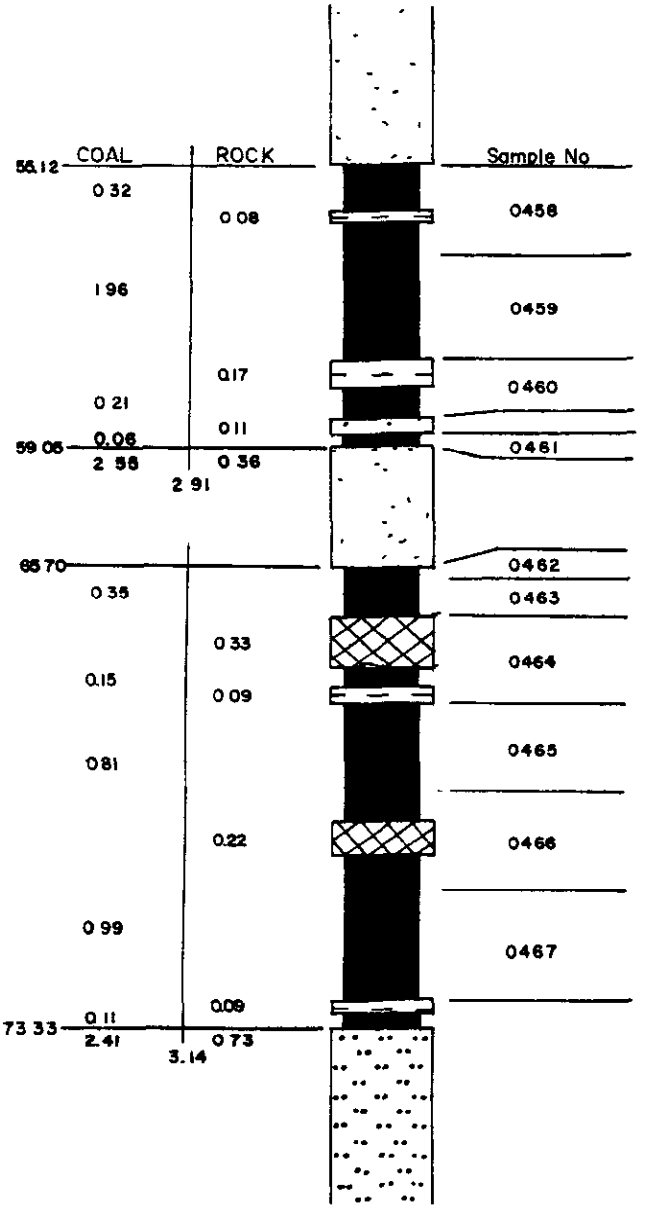
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 78-16
REVISED	
AUTHOR W P	SEAM : B1(u&l)
DRAFTED S K	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-17
REVISED	
AUTHOR W P	
DRAFTED S.K	SEAM - B9
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL HOLE MUD 78-17 SEAM B7
DATE SEPTEMBER, 1981	
REVISED	
AUTHOR W P	
DRAFTED S K	
SCALE 1 50	



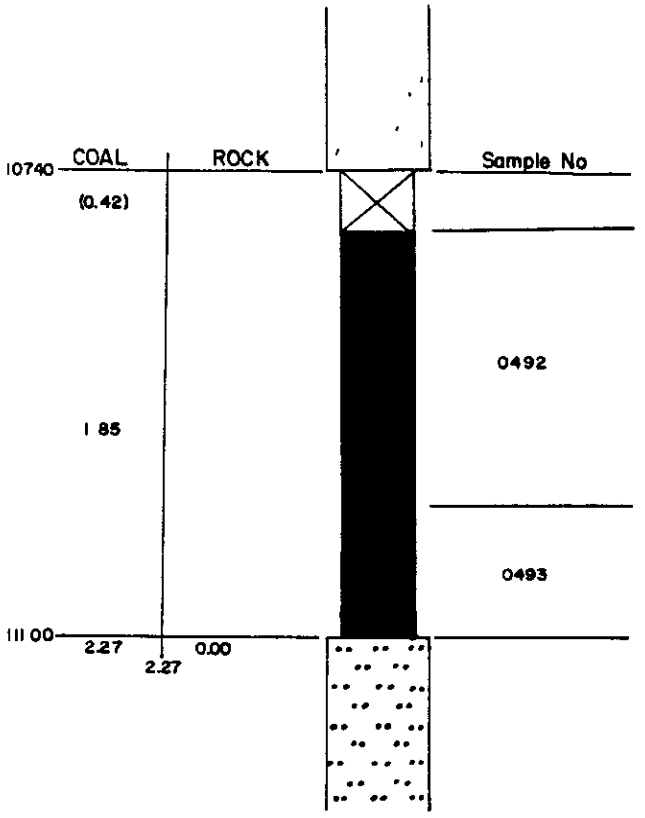
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.P
DRAFTED	S K
SCALE	1:50

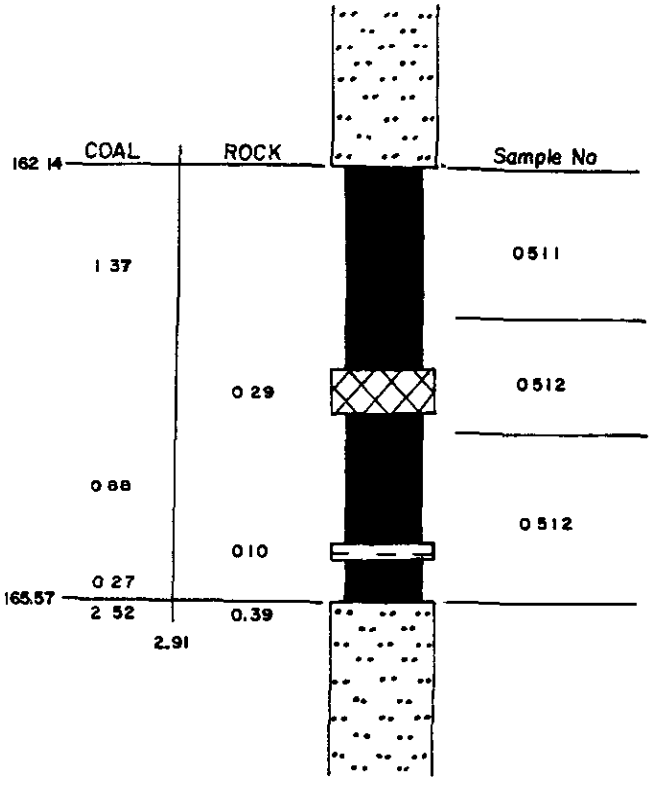
SEAM DETAIL

HOLE : MUD 78-19

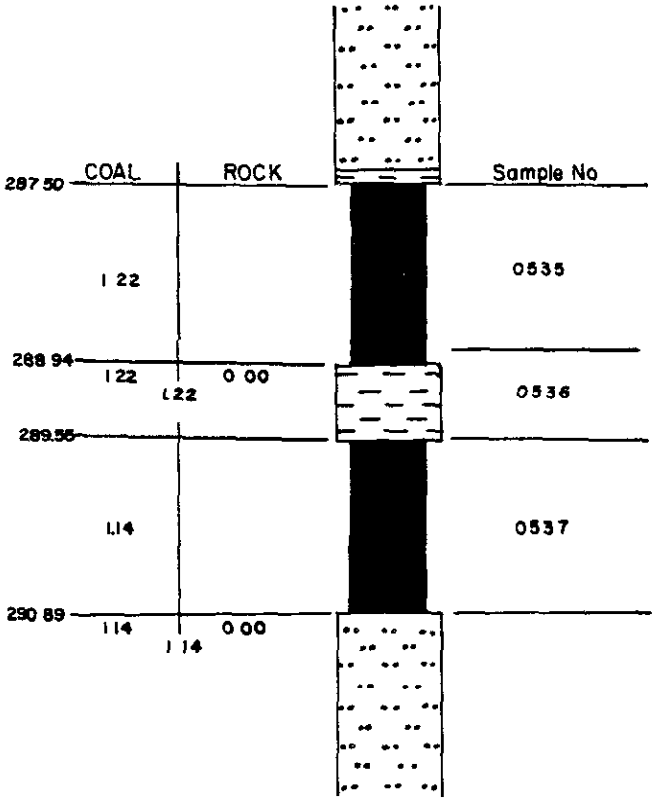
SEAM : B9



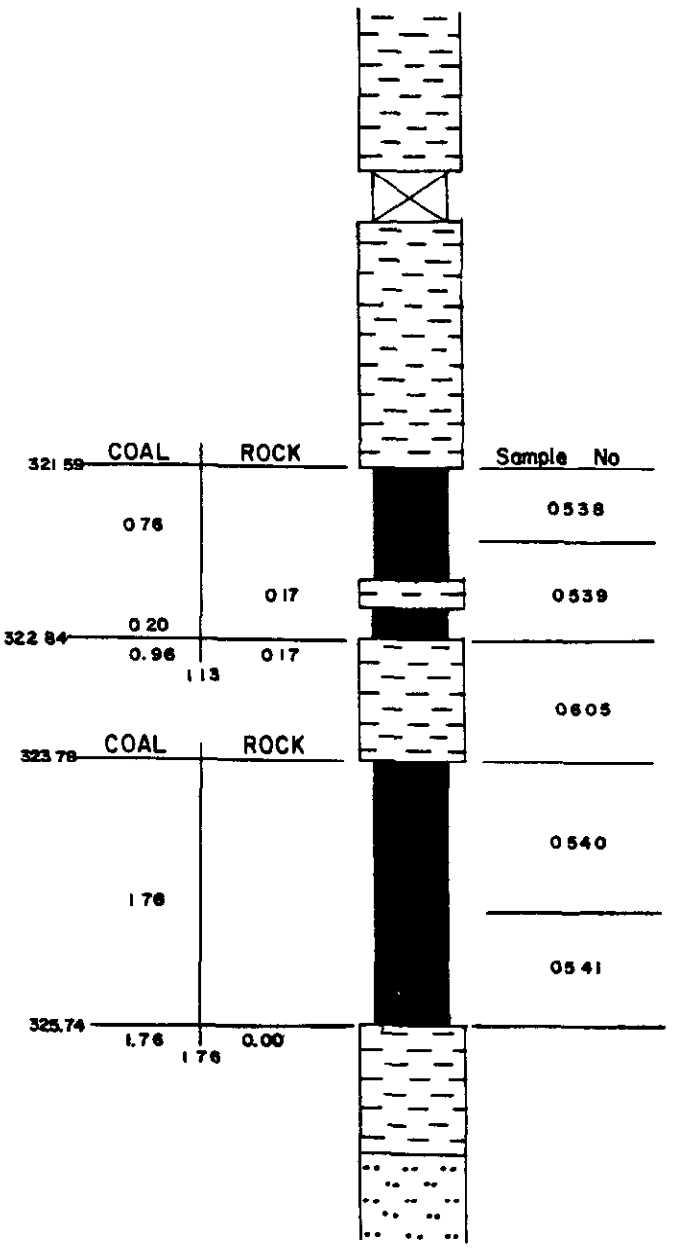
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 78-20
REVISED	
AUTHOR W P	SEAM · B9
DRAFTED S K	
SCALE 1 50	



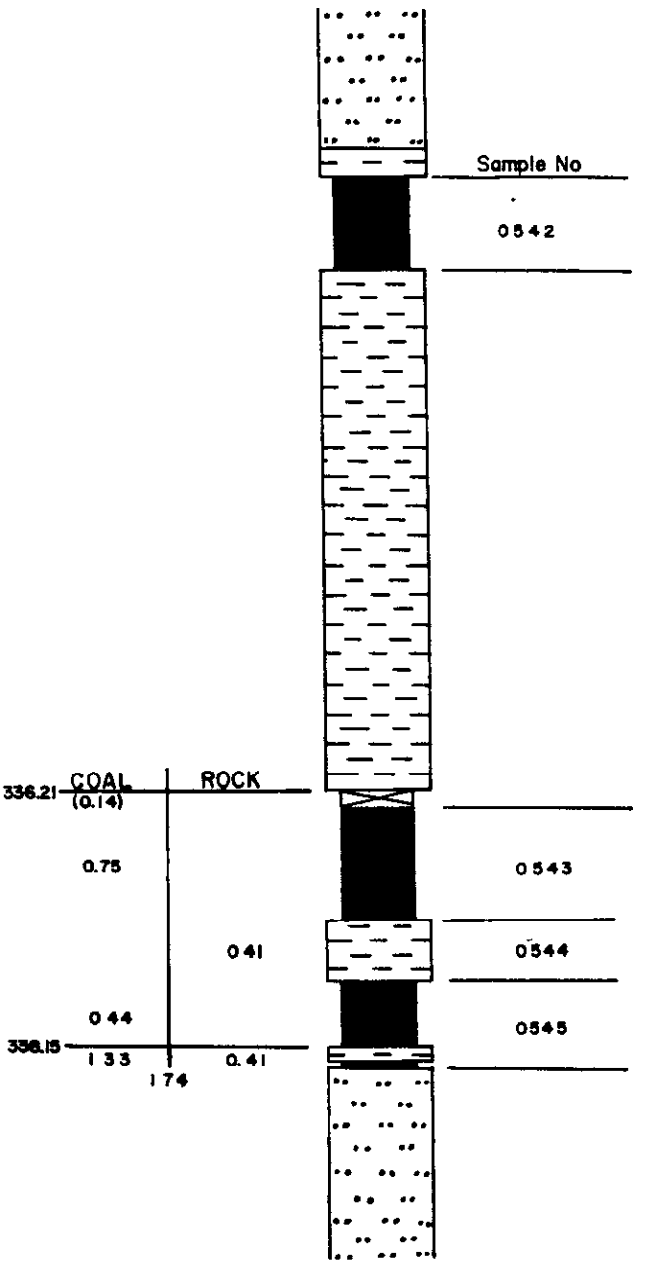
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 78-20
REVISED	
AUTHOR W P	SEAM : B7
DRAFTED S K	
SCALE 1 50	



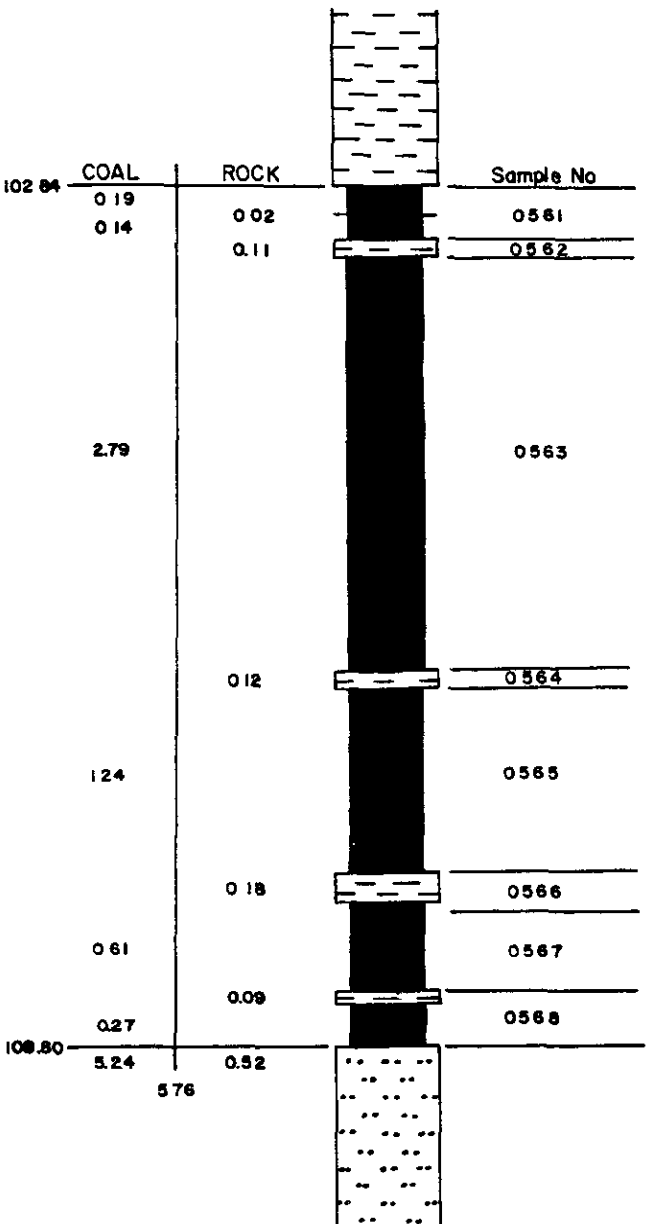
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 78-20
REVISED	
AUTHOR W P	SEAM B4
DRAFTED S K	
SCALE 1 50	



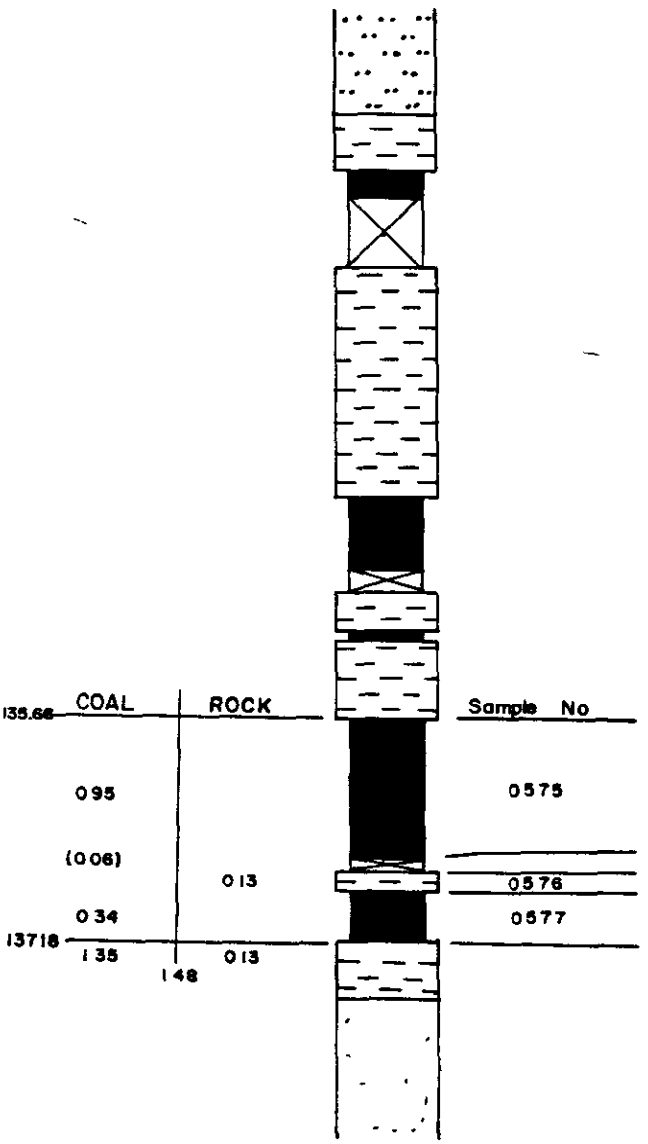
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 78-20
REVISED	
AUTHOR W P	SEAM · B 3
DRAFTED S K	
SCALE 1 50	



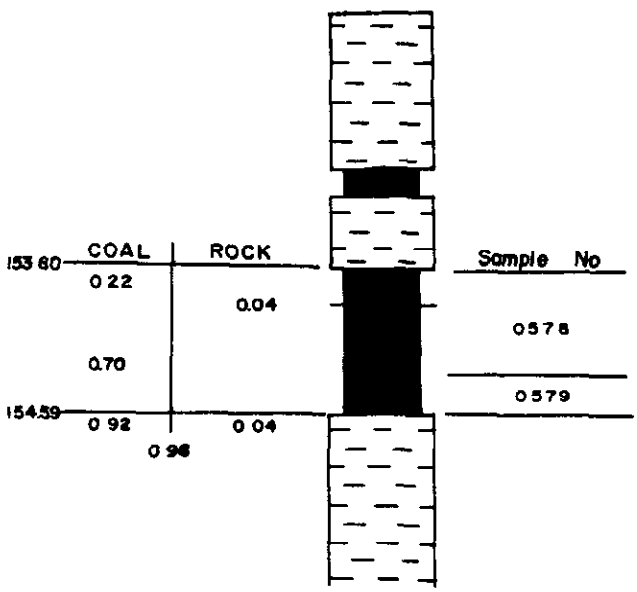
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 78-20
REVISED	
AUTHOR W P	
DRAFTED S.K.	SEAM : B2 & B1
SCALE 1 50	



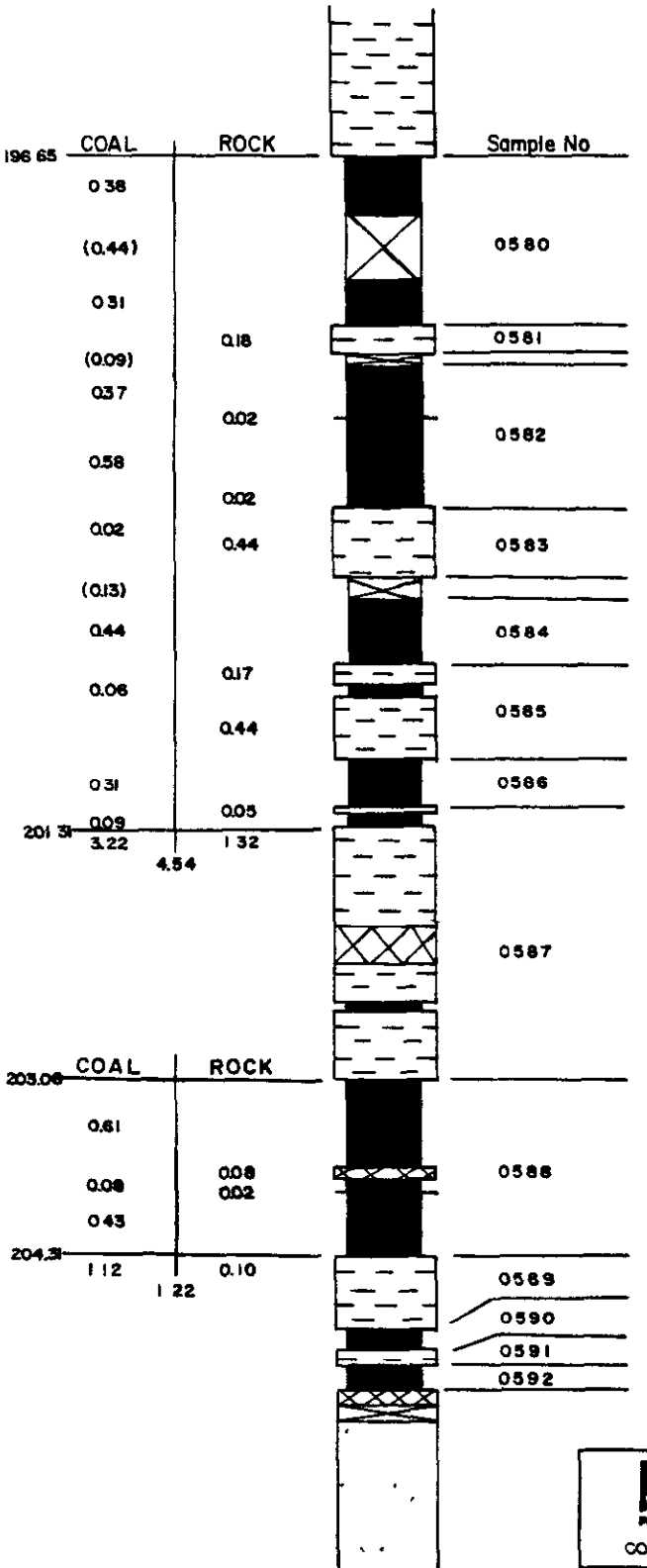
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 78-21
REVISED	
AUTHOR W. P	SEAM · B9
DRAFTED S K	
SCALE 1 50	



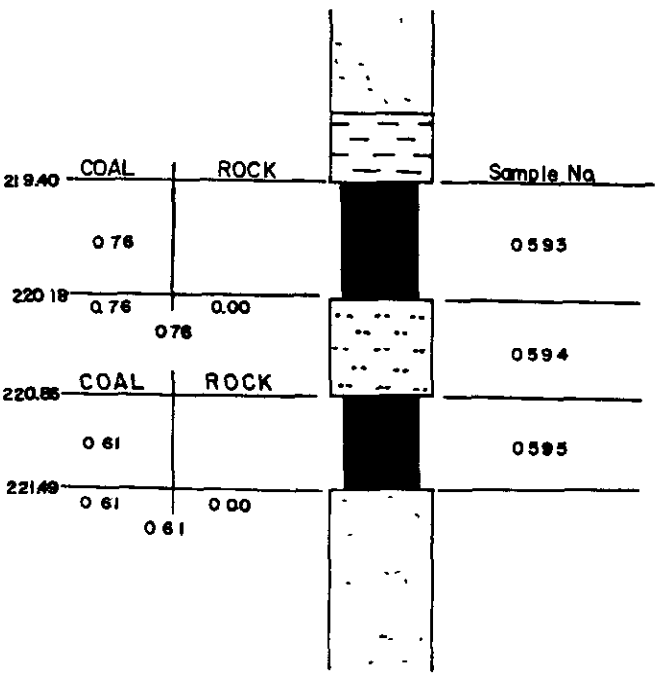
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 78-21
REVISED	
AUTHOR W. P	SEAM · B 7
DRAFTED S K	
SCALE 1 50	



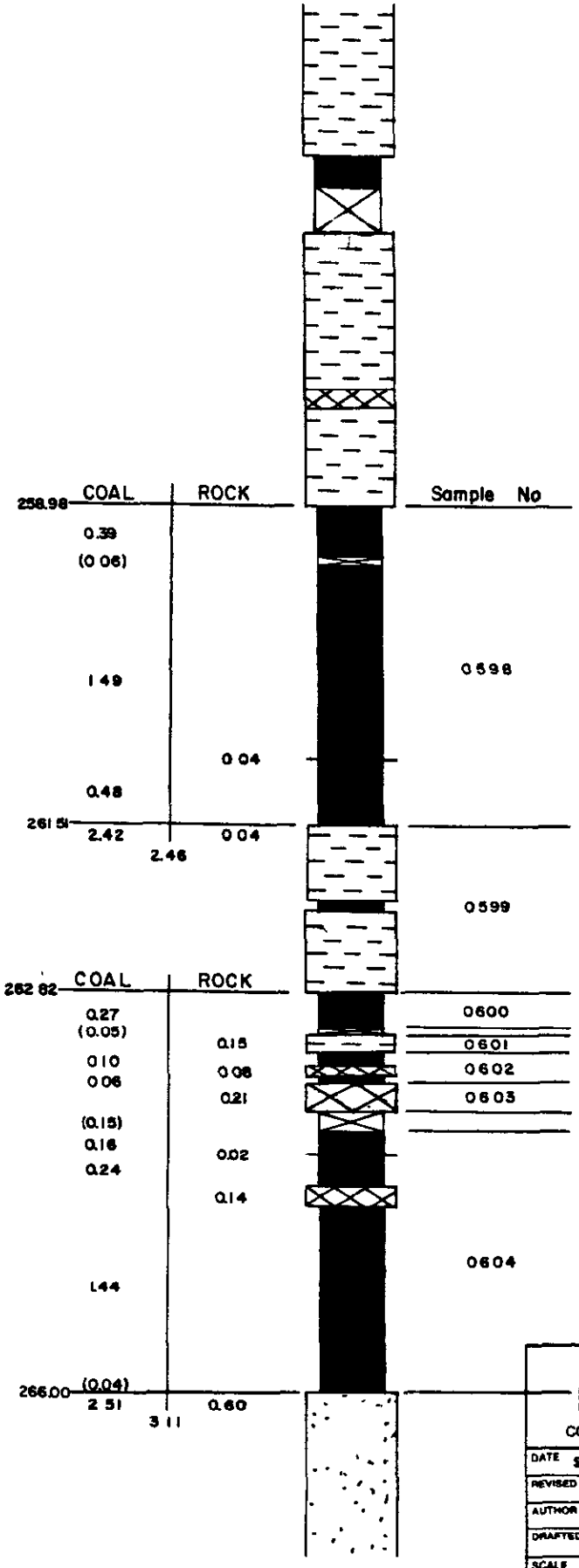
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 78-21
REVISED	
AUTHOR W P	SEAM B 5
DRAFTED S.K.	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 78-21
REVISED	
AUTHOR W P	SEAM B4
DRAFTED S. K.	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE - MUD 78-21
REVISED	
AUTHOR W P	SEAM B3
DRAFTED S K	
SCALE 1 50	



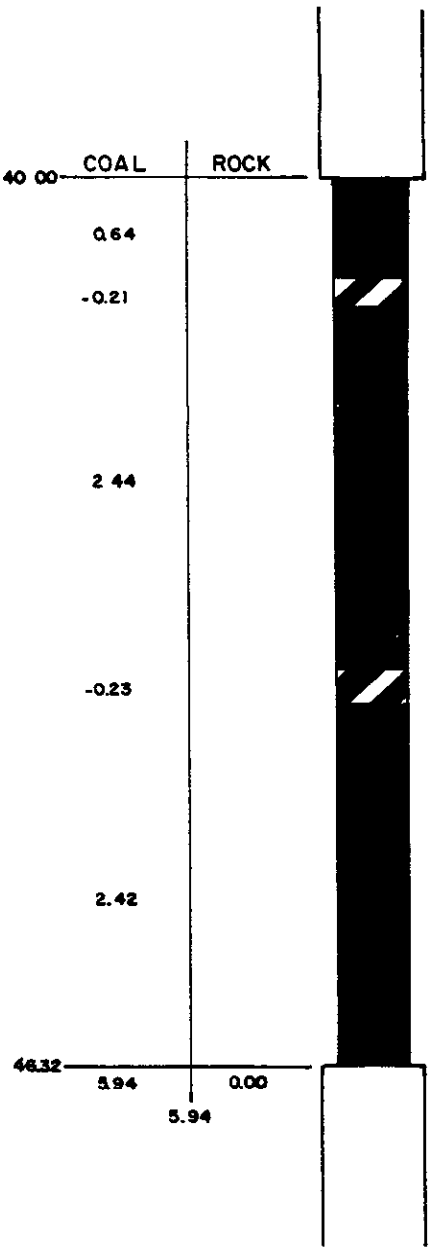
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S K
SCALE	1:50

SEAM DETAIL

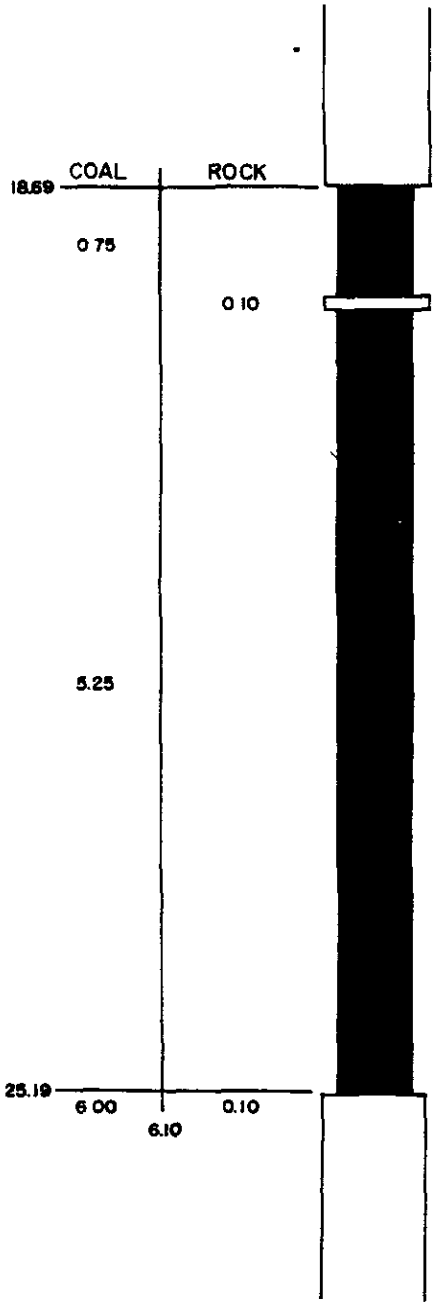
HOLE : MUD 78-21

SEAM : B2(1), B1



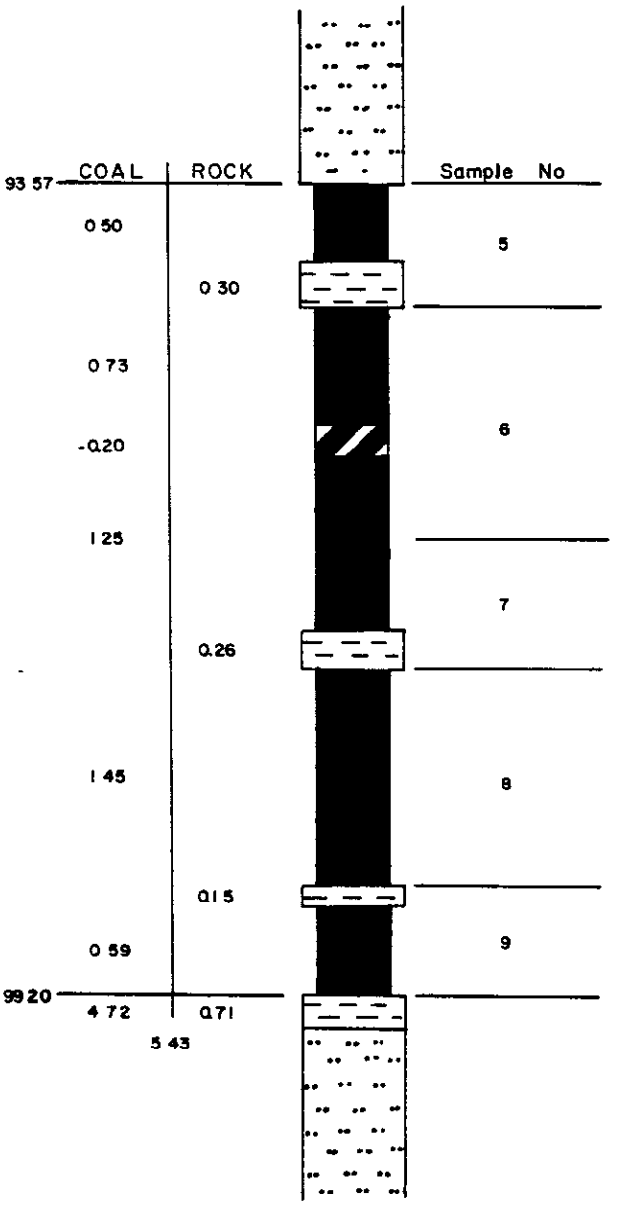
FROM GEOPHYSICAL LOG

PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUH 78-17
REVISED	
AUTHOR W. P	
DRAFTED S. K.	SEAM B 9
SCALE 1 50	



F G.L

PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUH 78-18
REVISED	
AUTHOR W P	SEAM B 9
DRAFTED S K	
SCALE 1 50	



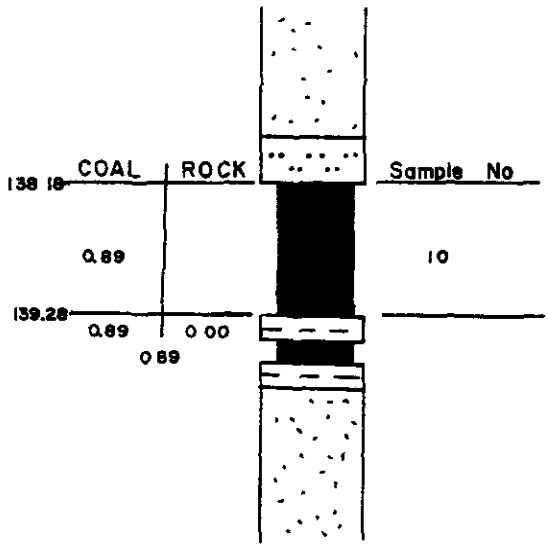
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W. P
DRAFTED	S. K.
SCALE	1 50

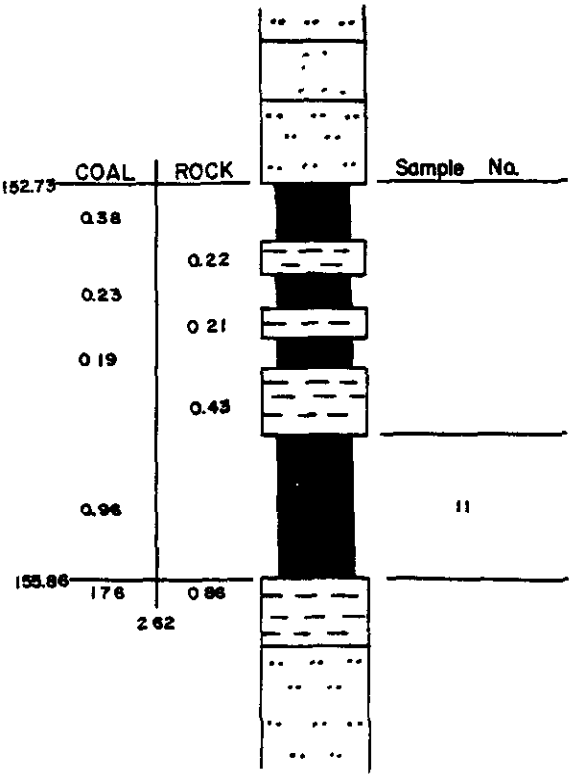
SEAM DETAIL

MUD - 77-04

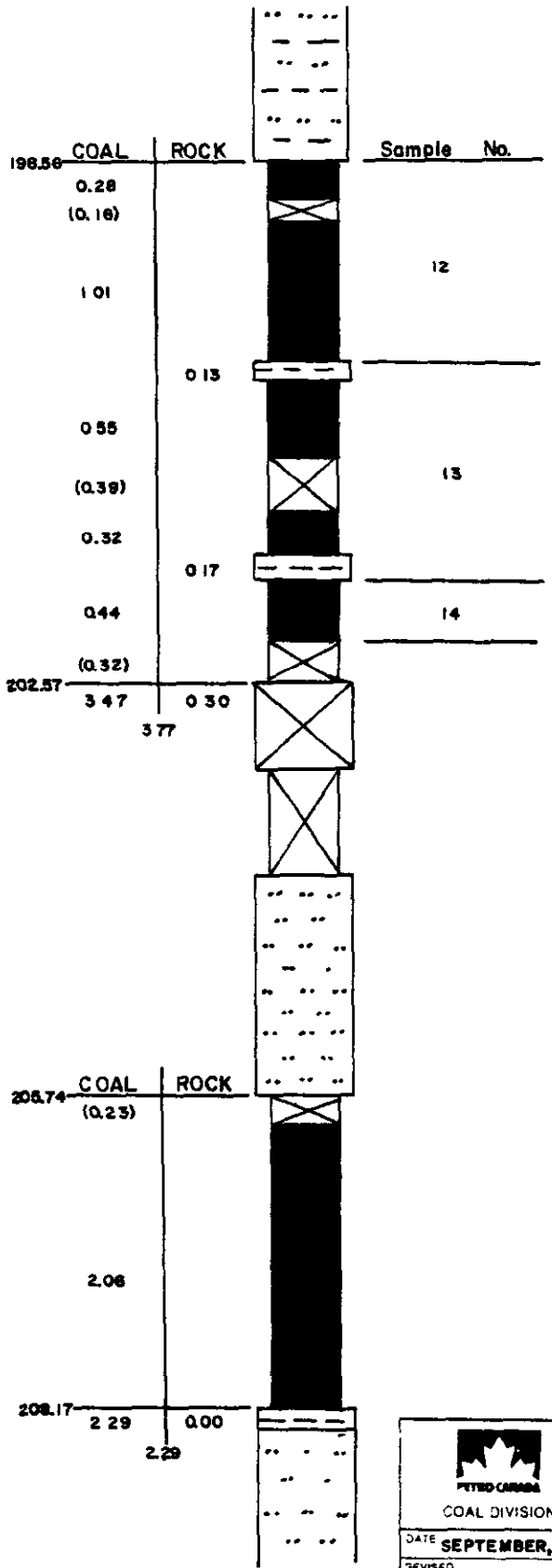
SEAM - B9



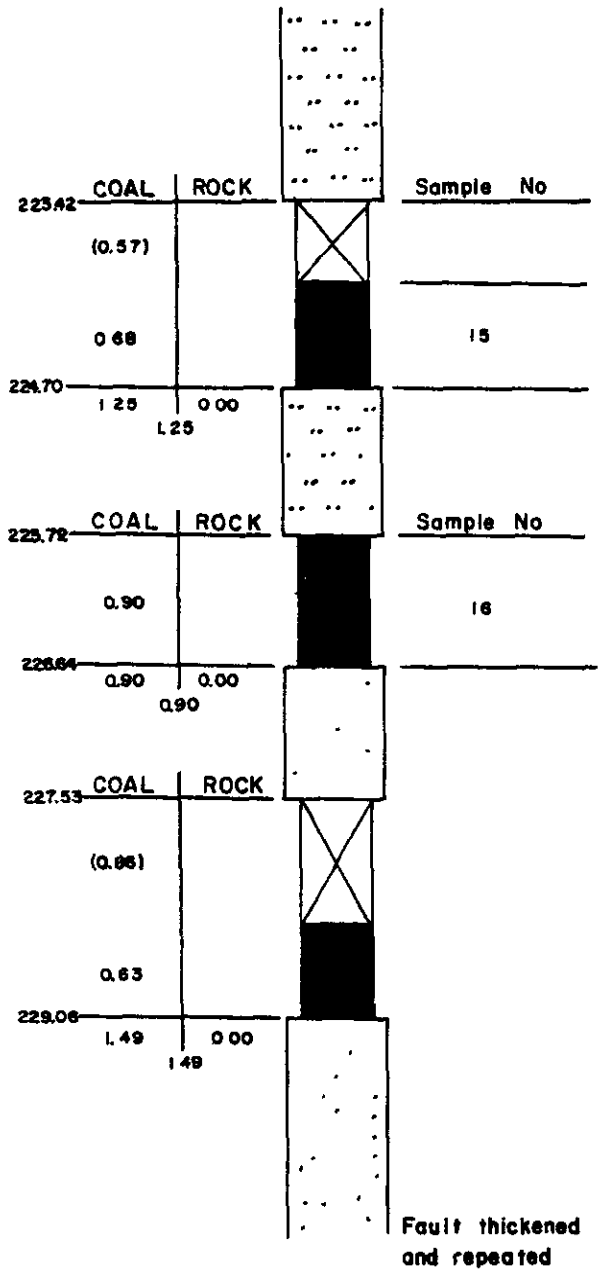
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 77-04
REVISED	SEAM : B7
AUTHOR W. P	
DRAFTED S K	
SCALE 1:50	



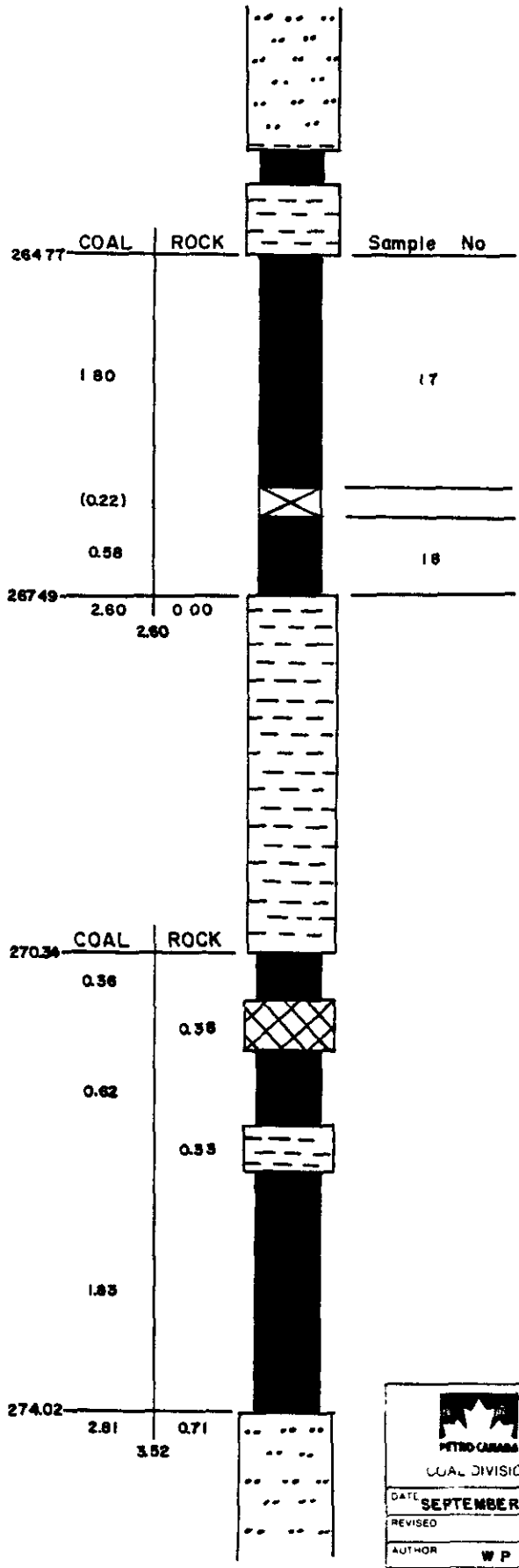
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE: MUD 77-04
REVISED	SEAM: B 5
AUTHOR W. P	
DRAFTED S K.	
SCALE 1:50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE - MUD 77-04
REVISED	SEAM B4
AUTHOR W. P.	
DRAFTED S. K	
SCALE 1:50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MUD 77-04
REVISED	SEAM · B 3
AUTHOR W P	
DRAFTED S.K	
SCALE 1:50	



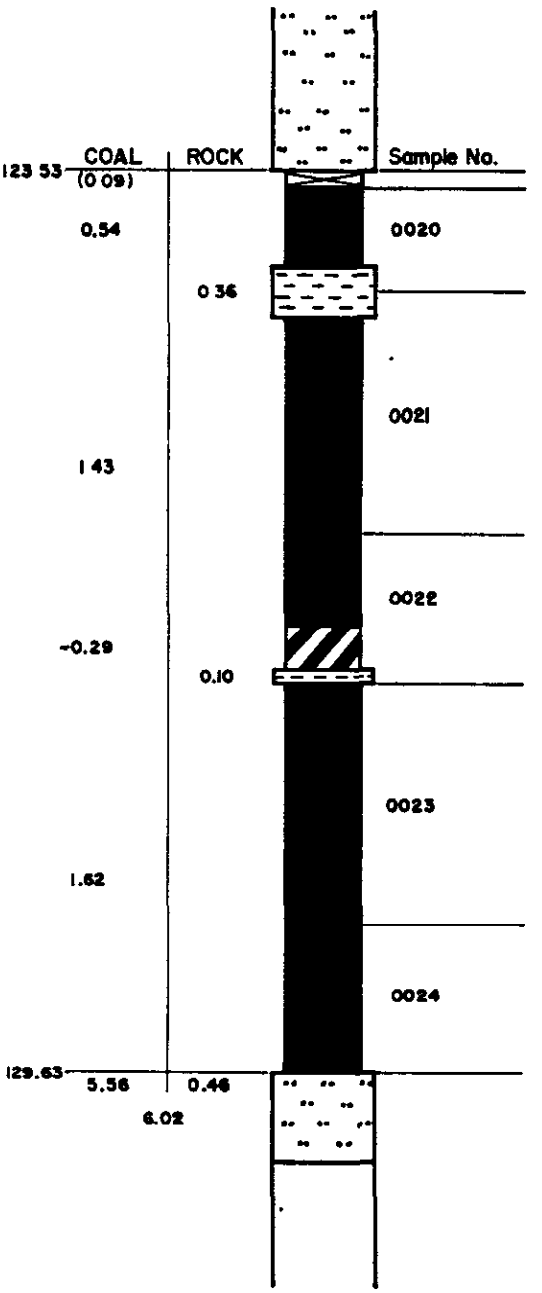
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W P
DRAFTED	S.K
SCALE	1:50

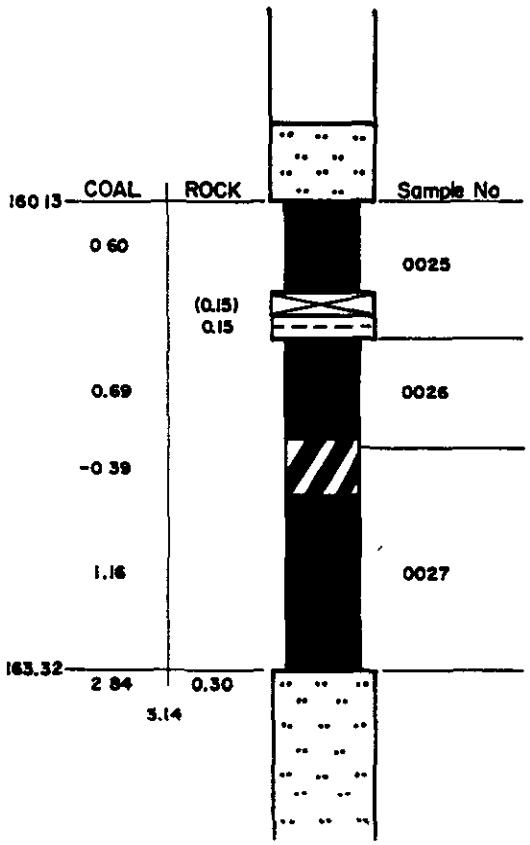
SEAM DETAIL

HOLE MUD 77-04

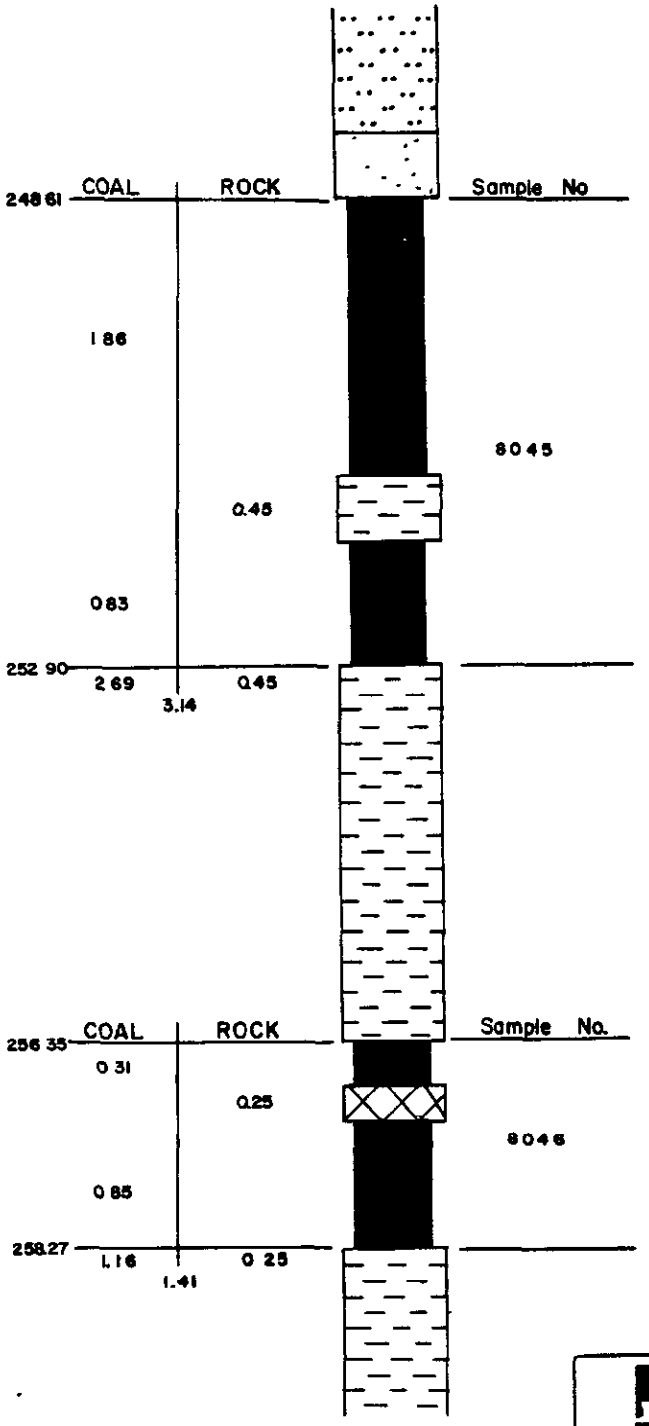
SEAM B2-B1



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 77-05
REVISED	
AUTHOR W.P	SEAM : B 9
DRAFTED edy	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MUD 77-05
REVISED	
AUTHOR W P	SEAM : B 7
DRAFTED edy	
SCALE 1:50	



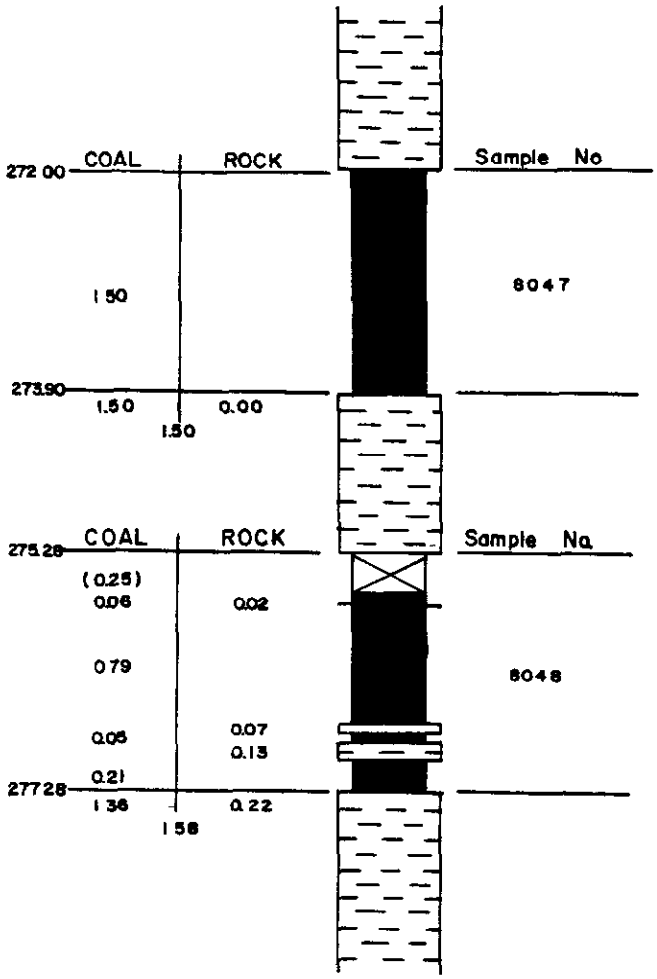
PETRO-CANADA
COAL DIVISION

DATE	SEPTEMBER, 1981
REVISED	
AUTHOR	W.P
DRAFTED	S K
SCALE	1 50

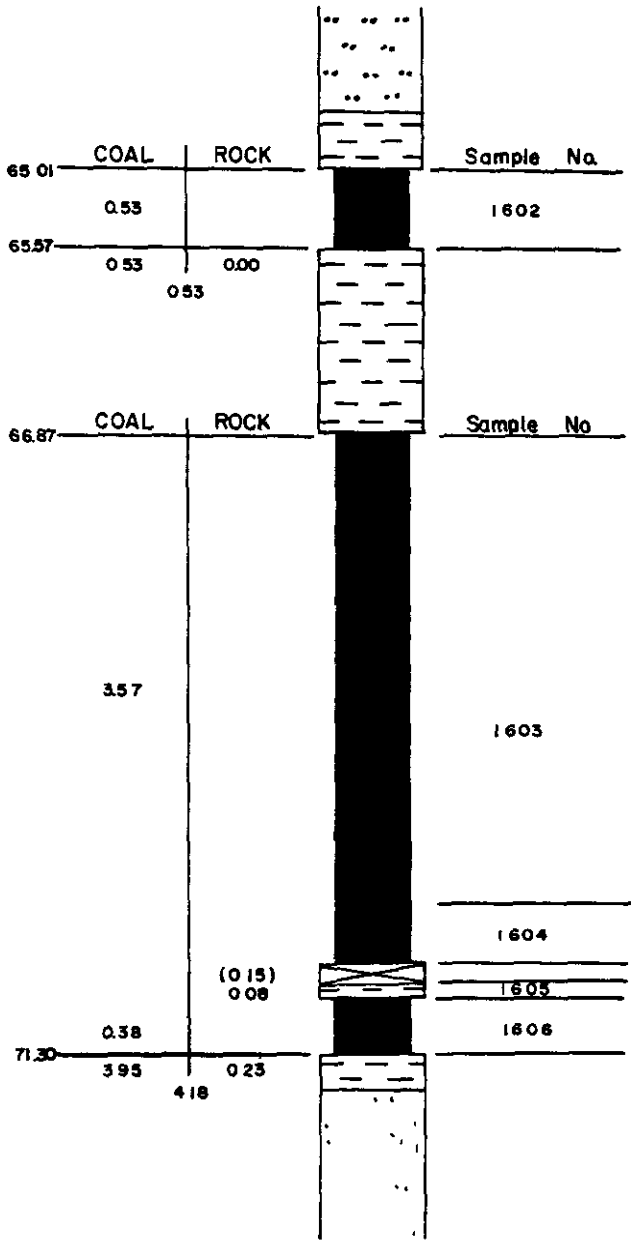
SEAM DETAIL

HOLE : MUD 76-09

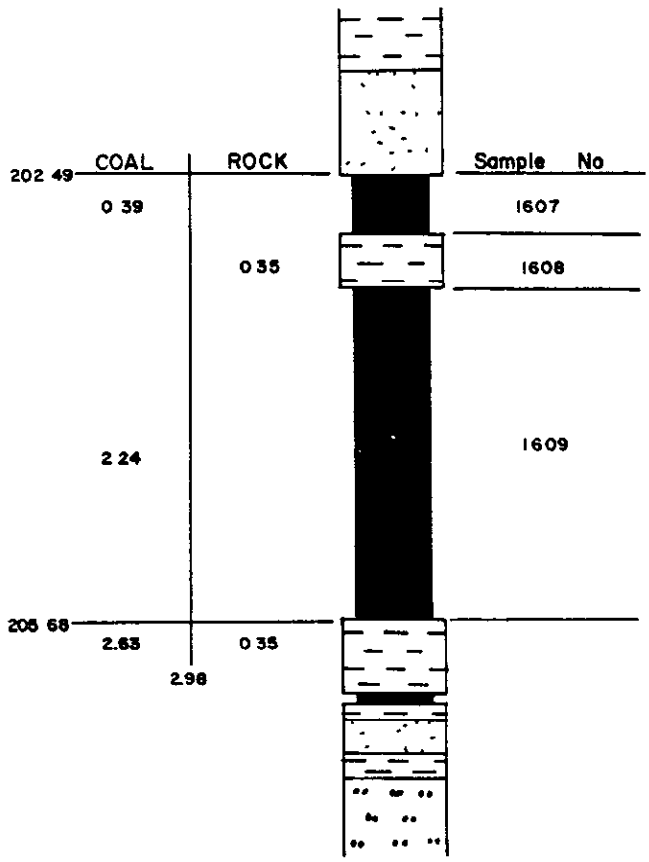
GETHING



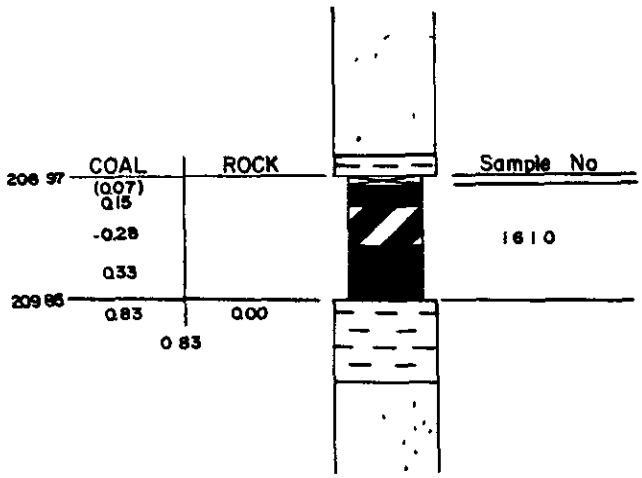
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MUD 76-09
REVISED	
AUTHOR W P	GETHING
DRAFTED S.K	
SCALE 1 50	



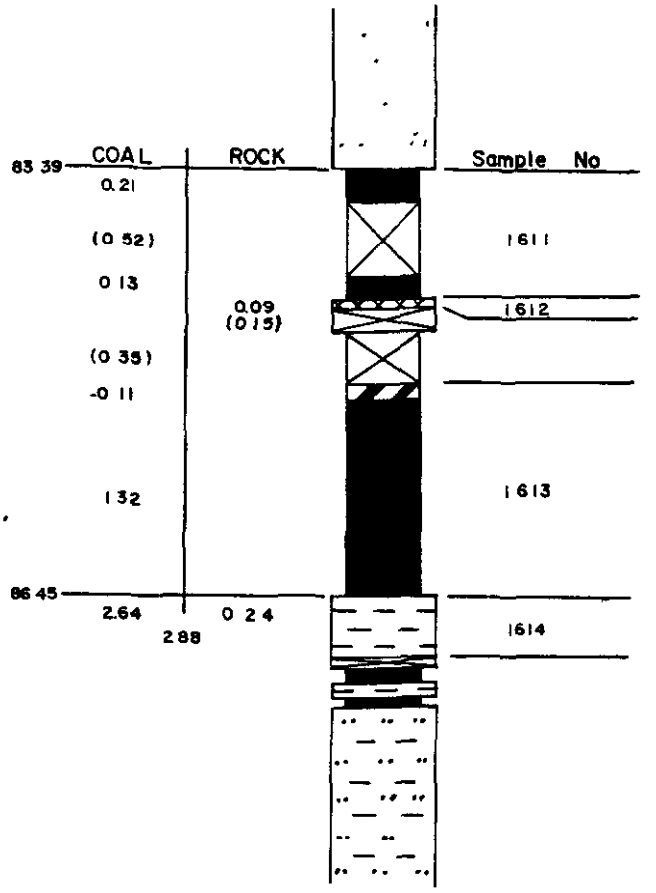
COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MND 81-01
REVISED	
AUTHOR W.P.	SEAM - B3
DRAFTED S.K.	
SCALE 1:50	



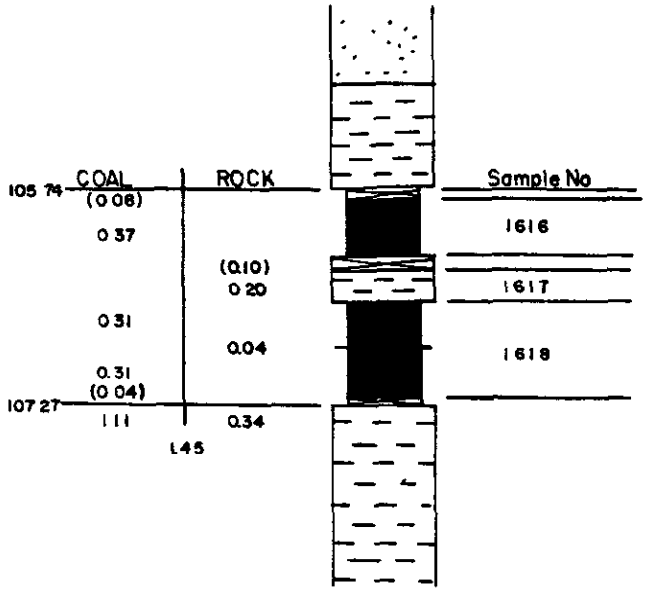
PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MND 81-01
REVISED	
AUTHOR W. P	GETHING
DRAFTED S.K	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE · MND 81-01
REVISED	
AUTHOR W P	GETHING
DRAFTED S K	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE MND 81-02
REVISED	
AUTHOR W P	GETHING
DRAFTED S K	
SCALE 1 50	



PETRO-CANADA COAL DIVISION	SEAM DETAIL
DATE SEPTEMBER, 1981	HOLE : MND 81-02
REVISED	
AUTHOR W P	GETHING
DRAFTED S K	
SCALE 1:50	

Monkman Coal Project

Appendix E

1981 Diamond Hole Core Logs

Part 1 of 3

OPEN FILE
CONFIDENTIAL

Appendix E

Part 1

Holes MDD81-01 to MUD81-05

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	17/02/81 - 22/02/81	03/22/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MDD 81-01	D.W. COATES	64°	223	320m	HQ	--	N23/10,000N	3203	39m	6m

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1275.1	6,068,746.08 N 649,535.38 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Spudded in Boulder Creek.

Fault repeats 20m of section including B9.

Fault at 250m

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
		47.40 - 48.05	20	0.51	0.51/0.00	43	--		kb	66.50	1215.3		
B12		163.31 - 164.65	15	1.32	0.85/0.47	88	1,2,3		kh	152.83	1137.74		
B11		176.29 - 176.97	18	0.67	0.63/0.04	87	4						
B10		204.44 - 205.30	15	0.81	0.79/0.02	100	5						
B9(r)	1066.72	226.00 - 231.84	12	5.74	5.32/0.42	92	6 - 12						Fault repeat
		239.20 - 239.35	14	0.15	0.15/0.00	100	--						
B9	1045.90	248.65 - 255.00	16	6.17	5.31/0.86	31	14 - 17						
B8		269.00 - 269.54	15	0.50	0.50/0.00	100	18						HOLE NUMBER MDD 81-01

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY · CONTINUATION SHEET

HOLE NUMBER	PAGE
MDD 81-01	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B7	1020.19	283.00 - 283.61	20	0.59	0.55/0.04	85	28						
		286.10 - 286.30	20	0.19	0.19/0.00	100	--						
B6(u)		289.89 - 290.88	20	1.29	0.94/0.35	94	29						
B5(u)		305.58 - 308.80	16	3.03	2.00/1.03	92	33 - 39						
B5(1)	993.70	310.87 - 313.09	16	2.19	1.77/0.42	71	40 - 42						
													HOLE NUBMER MDD 81-01

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD81-01	1 OF 91

DATE BEGUN Feb. 20, 1981	DATE FINISHED Feb. 22, 1981	MINE GRID N E	UTM 6068750 N 649512 E
ELEV. COLLAR N 1281 N	BEARING 223°	HOLE ANGLE 60°	TOTAL DEPTH 320 Roke
COAL LICENCE 3203	CONTRACTOR Coates	LOGGED BY Tom Covert/Eric Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 1		
			11				Overburden		
	6.87	7.17	30				Claystone - dark grey, silty, highly broken		
							(probably drill induced)		
	7.17	7.27	10				Core Loss - claystone	030	
	7.27	7. 6	9				Siltstone - medium-dark grey, slightly broken	009	
	7.36	7.57	21				Sandstone - fine grained, medium-dark grey	021	
	7.57	7.73	16				Claystone - dark grey, soft, core broken	016	
	7.73	7.83	10				Core Loss (Claystone)		
	7.83	8.61	078				Claystone - light grey, soft, slight oxidation	023	
						27/8.23			
							Claystone - medium grey, soft, core broken and fractured with	055	
							iron staining on fractures		
	8.61	8.97	036				Core Loss - (Claystone)		
	8.97	10.18	121				Siltstone - medium grey, broken, iron staining	083	

474-8010

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	28 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 45		
81°							Sandstone - same as above, light grey with load casts, small scale cross bedding, minor slump features, minor interbedded siltstone with slight listric surfaces	1.12	
						427/130.15			
							Sandstone - fine grained, light grey, rip-up clasts, worm burrows and maniscus escape structures	1.69	
							TOP OF BOX 46		
77°							Sandstone - fine grained, light grey with minor interbedded siltstone, minor load casts and rip-up clasts, small scale cross bedding	1.40	
						437/133.20			
77°							Sandstone - with minor interbedded dark grey siltstone, minor load casts and rip-up clasts, small scale load casts	1.24	
							TOP OF BOX 47		
78°							Sandstone - same as above, fine grained, light grey, with minor interbedded siltstone, minor rip-up clasts, minor load casts and worm burrows	162	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	2 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 2		
							Siltstone - dark grey, hard	038	
						37/11.28			
	10.18	12.20	202				Sandstone - fine grained, medium grey	064	
						39/11.89			
72°							Sandstone - fine grained, medium grey, small scale , cross-		
							bedding BCA-72°		
	12.20	14.30	210				Claystone - dark grey, hard, slightly silty	037	
							TOP OF BOX 3		
							Claystone - dark grey, soft	048	
						47/14.33			
							Claystone - dark grey, soft, slightly listric surface	125	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	3 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	14.30	14.72	42				Siltstone - medium grey, slight iron staining		
	14.72	14.90	18				Claystone - medium grey, soft		
	14.90	16.38	1.48				Siltstone - medium grey, soft	.45	
							TOP OF BOX 4		
							Siltstone - medium grey, iron stains, slight fractures	.86	
						57/17.38			
							Siltstone - medium grey, iron stains, slight fractures	.17	
							Core Loss		
58°	16.38	25.46	9.08				Siltstone - medium grey, fine grained, hard, calcite filled fracture at 140	1.66	
							TOP OF BOX 5		
67°							Siltstone - medium grey, fine to medium grained, coarsens downward	1.11	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	4 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	Feb. 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
67°							Sandstone - medium grey, fine to medium grained, coarsens	1.76	
							downward, rip-up clasts at 126 of siltstone,		
							getting coarser grained going down hole		
							TOP OF BOX 6		
70°							Sandstone - medium grey, fine to medium grained, coarsens	1.34	
							downward, rip-up clasts at 126 of siltstone,		
							getting coarser grained going down hole, claystone		
							inclusions at 36 cm.		
						77/23.47			
73°							Sandstone - light-medium grey, coarse grained, very hard	1.47	
							TOP OF BOX 7		
							Sandstone - coarse grained with discontinuous coaly stringers	1.64	
							and inclusions in top 30 cm., 8 cm. band of		
							conglomeratic sandstone at 35 cm., medium - dark		
							grey, some iron staining		
						87/26.52			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	5 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - coarse grained with discontinuous coaly stringers and inclusions in top 30 cm., 8 cm. band of conglomeratic sandstone at 35 cm. medium-dark grey, some iron staining	0.10	
	25.46	25.60	14				Claystone - dark grey, ground-up, possible fault zone, slight iron staining		
56°	25.60	29.55	3.95				Sandstone - fine grained, light grey	0.38	
							Sandstone - conglomeratic, composed of well rounded chert pebbles		
							TOP OF BOX 8		
							Sandstone - conglomeratic, coaly stringer at 89 cm. from top composed of well rounded chert pebbles	0.96	
							Sandstone - fine grained, dark grey, slight iron staining	1.01	
						97/29.57			
							Sandstone - fine grained, dark grey, slight iron staining, very fine grained to fine grained	0.87	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	6 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	Febraury 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 9		
							Sandstone - fine grained, dark grey, slight iron staining, very fine grained to fine grained	0.27	
	29.55	29.77	22				Siltstone - dark grey, slight listic surfaces, iron stained		
	29.77	29.83	6				Claystone - dirty, plastic, with claystone fragments	0.06	
	29.83	29.93	10				Core loss (clay and claystone)		
	29.93	31.50	157				Claystone - dark grey	1.57	
						107/ 32.62			
	31.50	35.34	384				Claystone - dark grey, slightly silty in places	0.75	
							TOP OF BOX 10		
							Claystone - same as above, slight iron staining	2.35	
						117/ 35.67			
							Claystone - same as above	0.30	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	7 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 11		
							Claystone - dark grey, slight iron staining, possible worm burrows	0.44	
	35.34	35.54	20				Siltstone - dark grey	0.19	
64°	35.54	47.04	11.50				Sandstone - fine grained, medium grey, calcite filled fracture at 108 cm. (1.5 cm. width)	1.91	
						127/ 38.72			
							Sandstone - same as above		
							TOP OF BOX 12		
68°							Sandstone - fine to medium grained, slight iron staining, slight cross bedding, coarsening downwards	2.15	
64°							Sandstone - medium grained, slight iron staining, medium to dark grey, rip-up clasts at 10 cm.	0.74	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	8 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 13		
60°							Sandstone - same as above	0.13	
						137/41.77			
64°							Sandstone - same as above, medium - coarse grained	218	
							Sandstone - same as above, coarse grained, coaly fragments	048	
							as inclusions		
							Top of Box 14		
							Sandstone - same as above, Fe staining, discontinuous coaly	033	
							inclusions		
						147/44.82			
66°							Sandstone - same as above, coarse grained	163	
							Sandstone - fine grained, medium grey, few minor claystone	065	
							inclusions, slight Fe staining		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	9 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 15		
							Sandstone - same as above, coarsening downward	068	
						157/47.86			
							Sandstone - coarse grained, hard, coaly inclusions	056	
	47.04	47.13	9				Siltstone - dark grey, hard	0.27	
	47.13	47.40	27				Claystone - carbonaceous, listric surfaces, pyrite film		
	47.40	47.48	8	0.05			Coal - boney		
	47.48	47.74	26	0.17			Coal - (15-20% ash), core badly broken		
	47.74	48.05	31	0.29			Coal - core loss		
	48.05	48.43	038				Claystone - carbonaceous, very soft, heavily broken pyrite film, thin coaly stringers	020	
						162/49.39			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	10 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - medium dark grey, listric surfaces, discontinuous	018	
							thin coaly laminae		
							Claystone loss		
	48.58	48.76	18				Siltstone - medium - dark grey, hard	018	
	48.76	52.04	328				Sandstone - fine grained, medium - dark grey	004	
							Top of Box 16		
72°							Sandstone - fine grained, same as above	068	
						167/50.91			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	11 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, fine - medium grained, coarsening	206	
							downwards, becoming clg'c towards 206, coarser grains		
							are subrounded to rounded quartz and chertz with minor		
							amounts of claystone and siltstone. Scattered coaly		
							inclusions as well		
							Top Box 17		
							Sandstone - same as above, core intact	006	
							Sandstone - light grey, coarse grained, badly broken, twisted,	044	
							possible small fold, area of potential core loss, 4 cm		
							claystone at to also broken		
	52.04	52.41	37				Sandstone - core loss		
						175/			
	52.41	53.71	130			53.35	Sandstone - medium grained, light - medium grey, similar to above	060	
							but core intact		
							Sandstone - conglomerate, grains predominately subrounded to	070	
							rounded and ranging up to 8 mm in diameter, cement is white/		
							soft/possible Kaolinite?, ground mass is finer grained cherts		
							and quartz. Large dark grey siltstone fragments at 46 cm		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MMD 81-01	12 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1971	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	53.71	53.77	6				Claystone - dark grey, listic surface at top contact, slightly silty	0.06	
72°	53.77	55.75	198				Sandstone - fine-medium grained, conglomeratic on top, buff to light grey, fines downward	0.50	
							Sandstone - conglomeratic, quartz and chert pebble grains, mainly subrounded to rounded, ground mass is finer grained quartz and chert	0.20	
							TOP OF BOX 18		
							Sandstone - light grey, fine grained	0.09	
							Sandstone - conglomeratic		
82°							Sandstone - light grey, fine grained, listic surfaces, minor very thin coaly laminae at 30 cm., bottom 3 cm. is dark grey soft claystone with listic surface at contact	0.60	
						185/ 56.40			
							Sandstone - light grey, fining downwards, quarts and chert grains in finer grained quarts/chert groundmass	0.37	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	13 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	55.75	55.87	12				Claystone - dark grey, soft, listic surfaces	0.12	
	55.87	61.60	573				Sandstone - coarse grained, medium-dark grey	0.07	
74°							Sandstone - fine grained, light grey, micaceous	1.16	
							TOP OF BOX 19		
72°							Sandstone - fine grained, same as above	1.11	
						195/59.45			
72°							Sandstone - fine grained, same as above	0.28	
						196/59.76			
							Sandstone - fine grained, light grey, micaceous, intermittent pebble bands, pebbles of well rounded chert and quartz (with odd siltstone)	1.31	
							TOP OF BOX 20		
74°							Sandstone - same as above, ground core at bottom, 6 cm. pebble band at 103 cm. composed of chert and quartz (well rounded)	1.80	
	61.60	61.74	0.14				Core loss (sandstone)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	14 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	61.74	66.50	476				Sandstone - same as above	049	
						207/63.11			
							Sandstone - same as above	035	
							Top of Box 21		
							Sandstone - same as above	274	
							BCA 74° at 37 cm		
							BCA 72° at 171 cm		
						217/66.14			
							Top of Box 22		
75°							Sandstone - same as above	118	
							Kb-Kh contact		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	15 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	66.50	66.70	20				Claystone - dark grey, soft	0.20	
	66.70	67.00	30				Sandstone - fine grained, light grey, same as above	0.30	
69°	67.00	67.23	23				Claystone - dark grey (BCA on lower contact)	0.23	
	67.23	67.32	9				Sandstone - same as above, thin calcite filled fracture	0.09	
72°	67.32	68.34	102				Claystone - silty, thin bands of fine grained sandstone, ironstone nodules at 21 and 36 cm. (8 cm.)	0.72	
							TOP OF BOX 23		
							Claystone - silty, thin bands of fine grained sandstone, same as above	0.30	
74°	68.34	69.24	90				Sandstone - fine grained, light grey	0.90	
	69.24	69.47	23				Siltstone - dark grey, listic surfaces, fine grained sandstone bands	0.23	
	69.47	69.64	17				Sandstone - medium-dark grey, pyrite nodule, listic surfaces	0.12	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	16 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Boke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	69.64	69.72	8				Claystone - dark grey, soft, silty	0.08	
	69.72	70.00	28				Sandstone - fine grained, elongated pyrite nodules	0.28	
	70.00	70.15	15				Claystone - dark grey, rip-up clasts of fine grained sandstone	0.15	
	70.15	71.38	123				Sandstone - fine grained, medium grey, ironstone nodules at 16 cm. at 22 cm. from top, quartz filled fracture at 32 cm. from top, sinuous fracture filled with quartz and pyrite at 37 cm.	0.72	
							TOP OF BOX 24		
79°							Sandstone - dark grey, interbedded with dark grey claystone rip-up clasts, listic surface	0.20	
						237/72.26			
82°							Sandstone - light grey, fine grained	0.31	
	71.38	71.75	37				Claystone - dark grey, with thin bands of fine grained sandstone rip-up clasts	0.37	
	71.75	71.84	9				Ironstone nodule - very hard, massive	0.09	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	17 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	71.84	72.64	80				Sandstone - light to medium grey, fine grained, thin claystone	0.80	
							bands with listic surfaces		
	72.64	72.74	10				Claystone - dark grey	0.10	
	72.74	74.59	155				Sandstone - fine grained, light to medium grey, thin claystone	0.73	
							elongated pyrite nodule		
							TOP OF BOX 25		
							Sandstone - medium grey, fine grained, load casts	0.52	
						247/ 75.30			
							Sandstone - medium grey, fine grained, load casts	0.30	
	74.59	74.46	17				Claystone - silty, dark grey		
78°	74.46	79.36	490				Sandstone - light-medium grey, fine grained, thin bands of	1.74	
							claystone, ironstone nodules at 50 cm. and 98 cm.		
							from top		
							TOP OF BOX 26		
							Sandstone - fine grained, light-medium grey, few thin claystone	0.75	
							bands, load casts, minor cross bedding		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MMD 81-01	18 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						257/ 78.35			
75°							Sandstone - fine grained, light-medium grey, minor rip-up clasts and load casts, thin claystone bands	1.89	
							TOP OF BOX 27		
							Sandstone - fine grained, light-medium grey, minor rip-up clasts and load casts	0.52	
	79.36	79.68	.32				Claystone - silty, dark grey, thin bands of light grey, fine grained, sandstone	0.32	
	79.68	98.30	18.62				Sandstone - medium grey, fine grained, thin claystone bands	0.35	
						267/ 81.40			
74°							Sandstone - medium grey, fine grained, thin claystone bands, minor load casts and rip-up clasts	1.64	
							TOP OF BOX 28		
							Sandstone - same as above	1.35	
						277/ 84.45	Sandstone - same as above, with thin claystone bands	1.43	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MMD 81-01	20 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 29		
							Sandstone - fine grained, medium grey, with thin bands of	1.55	
							dark grey claystone		
						287/ 87.5			
74°							Sandstone - very fine grained, same as above	1.32	
							TOP OF BOX 30		
76°							Sandstone - very fine grained, medium-dark grey, ironstone	1.80	
							nodule at 49 cm. from top, interbeds of dark grey		
							siltstone and claystone		
						277/ 90.55			
77°							Sandstone - very fine grained, medium-dark grey, same as above	0.90	
							TOP OF BOX 31		
75°							Sandstone - fine grained, light-medium grey, dark grey interbeds	2.13	
							of siltstone and claystone		
						307/ 93.60			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MMD 81-01	22 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 34		
	98.30	98.52	22				Claystone and Clay - dark grey, very soft in spots, core broken	0.22	
	98.52	98.57	5				Core loss (Claystone and clay)		
	98.57	98.97	40				Siltstone - with thin band of dark grey claystone and fine grained sandstone, core is heavily broken	0.40	
	98.97	99.17	20				Core loss (Siltstone)		
						329/ 100.30			
74°	99.17	100.33	116				Siltstone - dark grey, with interbeds of light grey, fine grained sandstone and dark grey claystone	1.16	
	100.33	100.61	28				Claystone and Clay - dark grey to grey brown, 8 cm. of very soft clay 10 cm. from top (unconsolidated)	0.28	
76°	100.61	100.85	24				Siltstone - dark grey with very fine grained sandstone band	0.24	
	100.85	101.12	27				Claystone - dark grey	0.27	
							TOP OF BOX 35		
75°	101.12	106.44	532				Siltstone - dark grey, with interbeds of light grey fine grained sandstone and dark grey claystone	0.41	
						337/ 102.74			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	23 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°							Siltstone - same as above	220	
							Top of Box 36		
							Siltstone - same as above	087	
						347/105.79			
							Siltstone - same as above	184	
							Top of Box 37		
	106.44	106.64	20				Claystone - clay - very soft unconsolidated at 7 cm from top	0.20	
74°	106.64	107.68	104				Siltstone - with minor interbeds of fine grained sandstone and	1.04	
							dark grey claystone		
						357/108.84			
	107.68	107.74	6				Claystone and clay - very soft	0.06	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	24 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	107.74	108.54	80				Siltstone - dark grey with interbeds of fine grained, light	0.80	
							grey sandstone and dark grey claystone, core broken,		
							percentage of sandstone increasing downwards		
	108.54	108.60	6				Core loss (siltstone)		
76°	108.60	110.82	222				Sandstone - light grey, fine grained, interbeds of dark grey	0.49	
							siltstone		
							TOP OF BOX 38		
77°							Sandstone - light grey, fine grained with interbeds of dark grey	1.73	
							siltstone		
						367/ 111.86			
	110.82	110.92	10				Siltstone - dark grey with interbeds of dark grey claystone	0.10	
	110.92	111.01	9				Core loss (Bentonite and clay)		
	111.01	111.14	13				Bentonite - white to light grey grain, very soft, small fragments	0.13	
							of dark grey claystone		
74°	111.14	113.91	277				Sandstone - with interbedded dark grey siltstone,	0.77	
							same as above		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	25 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 39		
							Sandstone - same as above, percentage of siltstone increasing	200	
							increasing downwards		
						377/114.90			
77°	113.91	117.73	402				Siltstone - dark grey, with minor interbeds light grey fine	071	
							grained sandstone, soft clay bands 4 cm and 33 cm from top,		
							lateral which is 5 cm wide (may be areas of core loss)		
							Top of Box 40		
77°							Siltstone - dark grey, with minor interbeds of light grey fine	278	
							grained sandstone, minor load casting, minor cross bedding		
						387/117.96			
							Siltstone - same as above, with minor interbeds of claystone	015	
							Top of Box 41		
77°							Siltstone - dark grey, with interbeds of light grey fine grained	088	
							sandstone, percentage of sandstone increasing downwards		
							small scale cross bedding and minor load casts		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	26 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°	117.93	119.81	188				Sandstone - light grey, fine grained, with interbeds dark grey	1.88	
							siltstone, minor load casts and small scale cross bedding,		
							percentage of siltstone increasing downwards		
							Top of Box 42		
	119.81	119.98	17				Claystone - dark grey, core partially broken, slight listric	0.17	
							surfaces, minor bands of light grey fine grained sandstone		
						397/121.01			
79°	119.98	120.92	94				Sandstone - light grey, fine grained, with interbedded dark grey	0.94	
							siltstone, rip-up clasts and cross bedding and minor load		
							casts		
80°	120.92	121.56	64				Siltstone - dark grey, with interbedded light grey, fine grained	0.64	
							sandstone		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	27 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
82°	121.56	138.38	16.82				Sandstone - light - medium grey, with interbeds of dark grey	082	
							siltstone, minor interbeds claystone, soft sediment deforma-		
							tion		
							Top of Box 43		
80°							Sandstone - same as above, cross bedding and minor soft sediment	058	
							deformation and load casts		
						407/124.05			
							Sandstone - same as above, rip-up clasts, minor cross bedding	213	
							and minor load casting, minor interbeds siltstone		
							Top of Box 44		
							Sandstone - fine grained, light grey with minor interbeds	086	
							siltstone, worm burrows and minor load casts and rip-up		
							clasts		
						417/127.10			
78°							Sandstone - same as above, with small scale soft sediment	196	
							deformation, small scale cross bedding and load casts		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	29 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						447/136.24			
77°							Sandstone - with minor interbs of dark grey siltstone, same	124	
							as above		
							TOP OF BOX 48		
77°							Sandstone - light - medium grey, fine grained, with interbeds of	170	
							dark grey siltstone and minor dark grey claystone, minor small		
							scale rip up clasts		
						457/139.29			
81°							Sandstone - same as above	025	
76°	138.38	139.18	80				Siltstone - dark grey, with interbeds of fine grained light -	0.80	
							medium grey sandstone and minor dark grey claystone		
							TOP OF BOX 49		
80°	139.18	144.57	539				Sandstone - light-medium grey, fine grained, interbedded with	2.15	
							dark grey siltstone, minor small scale cross bedding broken		
							core from 148 to 180 cm from top		
						467/142.34			
80°							Sandstone - light medium grey, fine grained, minor small scale	0.54	
							cross bedding with minor interbedded dark grey siltstone,		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	30 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							minor listrics		
							TOP OF BOX 50		
79°							Sandstone - light grey, fine grained with dark grey siltstone interbeds, minor rip-up clasts and minor small scale cross bedding	2.50	
						477/145.39			
80°							Sandstone - light grey, fine grained with dark grey siltstone interbeds, minor rip-up clasts and minor small scale cross bedding	0.20	
	144.57	145.36	79				Siltstone - dark grey with interbedded fine grained light grey sandstone	0.07	
							TOP OF BOX 51		
79°							Siltstone - dark grey with interbedded light grey fine grained sandstone	0.72	
	145.36	145.41	5				Bentonite - white-light grey, upper half soft/Bentonitic, bottom half consolidated/tuffaceous	0.05	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	31 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
77°	145.41	146.02	61				Siltstone - dark grey, with interbedded light grey sandstone	0.61	
							slight carbonaceous		
78°	146.02	150.10	408				Sandstone - fine grained, light-medium grey with interbedded, dark	1.34	
							grey siltstone and minor dark grey claystone, minor small		
							scale cross bedding, minor load casting		
						487/148.44			
							TOP OF BOX 52		
83°							Sandstone - light grey, fine grained, with minor interbedded dark	2.74	
							grey siltstone, small scale cross bedding, load casts and		
							minor rip-up clasts		
							TOP OF BOX 53		
75°	150.10	150.34	24				Siltstone - dark grey, with interbedded light grey fine grained	0.07	
							sandstone, bottom 3 cm siltstone		
						497/151.49			
	150.34	150.41	7				Siltstone - dark grey	0.07	
71°	150.41	153.00	259				Sandstone - light grey, fine grained with interbedded minor dark	2.13	
							grey siltstone, cross bedding, load casts, minor rip-up clasts		
							and other soft sediment deformation		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	32 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - medium grained, light grey, with minor dark grey	0.14	
							siltstone bands and fragments		
76°							Sandstone - fine grained, light-medium grey, with interbedded	0.17	
							dark grey claystone and thin coaly parting		
							TOP OF BOX 54		
72°							Sandstone - fine grained, light grey with minor thin dark grey	0.15	
							with minor thin dark grey siltstone, bands scattered barley		
							sized, well rounded dark grey siltstone fragments towards		
							bottom		
	153.00	153.29	29				Siltstone - dark grey, hard with minor light grey fragments, soft	0.29	
							sediment interbedded		
						507/154.53			
77°	153.29	153.74	45				Sandstone - light grey, fine grained with minor dark grey silt-	0.45	
							stone, small scale rip-up clasts, cross bedding and load casts		
	153.74	153.92	18				Claystone - dark grey carbonaceous with thin coaly laminae	0.18	
	153.92	154.00	8				Coal - (10-15% ash)		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	33 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	154.00	154.05	5				Claystone - dark grey, carbonaceous, soft, slightly silty	0.05	
	154.05	154.36	31				Siltstone - dark grey, carbonaceous	0.31	
	154.36	154.55	19				Claystone - dark grey, thin coaly laminae with listric surfaces	0.19	
	154.55	156.22	167				Sandstone - medium dark grey, fine grained, minor rip-up clasts	1.12	
							minor load casts		
							TOP OF BOX 55		
70°							Sandstone - same as above	.55	
							Kh - Kg Contact		
	156.22	156.44	022				Siltstone - dark grey, hard	0.11	
						517/157.58			
							Siltstone - dark grey with coaly laminae showing listric surfaces	0.11	
							laminae also have small calcite bands along them		
	156.44	163.31	687				Sandstone - medium-fine grained, fining downwards, light-medium	2.06	
							grey, calcite filled fractures at 40 cm and 47 cm from top		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	34 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 56		
63°							Sandstone - fine grained, medium-grey, listric surfaces with	0.94	
							slight calcite filling		
						527/160.63			
60°							Sandstone - same as above	1.85	
							TOP OF BOX 57		
65°							Sandstone/Siltstone - thin interbeds of 1 to 10 cm sandstone is	1.00	
							light grey, fine grained, siltstone is medium grey, thin		
							lamination and slump features, some burrows		
75°						537/163.68			
							Sandstone/Siltstone - thin interbeds 1 to 10 cm sandstone is light	1.02	
							grey, fine grained, siltstone is medium grey, thin lamination		
							and slup features, some burrows, bottom 12 cm are dark grey		
							claystone with coal bands - cross beds indicate tops up		
	163.31	163.37	0.06	0.06			Coal - core somewhat broken		
	163.37	163.38	0.01	0.01			Claystone - carbonaceous		
	163.38	163.50	0.12	0.12	1		Coal - core broken		
	163.50	163.78	0.28	0.27			Coal -		
	163.78	163.97	0.19	0.18			Claystone - dark grey, very thin coal stringers		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	35 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 58		
	163.97	164.11	0.14	0.14	2		Claystone - dark grey, plant fossil		
	164.11	164.18	0.07	0.07			Claystone - very carbonaceous, coaly, core very broken		
75°	164.18	164.25	0.07	0.07			Claystone - very carbonaceous, coal stringers, sheared contacts		
75°	164.25	164.42	0.17	0.17			Coal - sheared bedding surface, minor pyrite (on cleat?)		
	164.42	164.58	0.16	0.16	3		Coal loss		
	164.58	164.65	0.07	0.07			Boney coal - abundant thin vitrain bands		
	164.65	165.34	69				Sandstone - fine grained, medium grey, carbonaceous plant fossil	0.69	
							thin siltstone interbeds (to 2 cm.) at base		
						547/ 166.73			
	165.34	165.49	15				Claystone - dark grey, silty		
	165.49	167.08	159				Sandstone - very fine to fine grain, light-medium grey, silt-	1.36	
							stone and minor claystone interbeds 2-10 cm. thick,		
							channeling of soft sedimentaty structures, worm		
							burrows. Occasional coal stringers, 20 cm. medium		
							grey siltstone near base, calcite fractures at 60°		
							and shear surface at 50°		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	36 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID: N E	UTM: 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 59		
							Sandstone - light grey, fine grained, cross bedding, load casts and rip-up clasts	0.23	
	167.08	167.43	35				Siltstone - dark grey	0.35	
	167.43	167.76	33				Sandstone - light grey, fine grained	0.33	
82°	167.76	168.92	116				Siltstone - with bands of interbedded light grey, fine grained sandstone, thin coal band at 57 cm. from top	0.60	
						557/ 169.77			
							Claystone - carbonaceous, with thin coaly laminae and listic surfaces	0.12	
							Siltstone - dark grey, scattered thin coaly laminae	0.44	
	168.92	169.09	17				Sandstone - light grey, fine grained, soft sediment deformation		
	169.09	170.18	109				Siltstone - dark grey, thin coaly laminae with slight listics along laminae	0.35	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	37 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 60		
							Siltstone - dark grey with minor interbedded light grey sandstone	0.74	
	170.18	170.53	35				Sandstone - light grey, very fine grained	0.35	
	170.53	170.94	41				Siltstone - dark grey, with minor interbedded light grey fine grained sandstone	0.41	
	170.94	173.04	210				Sandstone - light grey, fine grained, turbidites, worm burrows and load casts	0.57	
						567/ 172.82			
							Sandstone - same as above, bioturbation, coarsens downwards	0.71	
							TOP OF BOX 61		
							Sandstone - light grey, fine grained, slight coarsening downward	0.82	
78°	173.04	173.12	8				Siltstone - dark grey, thin coal bands at top and bottom, discontinuous coaly laminae throughout, listic surfaces throughout	0.08	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	38 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	173.12	173.28	16				Sandstone - light grey, fine grained		
67°	173.28	174.90	162				Siltstone - dark grey, thin coaly laminae with slight listic	1.12	
							surfaces		
						577/ 175.87			
							Siltstone - same as above	0.50	
							TOP OF BOX 62		
	174.90	175.17	027				Claystone - dark grey, very carbonaceous at base, coaly at base	0.23	
							Claystone - very carbonaceous to stoney, core very broken	0.04	
	175.17	175.32	15				Core loss (Claystone)		
	175.32	175.41	9				Claystone - dark grey, very carbonaceous, coal bands, core	0.09	
							somewhat broken		
	175.41	175.44	3				Core loss (Claystone)		
	175.44	176.29	85				Claystone - dark grey, silty in parts, broken at base	0.85	
	176.29	176.34	0.05	0.05			Core loss (Claystone/Coal)		
	176.34	176.48	0.14	0.14			Coal - broken at top		
	176.48	176.56	0.08	0.08			Coal		
	176.56	176.68	0.12	0.12			Coal		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	39 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	176.68	176.72	0.04	0.04	4		Stoney coal - sheared at base, abundant coal bands		
	176.72	176.76	0.04	0.04			Coal loss		
	176.76	176.97	0.21	0.20			Coal		
	176.97	177.62	65				Claystone - medium to dark grey, silty, occasional coal bands	0.65	
	177.62	178.30	0.68				Sandstone - fine grain, light grey, thin laminae, coaly in	0.08	
							places		
						587/ 178.92			
							Sandstone - same as above	0.07	
							TOP OF BOX 63		
76°							Sandstone - light grey, fine to medium grain, hard, shows small	0.53	
							scale load casting and other turbidity marks, small		
							scale cross bedding		
	178.30	178.52	22				Claystone - dark grey, carbonaceous with coaly laminae and one	0.22	
							coal band at 1.5 cm. to 5 cm. from top		
84°	178.52	178.65	13				Siltstone - dark grey hard, with thin dark grey claystone bands	0.13	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	40 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	178.65	179.23	58				Sandstone - light grey, fine to medium grained fining downward	0.58	
							turbidity structures, load casts, rip-up clasts,		
							small scale cross bedding. Minor dark siltstone,		
							percentage increasing going down hole		
	179.23	179.44	21				Siltstone - dark grey, hard, with bands of light grey/grey	0.21	
							sandstone interbedded, rip-up clasts in sandstone		
85°	179.44	179.73	29				Siltstone - medium grey, interbedded light grey, fine grained	0.29	
							sandstone		
	179.73	179.83	10				Claystone - dark grey, silty, with thin coaly laminae	0.10	
	179.83	179.94	11				Siltstone - medium to dark grey with thin band of light grey	0.11	
							fine grained sandstone		
75°	179.94	180.06	12				Sandstone - light grey, fine grained	0.12	
	180.06	180.13	7				Claystone - dark grey, silty with coaly laminae with listic	0.07	
							surfaces		
						597/ 181.97			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	41 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	180.13	180.35	22				Core loss (Claystone)		
							Top of Box 64		
	180.35	180.48	13				Siltstone - dark grey, minor coaly laminae	0.13	
	180.48	181.46	98				Sandstone - light grey, fine grained	0.98	
	181.46	181.98	52				Siltstone - dark grey, minor interbeds, fine grained, light grey sandstone	0.52	
	181.98	183.47	1.49				Sandstone - medium grey, fine grained, with minor interbeds dark grey siltstone	1.24	
							TOP OF BOX 65		
							Sandstone - medium grey, fine grained, with minor interbeds dark grey siltstone	0.25	
						6077/ 185.01			
	183.47	183.67	20				Core loss (sandstone)		
	183.67	184.30	63				Sandstone - same as above	0.63	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	42 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	184.30	185.57	127				Siltstone - dark grey with claystone bands, ironstone bands at	1.27	
							84 cm. and 100 cm. from top, random discontinuous		
							calcite filled fractures within ironstone, ironstone		
							interval is 32 cm. thick, thin coal band 1 cm. from		
							bottom		
	185.57	185.79	22				Core loss		
	185.79	185.88	9				Coal - boney		
74°	185.88	186.41	53				Sandstone - light grey, fine grained, with interbed dark grey	0.53	
							siltstone		
							TOP OF BOX 66		
	186.41	186.49	8				Siltstone - dark grey, with interbedded light grey fine grained	0.08	
							sandstone		
						617/ 188.06			
	186.49	186.69	20				Core loss (Siltstone)		
	188.69	188.05	136				Siltstone - dark grey with interbedded light grey fine grained	1.36	
							sandstone, percentage of sandstone increasing		
							downwards		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	43 OF 91

DATE BEGUN	Feb. 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
73°	188.05	195.16	7.11				Sandstone - light grey, fine grained, with minor interbeds of	089	
							dark grey siltstone, minor load casts, very minor rip-up		
							clasts, minor cross bedding, worm burrow		
							TOP OF BOX 67		
							Sandstone - same as above	021	
						625/190.5			
73°							Sandstone - same as above, rip-up clasts, etc.	258	
							Top of Box 68		
80°							Sandstone - light grey, fine grained, with minor interbeds of	040	
							dark grey siltstone, w/b, minor cross bedding		
						636/			
						193.85			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	44 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, fine-medium grained, coarsening down-	2.40	
							ward, very hard, slight calcite		
							TOP OF BOX 69		
							Sandstone - light grey, medium grained	0.65	
75°	195.16	195.23	7				Siltstone - dark grey	0.07	
						646/ 196.9			
	195.23	195.45	22				Core loss (Siltstone)		
80°	195.45	197.12	167				Siltstone - dark grey, with minor interbedding of light grey	1.67	
							fine grained sandstone and silty claystone		
	197.12	198.50	138				Sandstone - light grey, fine-medium grained, coarsening downward	0.29	
							with minor interbedding of siltstone		
							TOP OF BOX 70		
							Sandstone - same as above	1.09	
						656/ 199.95			
	198.50	198.72	22				Core loss (Siltstone)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	45 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	198.72	198.95	23				Siltstone - dark grey, very minor interbedding, light grey sandstone	0.23	
	198.95	200.39	144				Sandstone - light grey, fine-medium grained, coarsening downward, minor cross bedding, hard, very thin carbonaceous laminaes throughout	1.44	
							TOP OF BOX 71		
	200.39	200.57	18				Siltstone - dark grey	0.18	
72°	200.57	200.99	42				Sandstone - light grey, fine grained with very minor dark grey siltstone	0.42	
	200.99	201.19	20				Siltstone - dark grey	0.20	
73°	201.19	201.82	63				Sandstone - light grey, fine-medium grained, minor carbonaceous laminae	0.63	
						666/203			
	201.82	203.29	147				Sandstone - same as above	1.47	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	46 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID N E		UTM 6068750 N	649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 72		
80°	203.29	204.44	1.15				Siltstone - medium grey, massive with some sandy bands, bottom	1.15	
							18 cm. is claystone (increasing percentage of		
							claystone towards base)		
	204.44	204.49	0.05	0.05			Coal		
	204.49	204.54	0.05	0.05			Bone Coal		
	204.54	204.56	0.02	0.02			Stone Coal		
	205.56	204.64	0.08	0.08			Coal and Bone Coal - approximately 50% of each, core extremely		
							broken		
	204.64	204.79	0.15	0.15			Coal - higher ash (stoney) bits. Extremely broken and		
					5		pulverized		
						676/ 206.05			
	204.79	204.91	0.12	0.12			Coal - core somewhat broken		
	204.91	205.13	22	0.17			Coal - broken and sheared at base		
	205.13	205.25	12	0.12			Coal - thin claystone bands at base		
	205.25	205.30	5	0.05			Coal - highly broken, bony bits		
	205.30	205.80	50	0.38			Claystone - slightly silty, plant fossil	0.38	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	47 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750. N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 73		
	205.80	206.40	060				Claystone - dark grey, carbonaceous with coaly laminaes, slight listic surfaces	0.36	
						681/ 207.57			
							Claystone - dark grey, carbonaceous with coaly laminaes, slight listic surfaces	0.24	
70°	206.40	206.97	57				Sandstone - light grey, fine grained, with minor interbedding of dark grey siltstone	0.57	
	206.97	207.29	32				Siltstone - dark grey, with minor interbedding of light grey siltstone, fine grained, coaly laminaes	0.32	
	207.29	208.35	106				Sandstone - light-medium grey, fine grained, with interbedding of dark grey siltstone bioturbation	0.62	
						687/ 209.4			
							Sandstone - light-medium grey, fine grained, with interbedding of dark grey siltstone bioturbation	0.44	
							TOP OF BOX 74		
	208.35	208.96	61				Siltstone - Very clayey core, sheared and broken, very coaly zones, possibly coalified plant parts	0.61	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	48 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	208.96	209.06	10				Core loss (Siltstone)		
	209.06	209.29	23				Claystone - somewhat silty at top, broken at base	0.23	
	209.29	209.39	10				Core loss (Claystone)		
	209.39	209.74	0.35				Claystone - dark grey, very broken, soft at middle (muddy)	0.13	
60°							Claystone - coal bands	0.12	
							Claystone - dark grey, very carbonaceous at top, highly broken	0.10	
							and pulverized		
	209.74	209.89	15				Core loss (Claystone)		
	209.89	210.19	30				Claystone - dark grey, occasional thin coal stringers, broken	0.30	
							parallel core axis, broken throughout		
	210.19	210.34	15				Core loss (Claystone)		
	210.34	210.77	043				Claystone - pulverized, mucky, occasional coal bits	0.05	
						645/211.84			
							Claystone - dark grey, plant fossil, coaly bands	0.29	
							Claystone - dark grey, very carbonaceous, coal bits, brokenand	0.09	
							pulverized		
	210.77	210.87	10				Core loss (Claystone)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	49 OF 91

DATE BEGUN February 20, 1981	DATE FINISHED February 22, 1981	MINE GRID N E	UTM 6068750 N 649512 E
ELEV. COLLAR N 1281 N	BEARING 223°	HOLE ANGLE 60°	TOTAL DEPTH 320 Roke
COAL LICENCE 3203	CONTRACTOR Coates	LOGGED BY Tom Covert/Eric Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	210.87	211.32	045				Claystone - dark grey to dark brown, coaly zones, carbonaceous	0.17	
							in places, abundant thin coal stringers		
							Claystone - dark grey to dark brown, coaly zones, carbonaceous	0.11	
							in places, abundant thin coal stringers		
							Claystone - dark grey, occasional plant fossils		
							TOP OF BOX 75		
78°	211.32	212.27	95				Sandstone - light grey, fine grained, minor cross bedding	0.95	
	212.27	214.05	178				Siltstone - dark grey, with minor interbedded light grey	1.32	
							sandstone		
						705/ 214.88			
							Siltstone - dark grey, with minor interbedded light grey	0.46	
							sandstone		
							TOP OF BOX 76		
75°	214.05	214.37	32				Sandstone - light grey, fine-medium grained	0.32	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	50 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	214.37	214.76	39				Siltstone - dark grey, with minor interbedded light grey fine grained sandstone, minor rip-up clasts	0.39	
	214.76	223.89	913				Sandstone - light-medium grey, fine-medium grained, with very few minor dark grey siltstone bands	1.96	
						715/217.93			
							TOP OF BOX 77		
76°							Sandstone - light grey, fine-medium grained, with few thick interbedded bands of dark grey siltstone, few sandy rip-up clasts within claystone bands, few minor listic surfaces	2.83	
							TOP OF BOX 78		
							Sandstone - light grey, fine-medium grained, with few thick interbedded bands of dark grey siltstone, few sandy rip-up clasts within claystone bands, few minor listic surfaces	0.25	
						725/220.98			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	51 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°							Sandstone - light grey, fine-medium grained, with few thick	1.14	
							interbedded bands of dark grey siltstone, few		
							sandy rip-up clasts within claystone bands, few		
							minor listic surfaces		
							Sandstone - light grey, medium grained, massive	0.57	
80°							Sandstone - light-medium grey, fine grained, with minor inter-	0.72	
							bedded dark grey siltstone, rip-up clasts, thin		
							ironstone bands at 20 cm., 40 cm., and 66 cm., from		
							top		
							Sandstone - light grey, medium grained	0.16	
							TOP OF BOX 79		
							Sandstone - light grey, medium grained	0.23	
						735/224.03			
80°							Sandstone - light grey, medium grained	0.37	
							Sandstone - light grey, fine grained, with interbedding of dark	0.90	
							grey siltstone, thin ironstone band 30 cm. from top		
							minor turbations		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	52 OF 91

DATE BEGUN February 20, 1981	DATE FINISHED February 22, 1981	MINE GRID N E	UTM 6068750 N 649512 E
ELEV. COLLAR N 1281 N	BEARING 223°	HOLE ANGLE 60°	TOTAL DEPTH 320 Roke
COAL LICENCE 3203	CONTRACTOR Coates	LOGGED BY Tom Covert/Eric Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	223.89	224.35	46				Siltstone - dark grey, with light grey fine grained sandstone	0.46	
							interbeddings, minor sandstone rip-ups		
	224.35	225.98	163				Sandstone - light grey, fair grained with interbedding of dark	0.88	
							grey siltstone, minor cross bedding and rip-up		
							clasts, minor load casts		
							TOP OF BOX 80		
75°							Sandstone/Siltstone/Claystone - thin interbeddings (up to a few	0.38	
							cm.) of fine grained, light grey sandstone,		
							medium grey siltstone and dark grey claystone.		
							Abundant slump features, cross bedding indicates		
							tops up.		
						745/ 227.08			
							Sandstone/Siltstone/Claystone - thin interbeddings (up to a few	0.37	
							cm.) of fine grained, light grey sandstone,		
							medium grey siltstone and ark grey claystone.		
							Abundant slump features, cross bedding indicates		
							tops up.		
	225.98	226.00	2				Claystone - very carbonaceous	0.02	
						746/ 227.38			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	53 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SEAM B-9		
	226.00	226.12	0.12	0.12			Coal - highly broken		
	226.12	226.49	0.37	0.37	6		Coal loss		
	226.49	226.59	0.10	0.10			Coal - very broken		
	226.59	226.65	0.06	0.06			Core loss - Coal		
	226.65	226.67	0.02	0.02			Stoney Coal (near claystone)		
	226.67	226.81	0.14	0.14	7		Claystone - dark grey, carbonaceous and coaly		
	226.87	227.04	0.23	0.23			Coal - slightly broken at base		
	227.04	227.18	0.14	0.14			Coal		
	227.18	227.32	0.14	0.14			Coal		
	227.32	227.40	0.08	0.08			Coal		
	227.40	227.59	0.19	0.19			Coal - Iron stain on cleat		
	227.59	227.82	0.23	0.23			Coal - Iron stain and minor calcite on cleat		
	227.82	228.05	0.23	0.23			Coal - Iron stain on cleat, minor white stain (possibly		
					8		gypsum) on cleat		
							TOP OF BOX 81		
80°	228.05	228.57	0.52	0.52			Coal		
	228.57	228.60	0.03	0.03			Coal - highly broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	54 OF

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
		228.64	0.04	0.04			Coal - relatively high ash (not strong) broken		
		228.68	0.04	0.04	8		Stony Coal		
		228.71	0.03	0.03			Coal - broken		
		228.90	0.19	0.19			Coal - broken		
		228.93	0.03	0.03			Claystone - dark grey, carbonaceous		
						756/ 230.43			
		229.13	0.20	0.20			Coal - frequent vitrain bands		
		229.28	0.15	0.15			Coal - very broken		
		229.46	0.18	0.18			Coal - very broken		
						757/ 230.74			
	229.46	229.55	0.09	0.09	9		Claystone - dark grey, coaly		
		229.85	0.30	0.30			Coal - Iron stain on cleat at top		
		229.98	0.13	0.13			Coal - abundant vitrain, occasional fusain		
		230.01	0.03	0.03			Boney Coal		
		230.17	0.16	0.16			Coal - abundant vitrain, occasional fusain		
		230.32	0.05	0.05			Coal - highly broken		
		230.53	0.21	0.21			Coal		
					10				
							TOP OF BOX 82		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	55 OF

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 82		
	230.53	230.71	0.18	0.18			Coal - broken core		
	230.71	230.73	0.02	0.02			Coal - high ash, nearly boney		
	230.73	230.78	0.05	0.05			Coal		
	230.78	230.95	0.17	0.17			Coal - almost all vitrain, occasional calcite on cleat, occasional thin (less than 1 cm.) stoney to claystone bands)		
	230.95	230.98	0.03	0.03			Claystone - somewhat silty		
	230.98	231.03	0.05	0.05	11		Coal - occasional high ash (nearly boney) bands		
	231.03	231.10	0.07	0.07			Claystone - dark grey, carbonaceous, plant fossils, some sheared surfaces		
	231.10	231.21	0.11	0.11			Coal - thin boney band at base		
	231.21	231.26	0.05	0.05			Coal		
	231.26	231.29	0.03	0.03			Coal - highly broken		
	231.29	231.34	0.05	0.05	12		Coal loss		
	231.34	231.38	0.04	0.04			Coal		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	56 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID: N E	UTM: 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	231.38	231.42	0.04	0.04			Boney coal		
	231.42	231.44	0.02	0.02			Coal		
	231.44	231.46	0.02	0.02			Coal - very broken, thin claystone bands		
	231.46	231.52	0.06	0.06			Coal loss		
80°	231.52	231.69	0.17	0.17			Coal - higher ash zones in bottom half, nearly boney at base		
	231.69	231.84	0.15	0.15			Coal - some relatively hard bands, occasional calcite on cleat, hard bands may be due to higher ash content and/or calcite. This unit is relatively high ash but not quite boney.		
	231.84	231.95	0.11	0.11			Claystone - abundant interbands ranging in ash from coal to stoney coal		
	231.95	231.97	0.02	0.02			Coal - highly broken		
	231.97	232.08	0.11	0.11	13		Claystone - similar to previous claystone unit but with a greater percentage of claystone, 2 cm. coal band in middle		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	57 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	232.08	232.14	0.06	0.06			Coal - some shearing, calcite on lower contact		
75°	232.14	232.42	0.28	0.28			Claystone - dark grey, abundant coal bands (2 cm. thick band near top), sheared surfaces (parallel bedding and at 45° to core) calcite on shear surfaces		
	232.42	232.47	0.05	0.05			Coal and Claystone - bands 1 to 2 cm. thick, core broken, calcite on bedding		
	232.47	232.69	0.22	0.22			Core loss - claystone		
						767/ 233.78			
	232.69	233.37	68				Claystone - silty, coal bands, especially at base. Sheared on bedding and at 45° to core	0.68	
75°	233.37	233.47	10				Sandstone - very fine grained, light-medium grey, thin laminae	0.10	
							TOP OF BOX 83		
82°	233.47	236.13	266				Sandstone - light-medium grey, fine-medium grained, with inter-beds of dark grey siltstone and minor dark grey claystone, minor cross bedding, fining downwards	2.28	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	58 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID: N E	UTM: 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						777/ 236.83			
							Sandstone - medium grey, fine grained, with interbedding of	0.38	
							dark grey siltstone, percentage of siltstone		
							increasing downward		
	236.13	237.68	1.55				Siltstone - dark grey	0.15	
							TOP OF BOX 84		
58°							Siltstone - dark grey, with interbedding of fine grained medium	1.40	
							grey siltstone, thin coaly laminaes, BCA 65° at 18 cm.		
							from top, minor calcite fractures along bedding		
							plane		
	237.68	238.51	83				Sandstone - fine grained, medium grey, minor load casts	0.83	
	238.51	239.20	0.69				Claystone - dark grey	0.16	
						787/ 239.88			
							Claystone - dark grey	0.22	
							Claystone - carbonaceous, with thin coaly laminaes	0.31	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	59 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 85		
	239.20	239.35	15				Coal		
	239.35	240.09	0.74				Claystone - carbonaceous, core heavily broken	0.08	
							Claystone - dark grey, minor coaly laminae with listic surfaces	0.27	
						791/ 241.1			
							Claystone - dark grey, listic surfaces with calcite along listics	0.39	
	240.09	240.36	.27				Siltstone - dark grey, with interbedded bands of light grey fine grained siltstone, calcite filled listic surfaces	0.27	
	240.36	245.61	5.25				Siltstone - light-medium grey, medium grained, carbonaceous laminaes, listic surfaces, calcite filled fracture (partially filled) at 28 cm. from top	0.41	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	60 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						797/ 242.93			
							Sandstone - light grey, medium grained, carbonaceous laminations	0.27	
							listic surfaces, calcite fracture		
							TOP OF BOX 86		
73°							Sandstone - fine-medium grained, calcite filled fractures,	2.80	
							carbonated laminations, light grey, massive,		
							minor cross bedding		
							TOP OF BOX 87		
						807/ 245.97			
73°							Sandstone - medium grained, light grey, fines downward, grades	1.77	
							into siltstone towards base, calcite filled fractures		
	245.61	245.89	28				Siltstone - dark grey, grades into claystone towards base	028	
	245.89	246.83	094				Claystone - dark grey	037	
							Claystone - carbonated with coaly laminations, soft	017	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	61 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - soft in middle	025	
							TOP OF BOX 88		
							Siltstone - clayey, medium grey, core broken and sheared with	015	
							some calcite on bedding		
	246.83	247.03	20				Core loss (Siltstone)		
						817/ 249.02			
	247.03	247.60	57				Siltstone - clayey, medium grey, irregular fracture with minor	0.57	
							shearing at F.C.A. = 65°		
	247.60	247.87	27				Claystone - dark grey, somewhat broken, sheared at F.C.A. = 40°	0.27	
							(abundant shear planes) calcite on sheared surfaces		
						829/ 252.07			
	247.87	248.20	33				Core loss (Claystone)		
	248.20	248.28	8				Claystone - highly broken and sheared, some coal bits	0.08	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	62 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	248.28	248.61	33				Core Loss (Claystone)		
	248.61	248.65	4				Claystone - highly broken	0.04	
	248.65	248.73	0.08				Coal - pulverized		
	248.73	249.07	0.34	0.34			Coal - highly broken and pulverized		
	249.07	250.79	1.72	1.65			Coal loss		
	250.79	251.39	0.60	0.58	14		Coal - highly broken, pulverized in places, some boney coal in bottom half		
							TOP OF BOX 89		
						837/ 255.12			
	251.39	251.47	0.08	0.08			Coal - highly broken, pulverized		
	251.47	251.57	0.10	0.10	15		Claystone - dark grey, highly broken and sheared		
	251.57	251.91	0.34	0.33			Claystone loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	63 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	251.91	251.93	0.02	0.02	16		Coal and Boney Coal - highly broken bits		
	251.93	252.12	0.19	0.19			Coal loss		
	252.12	252.36	0.24	0.23			Claystone loss		
	252.36	252.56	0.20	0.20			Coal		
	252.56	252.59	0.03	0.03			Coal - pulverized		
	252.59	253.09	0.50	0.48			Coal loss		
	253.09	253.13	0.04	0.04			Boney Coal - sheared		
	253.13	253.17	0.04	0.04			Coal		
					17				
	253.17	253.47	0.30	0.29			Coal - broken and pulverized,occasional boney bits		
	253.47	253.98	0.52	0.50			Coal loss		
	253.98	254.05	0.07	0.07			Claystone - dark grey, very carbonated, coal bands, very broken		
	254.05	254.18	0.13	0.13			Claystone loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	64 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID: N E	UTM: 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	254.18	254.26	0.08	0.08	17		Coal - pulverized		
	254.26	254.97	0.71	0.68			Coal loss		
	254.97	255.00	0.03	0.03			Bone and stone coal		
	255.00	255.33	33				Claystone - coal bands, sheared	0.33	
	255.33	255.53	20				Core loss (Claystone ~~and Coal~~)		
						842/ 256.64			
75°	255.53	256.45	92				Siltstone - interbedded with claystone (20-30 cm. in middle is predominatly claystone) and fine grained sandstone (sandstone interbeds less than 1 cm.) occasional coal bands, sheared at F.C.A. = 65, 85	0.97	
							TOP OF BOX 90		
	256.45	261.37	492				Sandstone - light-medium grey, fine grained, minor interbed dark grey claystone	048	
							Siltstone - dark grey, to interbed (sandy)	011	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	65 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						847/ 258.17			
86°							Sandstone - light-medium grey, fine-medium grained, coarsening downward through carbonate laminations, rip-up clasts	225	
							TOP OF BOX 91		
							Sandstone - light grey, fine-medium grained with minor carbonated laminations and rip-up clasts of dark grey siltstone Calcite filled fracture starting at 14 cm. from top and running to 55 cm. from top	84	
						857/ 261.21			
							Sandstone - light grey, medium grained with minor rip-up clasts of dark grey siltstone, small calcite filled fractures, minor discontinuous coaly inclusions	124	
	261.37	261.85	48				Siltstone - dark grey, with interbedding of medium grey, fine grained sandstone, fining downward, minor calcite filled fractures	0.48	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD81-01	66 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	261.85	262.21	0.36				Claystone - dark grey, listic surfaces, slightly silty, calcite	020	
							along listric surfaces		
	262.21	262.50	0.29	0.28			Coal loss		
	262.50	263.00	0.50				Claystone as before coal		
							Top of Box 92		
							Claystone - dark grey, minor coaly laminations, listric surfaces,	066	
							core slightly broken		
	263.00	263.09	0.09				Core loss - claystone		
						867/264.26			
	263.09	264.13	1.04				Claystone - dark grey, with minor interbedding of dark grey	081	
							siltstone		
							Siltstone - dark grey, grades into fine grained sandstone	023	
							towards base		
77°	264.13	266.16	2.03				Sandstone - fine grained, medium grey, with bands of light grey	100	
							medium grained sandstone, minor cross-bedding		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	67 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 93		
							Sandstone - medium grey, fine grained with interbedding of dark grey siltstone, grading into dark grey siltstone at base, ironstone band 13 cm. from top	040	
							Siltstone - dark grey		
							Sandstone - medium grey, fine grained with minor interbed of dark grey siltstone	034	
						877/ 267.31			
	266.16	267.91	175				Siltstone - dark grey, with minor interbed of dark grey claystone	048	
							Claystone - dark grey with minor interbed of dark grey siltstone slight listic surfaces	118	
							Claystone - carbonated, dark grey with thin coaly bands	009	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	68 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 94		
	267.91	267.94	3				Coal - highly broken		
	267.94	268.01	7				Coal loss		
80°	268.01	269.02	101				Claystone - dark grey, silty in part, plant fossil		
	269.02	269.26	024	023			Coal - frequent thin claystone bands in top few cm.		
					18	8877/ 270.36			
	269.26	269.54	028	027			Coal - slightly higher ash near top		
	269.54	269.59	5				Stony Coal		
	269.59	269.72	13				Claystone - very carbonaceous, minor coal stringers, some sheared bedding		
	269.72	269.77	5				Coal and Claystone - upper half predominately coal, lower half claystone, somewhat carbonaceous and coaly		
					19				
	269.77	269.81	4				Coal and Claystone - highly broken and pulverized. Predominately coal		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	69 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID: N E	UTM: 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	269.81	269.86	5				Claystone - dark grey, coal stringers		
	269.86	269.91	5				Coal		
	269.91	270.00	9		19		Claystone - dark grey, sheared, carbonated and somewhat coaly at base		
	270.00	270.02	2				Rock loss		
	270.02	270.07	5				Coal - somewhat broken		
	270.07	270.16	9				Rock loss		
	270.16	270.36	20				Claystone - dark grey, ~~shared~~ shaved, carbonated and coaly at base		
	270.36	270.39	3				Boney coal - stony partings, vitrain bands		
	270.39	270.50	11				Stony coal		
	270.50	270.52	2				Boney coal - some vitrain bands		
	270.55	270.57	5		20		Coal - boney coal and claystone bands, minor calcite on cleat		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	70 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	270.57	270.72	15				Coal - high ash but not quite boney. Lower 2 cm. is		
							carbonated claystone - calcite on bedding at base		
							TOP OF BOX 95		
	270.72	270.88	16		21		Claystone - dark grey, carbonaceous at base		
	270.88	270.90	2				Rock loss		
	270.90	271.06	16				Coal - claystone bands in lower half		
					22				
	271.06	271.15	9				Coal - higher ash end of coal range		
	271.15	271.17	2				Boney coal		
	271.17	271.19	2				Claystone		
	271.19	271.28	9				Claystone - carbonaceous with coal bands		
	271.28	271.29	1				Claystone - pulverized		
					23				
	271.29	271.45	16				Claystone - dark grey, sheared bedding		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	71 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	271.45	271.48	3				Coal		
					23				
	271.48	271.57	9				Claystone - carbonaceous		
	271.57	271.65	8		24		Coal - some claystone at top, core highly broken and sheared		
	271.65	271.77	12				Rock loss		
	271.77	271.91	14				Claystone - dark grey, coaly at top		
	271.91	271.95	4				Boney coal		
	271.95	272.00	5				Claystone - carbonaceous		
	272.00	272.09	9				Claystone - carbonaceous, abundant coal stringers, sheared at base.		
	272.00	272.24	15		25		Rock loss		
	272.24	272.31	5				Claystone - dark grey, coal bands, calcite sheared surfaces		
	272.31	272.40	9				Claystone - dark grey-brown, broken and sheared, minor calcite on shears		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	72 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	272.40	272.41	1		↓		Coal - very broken bits		
						897/ 273.4			
70°	272.41	273.51	110				Claystone - dark grey, silty in parts, coal bands, shared and broken in places, plant fossils		
	273.51	273.66	15				Core Loss (Claystone)		
							TOP OF BOX 96		
	273.66	276.82	316				Siltstone - sandy, fine grained, medium-dark grey, with interbedding of dark grey siltstone, carbonated plant fragments	026	
							Claystone - dark grey, very thin coaly laminations	009	
							Siltstone - dark grey with interbedded bands of fine grained medium grey sandstone	107	
							Sandstone - medium grey, fine grained, with interbedded dark grey siltstone	031	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	73 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						907/ 276.45			
							Siltstone - dark grey, with occasional thin coaly laminations	087	
							TOP OF BOX 97		
							Siltstone - dark grey, with minor interbeds of light grey, fine grained sandstone	056	
	276.82	280.50	368				Sandstone - medium grey, fine grained with minor interbedding of dark grey siltstone, turbidites	163	
						917/ 279.5			
73°							Sandstone - light grey, medium grained, thin calcite filled fractures, coarsening downwards, minor load casts and other assorted turbidites	065	
							TOP OF BOX 98		
85°							Sandstone - medium grey, fine grained, with interbedding of dark grey siltstone	029	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	74 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey, with interbedding of medium grey,	049	
							fine grained sandstone		
							Sandstone - light grey, fine grained with minor turbidities	062	
							minor carbonated laminations, carbonaceous plant		
							fragments		
						923/ 281.33			
	280.50	282.62	212				Claystone - dark grey, silty	070	
							Siltstone - dark grey with interbedded claystone	030	
						927/ 282.55			
							Sandstone - medium grey, fine grained with interbedded dark	034	
							grey siltstone		
							TOP OF BOX 99		
							Siltstone - light-medium grey	039	
							Claystone - dark grey	039	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	75 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	282.62	282.72	10		26		Coal - Somewhat boney at base		
	282.72	282.90	18				Claystone - dark grey, carbonated, coal bands	018	
					27				
	282.90	282.93	3				Claystone - carbonaceous	003	
	282.93	282.99	6				Rock loss - carbonaceous claystone		
	282.99	283.00	1				Coal and Claystone - pulverized		
	283.00	283.15	015	0.14			Coal loss		
	283.15	283.17	002	0.02			Boney coal		
	283.17	283.24	007	007			Coal		
	283.24	283.32	008	008			Coal - highly broken, some claystone, probably high ash		
					28		end of coal range		
	283.32	283.42	010	009			Coal loss		
	283.42	283.50	008	008			Coal - highly broken, some claystone, probably high ash		
							end of coal range		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	76 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	283.50	283.54	004	004			Stoney coal		
	283.54	283.61	007	007			Coal		
	283.61	286.10	249				Stoney coal- some carbonated claystone, calcite on shears	007	
							Claystone - carbon with abundant coal bands (2 cm. coal at top)	027	
							Claystone - interbeds of coal, stoney coal and claystone	006	
							(carbonated) - interbeds are 1 to 2 cm. thick		
							Claystone - dark grey, coal at top, thin coal bands throughout	014	
							Claystone - dark grey, abundant coal bands at top, silty towards	036	
							base, sheared bedding with calcite		
						9377/ 285.6			
							Claystone - silty	032	
							TOP OF BOX 100		
75°							Claystone - dark grey, plant fossil, calcite filled fractures	127	
							and shears on bedding		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	77 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	286.10	286.30	20				Coal		
	286.30	286.54	021				Claystone - dark grey, some shearing, minor coal	016	
							Claystone - dark grey, highly broken and sheared	005	
	286.54	286.87	36				Rock loss - carbonaceous claystone		
						943/ 287.48			
	286.87	289.89	302				Claystone - very carbonaceous, abundant coal bands, dark grey	018	
							Claystone - dark grey, plant fossil in upper portion becoming increasingly siltier towards base	087	
							TOP OF BOX 101		
							Claystone - dark grey, silty in part, occasional thin fine fine grained, light grey, sandstone interbeds (up to 3 cm. thick)	170	
						953/ 290.48			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	78 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey, no siltstone or sandstone, very well	027	
							indurated		
	289.89	289.94	005	005			Coal - broken core		
	289.94	290.02	008	008			Coal loss		
	290.02	290.58	056	053			Coal - well developed cleat is somewhat contorted		
					29	957/ 291.70			
							TOP OF BOX 102		
	290.58	290.88	30	028			Coal - highly broken		
	290.88	291.25	37	035	30		Claystone - dark grey, carbonaceous at top, coal bands throughout		
							plant fossil, calcite filled fracture parallel to		
							bedding at base		
	291.25	291.34	009	009			Coal - abundant vitrain bands		
					31				

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	79 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	291.34	291.38	004	004			Coal - very broken core		
	291.38	291.47	009	009			Coal loss		
	291.47	291.52	5				Claystone - dark grey, some coal bands, sheared bedding surface		
	291.52	291.54	2		32		Claystone - carbonaceous and stoney coal		
	291.54	291.74	20				Claystone - dark grey, silty, sheared bedding surfaces		
85°	291.74	293.36	162				Sandstone/Siltstone - very fine grained, light grey sandstone interbedding with medium grey siltstone (1-5 cm.) core thinly laminated, calcite coated fractures at F.C.A. = 8°, 85° (bedding). Core broken in places, not much loss if any	162	
	293.36	293.39	3				Core loss		
							TOP OF BOX 103		
	293.39	293.45	6				Siltstone - dark grey	006	
						9677 294.74			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	80 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
79°	293.45	294.04	59				Sandstone - medium grey, fine grained with interbedded dark grey siltstone	059	
75°	294.04	294.72	68				Siltstone - medium grey with interbedded medium grey fine grained sandstone	068	
	294.72	295.22	50				Sandstone - light-medium grey, fine grained with minor interbedded dark grey siltstone, small calcite filled fractures, occasional turbidities	050	
74°	295.22	295.94	72				Siltstone - medium grey with minor claystone bands and fine grained sandstone bands, thin coaly laminations	072	
	295.94	296.84	90				Sandstone - light grey, fine grained, turbitities	026	
							TOP OF BOX 104		
							Sandstone - light to medium grey, fine grained, minor dark grey siltstone, small scale turbidities, small calcite fractures	028	
						977/ 297.79			

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	81 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, with interbedded medium to dark grey	036	
							siltstone		
	296.84	300.28	344				Siltstone - medium-dark grey, slight listic surfaces, clay	137	
							content increases downward		
							Claystone - dark grey, slightly silty, coaly laminations	032	
							carbonaceous plant fragments		
							Siltstone - dark grey with minor interbedded dark grey claystone	037	
							TOP OF BOX 105		
							Siltstone - dark grey, clayey	038	
						987/300.84			
							Siltstone - dark grey, with minor interbeds of claystone bands	100	
	300.28	302.15	187				Claystone - dark grey, listic surfaces, carbonaceous plant	045	
							fragments		
							Siltstone - medium grey with interbeds of light grey sandstone	025	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	82 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey with major interbedded coaly bands, coal	052	
							is boney, pyrite band 10 cm. wide at base, boney		
							coal bands at 2 cm. 15 cm. and 25 cm. from top		
							TOP OF BOX 106		
							Claystone - dark grey, boney coal band 28 cm. from top 6 cm.	065	
							wide, other thin coal bands		
	302.15	302.35	20				Core loss (Claystone)		
						997/ 303.89			
	302.35	302.83	048				Siltstone - claystone, medium grey, grading into siltstone	020	
							downwards		
							Siltstone - medium grey with thin bands of light grey fine grain	028	
							sandstone		
	302.83	304.43	160				Sandstone - medium grey, fine grained, slight coarsening	160	
							downwards		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	83 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 107		
	304.43	305.18	75				Siltstone/Claystone/Sandstone - fine grained, light grey sandstone interbeds (few cm.) in predominately silty claystone, broken and sheared (45°) plant fossil	075	
	305.18	305.58	040				Core loss (rock)		
	305.58	305.69	011	010			Coal		
	305.69	305.80	011	010			Coal - highly broken		
					33	10077/ 306.93			
	305.80	305.85	005	005			Coal - very broken		
	305.85	305.98	013	012			Coal		
	305.98	306.01	003	003	34		Stoney coal		
	306.01	306.16	015	014			Claystone - dark grey, carbonaceous, abundant plant fossils		
	306.16	306.18	002	002			Boney coal		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	84 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID: N E	UTM: 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	306.18	306.19	001	001			Claystone - carbonaceous		
					35				
	306.19	306.33	014	013			Coal - somewhat broken		
	306.33	306.42	009	008			Coal loss		
	306.42	306.44	002	002			Boney coal		
	306.44	306.53	009	008			Claystone - vitrain		
	306.53	306.57	002	002			Boney coal		
					36				
	306.57	306.79	022	021			Claystone - dark grey, occasional coal bands		
	306.79	306.82	003	003			Boney		
	306.82	306.84	002	002			Claystone - carbonaceous		
	306.84	306.88	004	004			Rock loss		
	306.88	306.89	001	001			Coal		
	306.89	306.90	001	001	37		Coal - pulverized		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	85 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	306.90	307.18	028	026			Coal - with bony bands		
	307.18	307.21	003	003			Claystone - carbonaceous		
	307.21	307.24	003	003			Coal		
	307.24	307.28	004	004			Claystone - carbonaceous, sheared at base		
	307.28	307.31	003	003			Half carbonaceous claystone (top), lower half stoney coal		
	307.31	307.35	004	004			Rock loss		
					38				
	307.35	307.48	013	012			Coal - some boney coal at base		
	307.48	307.53	005	005			Claystone - carbonaceous, sheared, coaly		
	307.53	307.59	006	006			Claystone - coaly in part, sheared		
							TOP OF BOX 108		
	307.59	307.61	002	002			Coal/Claystone - pulverized		
	307.61	307.71	010	009			Rock loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	86 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID N E	UTM 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Tom Covert/Eric Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	307.71	307.73	002	002			Claystone - dark grey, carbonaceous		
	307.73	308.17	044	041			Coal		
	308.17	308.37	020	020			Coal		
					39				
	308.37	308.77	040	038			Coal - highly broken, pulverized		
	308.77	308.80	003	003			Boney coal		
						1017/ 309.98			
	308.80	310.87	207				very stoney coal	007	
							Claystone - dark grey, silty in part, abundant plant fossils	121	
							some shearing		
							TOP OF BOX 109		
							Claystone - dark grey, silty in part, abundant plant fossils	071	
							some shearing		
							Coal	003	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	87 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - carbonaceous with coal bands	005	
	310.87	310.94	007	007			Core loss - coal		
	310.94	310.99	005	005	40		Coal - with carbonated claystone bands		
	310.99	311.04	005	005			Coal		
	311.04	311.09	005	005			Stoney coal - with coal bands		
	311.09	311.27	018	018			Claystone - dark grey, carbonaceous, abundant plant fossils		
	311.27	311.44	017	017	41		Coal loss		
	311.44	311.51	007	007			Coal - near boney end of coal scale		
	311.51	311.60	009	009			Coal loss - carbonaceous, possibly coaly, claystone		
	311.60	311.72	012	012			Rock - coaly at top 2 cm. nodular construction looks sideritic		
	311.72	311.77	005	005			Rock loss - carbonaceous, claystone		
						1027/ 313.03			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	88 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	311.77	311.79	002	002			Coal		
	311.79	311.86	007	007			Coal		
	311.86	311.88	002	002			Rock - Siderite?, carbonaceous, claystone		
	311.88	311.96	008	008			Coal		
					42				
	311.96	312.07	011	011			Coal		
	312.07	312.70	063	061			Coal - highly broken and pulverized		
	312.70	312.97	027	026			Coal loss		
	312.97	313.09	012	012			Coal and Claystone - intermixed, pulverized		
							TOP OF BOX 110		
						1033/ 314.86			
	313.09	314.95	186				Claystone - dark grey, slightly silty, silt content increases downwards, slight listic surfaces, thin coaly laminations	110	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	90 OF 91

DATE BEGUN	February 20, 1981	DATE FINISHED	February 22, 1981	MINE GRID	N E	UTM	6068750 N 649512 E
ELEV. COLLAR	N 1281 N	BEARING	223°	HOLE ANGLE	60°	TOTAL DEPTH	320 Roke
COAL LICENCE	3203	CONTRACTOR	Coates	LOGGED BY	Tom Covert/Eric Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						1037/ 316.08			
							Claystone - dark grey, silty, top 16 cm. highly broken,	036	
							percentage of silt increasing downward		
							Siltstone - medium grey, with interbedded fine grained, medium	040	
							grey sandstone		
62°	314.95	320.63	568				Sandstone - light-medium grey, fine grained, minor load casts	082	
							and turbidities		
							TOP OF BOX 111		
							Sandstone - medium grey, fine grained with interbedded fine	162	
							grained, light grey sandstone band, medium-dark		
							grey siltstone interbedding		
						1047/ 319.13			
69°							Sandstone - light grey, fine-medium grained with dark grey,	108	
							interbedded, fine grained sandstone, occasional worm		
							burrow and turbidities, minor cross bedding and load		
							casts		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-01	91 OF 91

DATE BEGUN: February 20, 1981	DATE FINISHED: February 22, 1981	MINE GRID N E	UTM 6068750 N 649512 E
ELEV. COLLAR: N 1281 N	BEARING: 223°	HOLE ANGLE: 60°	TOTAL DEPTH: 320 Roke
COAL LICENCE: 3203	CONTRACTOR: Coates	LOGGED BY: Covert/Soprovich	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 112		
							Sandstone - light-medium grey, medium grained with minor	216	
							interbedding of dark grey siltstone and fine		
							grained sandstone, worm burrows, calcite filled		
							fractures from 30 cm. to 57 cm. from top sub-		
							parallel to core, thin coaly laminations with		
							listic surfaces		
						1057/ 322.17			
							E.O.H. 320.63		

474-8010

HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/26/81	1 OF 3

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MDD 81-02	COATES	64	232	369	HQ		N23/10500	3203	42	5

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1313.8	6,069,037.26 N	649,102.41 E	N	E	

GENERAL COMMENTS

10 m fault @ about 225 m

Repeats section below B8

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
		18.00 - 18.81	10	0.81	0.81/0.00	100	1000		Kb	43.0	1275.15		
									Kh	124.5	1201.9		
B12		127.70-128.44	5	0.74	0.74/0.00	100	43						
B11		147.57-148.14	5	0.57	0.57/0.00	100	46						
B10		172.10-172.94	5	0.84	0.81/0.03	100	47						
B9	1135.87	192.30-197.96	3	5.71	5.21/0.50	96	48.55						
		207.05-207.40	3	0.35	0.35/0.00	50	--						
													HOLE NUMBER MDD 81-02

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MDD 81-02	2 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B8		212.35-212.99	5	0.64	0.56/0.08	100	56						
B7	1096.20	241.05-242.10	10	1.04	0.87/0.17	96	57						
B6(u)		249.54-251.72	7	2.18	1.37/0.81	83	58-60						
B6(l)		256.50-257.20	6	0.69									
B5(u)		263.53-266.50	5	2.97	2.43/0.54	90	61-67						
B5(l)	1047.1	267.50-269.73	5	2.23	1.85/0.38	89	69-71						
B4(u)		298.14-300.66	5	2.52	2.01/0.51	92	72-76						
B4(l)		302.50-304.95	5	2.45	2.45/0.00	100	77						
B3	1022.8	321.55-323.76	5	2.21	2.00/0.21	57	78-80						
B2(u)		341.84-343.92	5	2.08	1.56/0.52	100	88-92						
													HOLE NUBMER MDD 81-02

473A-8106

PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MDD 81-02	3 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV. BASE	TRUE THICKNESS	
		352.20-352.75	5	0.55	0.55/0.00	100	93						
B1	988.26	360.90-362.20	5	1.30	1.30/0.00	100	94						
													HOLE NUBMER MDD 81-02

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	1 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
		4.86					Top of Box 1		
	4.86	5.30	0.04				Sandstone - dark grey, medium grained - coarse grained - coarsening at base to a few 2 cm pebbles, some parallel laminae at top slightly broken	040	
							Sandstone - medium grey, fine grained - medium grained, no apparent bedding, grades slightly to fine grained from top	004	
	5.30	5.83	0.53				Claystone - dark grey-brown, indurated, abrupt basal contact with underlying siltstone	053	
53°	5.83	7.11	163				Siltstone - medium grey, coaly lens at top, iron staining on cracks	050	
						27'/8.23			
60°							As above - siltstone/sandstone	078	
							Top of Box 2		
	7.11	7.16	0.05				Claystone - medium grey, soft grading to silstone at base	005	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	2 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	7.16	7.46	0.30				Siltstone - medium grey, iron staining less frequent towards base	030	
70°	7.46	9.29	1.83				Sandstone - medium grey, very fine grained, minor cross-bed soft	183	
							sediment deformation, (convolute beds)fractured 30°		
							BCA 62 cm from top		
						37/11.28			
85°	9.29	13.88	4.59				Sandstone - medium grey, fine grained bedding as above, slightly	056	
							broken		
							Top of Box 3		
							Sandstone - light grey, fine grained, cross bedded	022	
			0.12				Claystone - dark grey, slightly carbonaceous, abrupt upper and	012	
							lower contact		
							Sandstone - medium grey, fine grained, cross bedded, convolute	214	
							bedding near middle of run, coal, stringers and mud		
							clasts near base, some siltstone laminae, slightly		
							carbonaceous, coarsening to medium grained at base		
						47/14.32			
80°							Sandstone - light grey, medium grained, cross beds, bare mud	024	
							in middle		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	3 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 4		
							Sandstone - light grey, medium grained cross bedded	120	
78°	13.88	14.08	0.02				Conglomeratic Sandstone - light grey pebbles of less then 1 cm in matrix of coarse grain sandstone, slightly carbonaceous at base, coal stringer at base	020	
	14.08	17.87	3.79				Sandstone - light grey, medium grained, pebbles lens frequent in this unit 5 cm thick, coaly stringers abundant, minor cross beds	140	
							Top of Box 5		
							As above - 18 cm from top fracture parallel to coal band 1 cm thick, coarsening at base to long	044	
							Conglomerate - medium grey pebbles less then .5 cm, top gradation, abrupt basal contact with sandstone	040	
75°							Sandstone - medium grey, medium grained, abundant cross beds, numerous coaly lenses, and bands, abrupt contact with underlying coal seam	155	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	4 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	17.87	17.88	0.01	.01			Claystone - 1 cm of claystone, carbonaceous at roof	001	
	17.88	17.95	0.07	.07			Coal - bright heavily broken	007	
	17.95	17.96	0.01	.01			Claystone - carbonaceous	001	
	17.96	17.97	0.01	.01			Coal - bright	001	
	17.97	18.00	0.03	.03			Claystone - very carbonaceous, bright staining of fractures	003	
							Top of Box 6		
	18.00	18.27	0.23	0.23			Coal - dull, metallic lustre, 5% bright, pyrite mineralization on face, core solid, slickensides	023	
					1000	20.42			
	18.23	18.58	0.35	0.35			Coal - dull , metallic lustre, hard, solid	035	
	18.58	18.81	0.23	0.23			Coal - dull with bright bands	023	
	18.81	21.35	2.54				Sandstone - light grey, coarse grained, massive, carbonaceous at top, abrupt upper contact with coal, becoming conglomeratic in spots with pebbles of up to .5 cm in diameter	178	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	5 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. &A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 7		
							Sandstone - as above	076	
						23.47			
85°	21.35	23.30	1.95				Conglomerate - light grey, several coarse grained sand lenses pebbles less than 1 cm well sorted	195	
75°	23.30	23.50	.20	.19			Coal - dull, hard, abrupt contact with base	020	
	23.50	25.25	1.75				Sandstone - medium grey, coarse grained, carbonaceous, rare pebble throughout	175	
							Top of Box 8		
	25.25	27.27	202				Conglomerate - light grey, pebbles less than 1 cm, well sorted	105	
						26.52			
							As above	097	
80°	27.27	41.37	14.10				Sandstone - light grey, fine grained, abrupt upper contact with conglomeratic, cross bedded, two siltstone beds near base	082	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	6 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 9		
			0.10				As above		
80°			1.05				Sandstone - medium grey, medium to fine grained, several conglomeratic lenses approximately 5 cm thick, top and base marked by conglomeratic lenses. Minor cross beds		
						29.57			
			0.15				Sandstone - as above		
			1.57				Sandstone - light grey, fine grained, cross bedded, occasional pebble	157	
							Top of Box 10		
			1.32				Sandstone - as above		
						32.62			
			1.57				Sandstone - as above	157	
							Top of Box 11		
			1.39				Sandstone - as above		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	7 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
				3567		35.67			
			1.45				Sandstone - as above		
							Top of Box 12		
			1.59				Sandstone - as above	159	
						38.71			
			1.23				Sandstone - as above	123	
							Top of Box 13		
85°			1.71				Sandstone - light grey, fine grained, cross bedded	171	
						41.76			
		41.37	0.15				As above - slightly more silt towards base	015	
0.85	41.37	41.52	0.15				Claystone - dark grey siltstone large pyrite nodule	0.15	
	41.52	50.07	8.55				Sandstone - light grey, fine grained cross bedded	078	
							Top of Box 14		
			0.95				As above - *Top of Hulcross*	095	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	8 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
			0.87				Sandstone-Siltstone - laminated with some convolute bedding	087	
							worm burrows approximately .5 cm in diameter 15 cm		
							from top - burrowed interval is 5 cm, soft sediment		
							deformation. Alternating light and dark banding,		
							minor cross beds		
						44.81			
80°			0.80				Sandstone-Siltstone - light grey, fine grained-very fine grained		
							sandstone interlaminated with dark grey siltstone,	070	
							convoluted bedding, worm burrows, cross bedded in		
							places, soft bed deformation, consistent through next		
							boxes, "transition zone" with the ratio of sand being		
							higher than silt (65-35) lower in the section the		
							ratio becomes closer (55-45)		
							Top of Box 15		
			2.24				Sandstone-Siltstone - Sandstone still dominant but at a 55-45	224	
							ratio over the silt - as above for structure		
						47.86			
75°			0.46				Sandstone/Siltstone - as above		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	9 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 16		
85°							Sandstone-Siltstone - light grey, fine grained sandstone inter-	255	
							laminated with dark grey siltstone, convoluted bedding,		
							occasional worm burrow		
						50.91			
							As above		
							Top of Box 17		
83°	50.07	62.10	12.03				Siltstone-Sandstone - dark grey siltstone interlaminated with	273	
							light grey, fine grained sandstone, silt seems to be about		
							50-50 with sandstone, convoluted bedding		
							fracture ⊥ to bedding at base, no coating minor cross		
							bedding, rare worm burrow		
						53.96			
							Top of Box 18		
							As above - slightly higher abundant of worm burrow throughout	287	
							than previous box		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	10 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 19		
85°							Siltstone-Sandstone - same as above	013	
						57.01			
							Siltstone-Sandstone - same as above	262	
83°							Top of Box 20		
							Siltstone-Sandstone - same as above	034	
						60.06			
							Siltstone-Sandstone - same as above	245	
							Top of Box 21		
							Siltstone-Sandstone - same as above	060	
						63.10			
							Sandstone - heavily broken - same as above	050	
	62.10	62.40	030				Core loss (Siltstone/Sandstone)		
	62.40	77.92	1552				Sandstone-Siltstone - same as above	020	
			1.42				Siltstone-Sandstone - same as above	142	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	11 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°							Top of Box 22		
			0.94				Siltstone-Sandstone - same as above	094	
						66.15			
85°			1.11				Siltstone/Sandstone - same as above	111	
			0.10				Sandstone - fractured perpendicular to bedding	010	
			0.72				Sandstone-Siltstone - same as above	072	
							Top of Box 23		
			1.12				Siltstone/Sandstone - same as above	112	
						69.20			
			1.43				Siltstone/Sandstone - same as above	143	
85°							Top of Box 24		
			1.26				Siltstone/Sandstone - same as above	126	
						72.25			
83°			1.50				Siltstone-sandy, same as above	150	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	12 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3202	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 25		
			1.46				Sandstone - same as above	146	
						75.30			
							Siltstone - Sandy		
			1.45				- dark grey siltstone interlaminated with light grey,	145	
							very fine grained sandstone, cross beds, convoluted,		
							bedding solid, some claystone band interdispersed		
							Top of Box 26		
			1.64				Sandstone - same as above	164	
						78.35			
			1.17				Sandstone - slightly broken - same as above	117	
	77.92	78.12	0.20				Core loss - siltstone		
							Top of Box 27		
80°	78.12	80.04	1.92				Siltstone - Sandy - same as above	074	
			0.38				Sandstone - slightly broken - same as above	038	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	13 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
			0.36				Sandstone - same as above	036	
			0.44				Sandstone - moderately broken - same as above	044	
						81.40			
	80.04	80.34	0.30				Core loss - siltstone		
80°	80.34	107.99	27.65				Sandstone - same as above	027	
							Sandstone - fractured perpendicular to bedding	012	
							Sandstone - same as above	040	
							Top of Box 28		
85°							Sandstone - same as above	225	
						84.45			
			5.51				Sandstone - same as above	055	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	14 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 28		
							Siltstone-Sandstone - dark grey siltstone interlaminated with	250	
							grey, very fine grained, sandstone, convoluted bedding		
							clay bands in some places		
80°						87.50	Sandstone- same as above	028	
							Sandstone- same as above	276	
						90.54			
							Top of Box 31		
							Siltstone-Sandstone- same as above	288	
							Top of Box 32		
							Sandstone - same as above	015	
			2.64			93.51	Siltstone-Sandstone- same as above	264	
							Top of Box 33		
82°			11.55				Siltstone-Sandstone - same as above	038	
						96.64			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	15 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°							Siltstone-Sandstone - same as above	238	
							Box 34		
							Siltstone-Sandstone - same as above	053	
						99.69			
82°							Siltstone-Sandstone - same as above		
							Top 35		
							Siltstone - Sandstone - dark grey siltstone interlaminated with	078	
							light grey, very fine grained sandstone, cross bedded, few thin		
							claystone bands, soft sediment deformation		
						102.74			
82°								182	
							Top of Box 36		
							Siltstone-Sandstone - same as above	123	
						105.79			
			10.42				Siltstone-Sandstone - same as above	145	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	16 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 37		
82°							Siltstone/Sandstone - same as above - 60 - 40 Siltstone mason	155	
						108.84			
			0.50				Siltstone/Sandstone - same as above - $CaCo_3$ infilling -	050	
							- slightly broken, fractured perpendular to bedding		
			13.73						
	107.99	121.72					Siltstone/Sandstone - same as above		
							Top of Box 38	265	
80°							Siltstone/Sandstone - same as above		
						111.89			
							Siltstone/Sandstone - same as above	075	
							Top of Box 39		
							Siltstone/Sandstone - same as above	230	
						114.93			
							Siltstone/Sandstone - same as above		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	17 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 40	032	
							Siltstone/Sandstone - same as above	103	
							Shear Zone - amastimizing calcite fractures (interbraided micro fractures)	017	
							Siltstone-Sandstone - interlaminated	153	
						117.98			
							Box 41		
							Siltstone/Sandstone - same as above	283	
							Box 42		
						121.03	Siltstone-Sandstone - dark grey siltstone interlaminated light grey, fine grained, very fine grained sandstone, cross bedded places, soft sed deformation	022	
							Siltstone/Sandstone - same as above	204	
	121.72	122.40	0.68				Sandstone - medium grey, medium grained, cross bedded, some interlaminated, dark grey siltstone in minor proportion 15%	068	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	18 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID N E	UTM 69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE 60°	TOTAL DEPTH 371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						124.08	Box 43		
	122.40	122.70	0.30				Siltstone - dark grey, no obvious structure, argillaceous	030	
87°							Sandstone - light grey, very fine grained, with some dark grey silt interior horizontal laminations		
	122.70	122.78	0.08				Claystone - dark grey, carby, slightly silty	008	
	122.78	122.83	0.05	.05			Boney Coal - broken	005	
	122.83	123.07	0.24	.24			Core Loss - Coal	069	
	123.07	123.76	0.69				Claystone - very carby, dark grey	069	
	123.76	123.92	0.16				Sandstone - medium grey, very fine grained, slightly carby, massive, grading to claystone at base	016	
85°	123.92	124.48	0.56				Claystone - dark grey, very carby, plant debris throughout, trace of pyrite, coaly wisps	056	
	124.48	124.80	0.32				Siltstone - dark grey, argillaceous, coal stringers	032	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	19 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	124.80	125.87	1.09				Sandstone - light-dark grey, fine grained, cross bedded, rootlets plant debris	051	
						127.13	Box 44		
85°							Sandstone-Siltstone - very fine grained Sandstone or Siltstone - medium grey, grading to siltstone at base	058	
	125.89	127.24	1.35				Siltstone - dark grey, massive	102	
							Siltstone-Sandstone - dark grey siltstone interlaminated with medium grey fine grained, sandstone, cross bedded, convolute bedding, trace pyrite	033	
	127.24	127.38	0.14				Sandstone - medium grey, fine grained, coaly stringer marks top with listric surfaces, some siltstone - very minor soft sediment deformation	014	
	127.38	127.48	0.10				Core Loss - Claystone		
							B12		
	127.48	127.70	0.22				Claystone - dark grey, very carby, listric surface at base	022	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	20 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: F.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	127.70	127.90	0.20	0.20			Coal - mainly dull		
	127.90	128.32	0.42	0.42	43		Coal - (dull and bright)		
						130.18			
	128.32	128.44	0.12	0.12			Coal - (dull and bright)		
	128.44	129.18	0.74	0.74	44		Claystone - dark grey, trace of pyrite, plant debris throughout, massive, trending to coal at base		
	129.18	129.32	0.14	0.14			Coal		
	129.32	129.42	0.10	0.10			Claystone - very carby, dark grey		
					45				
	129.42	129.48	0.06	0.06			Coal		
	129.48	129.65	0.12	0.17			Core Loss - Coal		
	129.65	129.69	0.04				Claystone - very carby, dark grey, slickensides, pyrite at base		
	129.69	129.94	0.25				Sandstone - medium grey, very fine grained, massive, plant debris, pyrite		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	21 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 46		
	129.94	133.98	4.04				Siltstone - medium grey, massive	135	
						133.23			
							Same as above - siltstone/sandstone - 30 cm fracture parallel to bedding 10 cm from top	143	
							Top of Box 47		
							Same as above - grades to very fine grained sandstone	127	
85°	133.98	140.20	6.22				Sandstone - light grey, very fine grained, cross bedded, some dark grey siltstone interlaminated - graded to fine grained at base	027	
						136.28			
							Sandstone - same as above, rip up clasts at bottom	128	
							Top of Box 48		
							Sandstone - light grey, fine grained, major cross bedded, several 5 cm zones of rip-up clasts	165	
						139.33			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	22 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, medium grained, major planar cross	109	
							beds, 138 cm from top, fractured ⊥ to bedding, $CaCO_2$ infilling		
							with listric surfaces		
							Top of Box 49		
							Sandstone - light grey, medium grained coarsening downwards,	193	
							major cross beds, rip up clasts, few coaly stringers		
	140.20	140.45	0.25				Core loss - Sandstone		
						142.37			
83°	140.45	143.41	2.96				Sandstone - light grey, coarse grained, major planar cross	080	
							bedding, trace carby material		
							Top of Box 50		
							Sandstone - conglomeratic - medium grey, slightly carbonaceous	021	
							coarse grained matrix		
80°							Sandstone - light grey, coarse grained, minor cross beds, trace	033	
							carbonaceous material		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	23 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, fine grained to medium grained, cross	079	
							bedded, coaly stringers throughout, rip up clasts near base		
							carbonaceous plant remain		
80°							Sandstone - very fine grained, dark grey, minor cross beds,	055	
							grading to siltstone at base		
	143.41	143.58	0.17				Core loss - Siltstone		
						145.42			
	143.58	147.41	3.83				Siltstone - dark grey, massive, argillaceous, slightly carbonaceous	045	
							Top of Box 51		
							Siltstone/Sandstone - same as above	257	
						148.45			
							Top of Box 52		
							Siltstone/Sandstone - same as above	081	
85°	147.41	147.57	0.16				Claystone - dark grey, very carby with abrupt contact at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	24 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Seam B11		
	147.57	148.14	0.57	0.57	46		Coal - dull and bright, solid, bottom moderately broken		
	148.14	148.17	0.03				Claystone - dark grey, very carbonaceous		
	148.17	148.43	0.26				Siltstone - medium grey, wavy - convolute bedding		
	148.43	148.93	0.50				Claystone - dark grey, coaly stringers very carbonaceous		
							- slightly silty, some soft bands - very friable		
80°	148.93	149.53	0.60				Siltstone-Sandstone - light grey fine grained sandstone inter-		
							laminated with dark siltstone, cross bedded, slightly		
							carbonaceous at base		
							Top of Box 53		
	149.53	150.31	0.78				Claystone - dark grey, carbonaceous	005	
						151.52			
							Claystone - dark grey, thin vitrain bands at top and base	073	
80°	150.31	150.83	0.52				Siltstone-Sandstone - light grey, very fine grained sandstone		
							interlaminated with dark siltstone, cross bedded		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	25 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	150.83	151.30	0.47				Claystone - dark grey, bright bands (vitrain throughout)		
	151.30	152.25	0.95				Siltstone - medium grey, calcified plant remains at top,	095	
							lenses and stringers of bright coal, some listric surfaces		
							along breaks		
	152.25	152.48	0.23				Core loss - Siltstone		
							Top of Box 54		
	152.48	155.10	2.62				Siltstone - same as above	030	
						154.57			
							Siltstone - dark grey, laminated	232	
83°	155.10	155.24	0.14				Core loss - Siltstone		
							Top of Box 55		
	155.24	155.67	0.43				Siltstone - same as above	043	
	155.67	155.77	0.10	.10			Boney Coal	.10	
	155.77	155.83	0.06	.06			Coal - bright	.06	
						157.62			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	26 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85°	155.83	160.26	4.43				Siltstone/Sandstone - dark grey siltstone interlaminated with	218	
							light grey sandstone 50-50, minor cross beds, convoluted		
							bedding		
							Top of Box 56		
							Siltstone - same as above		
						160.67			
							Siltstone - same as above		
80°	160.26	163.28	3.02				Sandstone - light grey, fine grained, cross bedded, minor	068	
							siltstone laminations (50%)		
							Top of Box 57		
							Sandstone - light grey, fine grained to medium grained, minor	096	
							cross beds, grading to silty claystone		
80°							Claystone - dark grey, several thin silt laminations		
						163.72			
	163.28	163.33	0.05				Core loss - sandstone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	27 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 58		
	163.33	163.93	0.60				Sandstone - same as above agrupt basal contact		
	163.93	166.69	2.76				Siltstone - dark grey, several thin very fine grained sandstone laminations in top 40 cm	098	
						166.77			
							Siltstone - same as above (no laminations)	113	
							Top of Box 59		
							Siltstone - same as above	065	
	166.69	167.18	0.49				Sandstone - light grey, fine grained, cross bed, coaly stringers at base		
	167.18	167.80	0.62				Siltstone-Sandstone - dark grey siltstone laminated with 15% sandstone, very fine grained - coaly stringers on cross beds		
85°	167.80	168.68	0.88				Sandstone - light grey, medium grained, cross bedded	008	
				184		169.82			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	28 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
83°			0.80				Sandstone - light grey, fine grained, minor cross bedded, some	080	
							coaly stringers		
	168.68	168.98	0.30				Core Loss - Sandstone		
							Top of Box 60		
	168.98	171.14	2.16				Sandstone - Same as above	072	
85°							Sandstone/Siltstone - light grey, fine grained, sandstone inter-	144	
							laminated with dark grey siltstone (70-30), coaly stringers		
							throughout		
						172.86			
	171.14	172.05	0.91				Siltstone - dark grey, slightly argillaceous, becoming	074	
							carbonaceous at base		
							Top of Box 61		
							Siltstone/Sandstone - same as above	017	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	29 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	172.05	172.10	0.05	0.05			Stony Coal	.05	
	172.10	172.19	0.09	0.09			Bright Coal, banded	.09	
	172.19	172.22	0.03	0.03			Carbonaceous Claystone - bright coal stringers	.03	
					47				
	172.22	172.72	0.50	0.50			Bright shiny coal, small claystone bands	.50	
	172.72	172.88	0.16	0.16			Coal - dull lustre, 20% bright bands	.16	
						174.69			
	172.88	172.94	0.06	0.06			Coal - mainly bright (saprolitic structure -)	.06	
	172.94	173.41	0.47				Claystone - dark grey, carbonaceous, coal stringers	.47	
	173.41	173.51	0.10	.10			Coal	.10	
	173.51	173.70	0.19	.19			Core Loss - Coal		
85°	173.70	173.75	0.05				Claystone - dark grey, very carbonaceous, numerous coal stringers	.05	
	173.75	176.85	3.11				Siltstone - dark grey, carbonaceous, plant debris	0.99	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	30 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID N E	UTM 69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE 60°	TOTAL DEPTH 371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 62		
85°							Siltstone/Sandstone - same as above	1.41	
						177.74			
							Same as above - very carbonaceous at base	0.71	
85°	176.86	177.16	0.30				Carbonaceous claystone - coal stringers	027	
						178.96			
							Carbonaceous claystone - coal stringers	003	
	177.16	177.20	0.04	.04			Bony Coal - bright bands interbedded with claystone	.04	
							Claystone - vesicular	005	
							Top of Box 63		
	177.32	177.37	0.05	.05			Bony Coal - bright stringers	.05	
	177.37	177.48	0.11	.11			Carbonaceous claystone	.11	
	177.48	177.58	0.10	.10			Bony coal	.10	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	31 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HO

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	177.58	177.80	0.22				Siltstone - dark grey		
85°	177.80	179.87	2.07				Siltstone - light grey, very fine grained, grey siltstone laminated	104	
							Siltstone - light grey, fine grained, minimum cross bedded	048	
							Sandstone - light grey, fine grained grading to dark grey	0.55	
							Siltstone at base		
						182.07			
							Box 64		
	179.87	180.62	0.75				Siltstone - dark grey, minor sandstone laminae	075	
	180.62	183.03	2.41				Sandstone-Siltstone - light grey, fine grained, sandstone interlaminated with dark grey siltstone, convolute bedding, soft sediment deformation 70-30	168	
							Sandstone - light grey, fine grained, cross bedded	055	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	32 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 65		
							Sandstone - same as above	018	
						185.06			
	183.03	186.11	308				Siltstone - same as above	260	
							Basal (25 cm) soft sediment deformation		
							Top of Box 66		
						188.11	Sandstone/Siltstone - interlaminated medium fine grained	048	
85°	186.11	187.29	1.18				Siltstone/Sandstone - interlaminated, cross bedding, worm burrows, coal stringers		
	187.29	188.09	0.80				Sandstone/Siltstone - lenses medium grained, light grey		
	188.09	188.24	0.15				Claystone - silty, rootlets, soil profile		
	188.24	188.48	0.24				Sandstone/Siltstone - interlaminated, slight cross bedding	024	
	188.48	188.84	0.36				Sandstone/Siltstone - core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	33 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 67		
	188.84	189.14	0.30				Siltstone - fine grained, grey	030	
	189.14	191.59	2.45				Siltstone/Sandstone - laminated	040	
87°						191.16	Siltstone/Sandstone - laminated	010	
							Siltstone/Claystone -fractured calcite veinlets	005	
							Siltstone/Sandstone - dark siltstone interlaminated with light grey, very fine grained, sandstone, low angle cross bedded, claystone laminae rare	190	
							Top of Box 68		
87°	191.59	192.30	0.71				Claystone/Siltstone - laminated	.71	
							Seam B9		
	192.30	192.42	0.12	0.12			Coal - dull	.12	
						194.20			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	34 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HO

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	192.47	192.50	0.03	0.03	48		Claystone - dark grey, carbonaceous	.03	
	192.50	192.60	0.10	0.10			Coal - bright banded, metallic lustre, broken	.10	
	192.60	192.85	0.25	0.25			Coal - core loss		
	192.85	193.03	0.18	0.18	79		Claystone - dark grey, carbonaceous	.18	
	193.03	193.74	0.71	0.71			Coal - dull, 5% bright	.71	
	193.74	194.46	0.72	0.72			Coal - dull 5% bright	.72	
							Top of Box 69		
	194.46	194.72	0.26	0.26			Coal - dull 5% bright	.26	
	194.72	194.82	0.10	0.10			Claystone - dark grey (stoney)	.10	
	194.82	195.14	0.32	0.32	50		Coal - dull and bright banding	.30	
	195.14	195.20	0.06	0.06			Coal - boney	.06	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	35 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	195.20	195.34	0.14	0.14			Coal - dull and bright banded	.14	
						197.25			
	195.34	195.52	0.18	0.18			Coal - dull banded, iron stained (siderite?), broken	.18	
	195.52	195.59	0.07	0.07	51		Siltstone - dark grey carbonaceous	.07	
	195.59	196.48	0.89	0.89	52		Coal - dull with bright bands (5%)	.89	
	196.48	197.08	0.60	0.60			Coal - dull	.60	
	197.08	197.20	0.12	0.12	53		Claystone - dark grey, silty	.12	
							Top of Box 70		
	197.20	197.85	0.65	0.65	54		Coal - dull with bright bands, fusain parting	.65	
	197.85	197.90	0.05	0.05			Coal - dull	.05	
	197.90	197.96	0.06	0.06			Coal - boney	.06	
	197.96	198.04	0.08	0.08	55		Claystone - dark grey, carbonaceous	.08	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	36 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	198.04	198.08	0.04	0.04			Coal - bright	.04	
	198.08	198.18	0.10	0.10			Claystone - dark grey, carbonaceous	.10	
	198.18	198.22	0.04	0.04			Coal - bright	.04	
	198.22	198.43	0.21				Claystone - dark grey, carbonaceous	.21	
	198.43	198.45	0.02	.02			Coal - bright	.02	
	198.45	198.55	0.10	.10			Coal - core loss		
						200.30			
	198.55	198.57	0.02				Siltstone - dark grey	.02	
	198.57	198.59	0.01	.01			Coal - bright	.01	
	198.58	199.11	0.53				Siltstone - dark grey, carbonaceous on top		
	199.11	202.50	3.39				Sandstone - light grey, fine grained, cross bedded, soft sediment deformation	081	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	37 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 71		
87°							Sandstone - light grey, medium grained, interlaminated with dark	155	
							grey siltstone, cross bedded		
						203.35			
							Sandstone/Siltstone - light grey, very fine grained, sandstone	103	
							interlaminted with dark grey sandstone, coaly stringers		
	202.50	204.86	2.36				Claystone - interlaminated with some sandstone stringers	023	
							Top of Box 72		
85°			1.83				Claystone/Siltstone - interlaminated, carbonaceous, plant remains	183	
						206.40			
			0.30				Claystone - dark grey, carbonaceous, bright coal stringers, inter-	030	
							laminated with siltstone		
	204.86	206.65	1.79				Siltstone - dark grey, laminated	075	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	38 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 73		
							Siltstone/Claystone - interlaminated	104	
87°	206.65	207.05	0.40				Claystone - very high carbonaceous, coaly stringers		
	207.05	207.22	0.17	0.17			Coal - bright bands	005	
							Boney Coal	004	
							Coal bright, dull bands	008	
	207.22	207.40	0.18	0.18			Coal - core loss		
	207.40	208.72	1.32				Claystone - dark grey, carbonaceous, bright coal stringers, broken	007	
						209.45			
							Claystone - carbanaceous coal stringers	085	
							Brown fossil plants		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	39 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 74		
							Claystone carbonaceous bright coal stringers	040	
	208.72	210.50	1.78				Siltstone/Claystone - carbonaceous fossil plant debris	1.78	
							at 0.28 slickenside fracture 30° angle		
	210.50	210.61	0.11			212.50	Claystone/Siltstone - core loss		
	210.61	211.15	0.54				Claystone/Siltstone - lamellae	.54	
							Top of Box 75		
	211.15	211.20	0.05				Coal - stoney, bright stringers	.05	
	211.20	211.35	0.15				Core loss - coal		
	211.35	212.35	1.00				Claystone/Siltstone - interlaminated, cross bedded	1.00	
	212.35	212.65	0.30	0.30			Coal - bright (75%)	.30	
	212.65	212.73	0.08	0.08			Claystone - dark grey, carbonaceous	.08	
					56				

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	40 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	212.73	212.91	0.18	0.18			Coal - bright banded (60-40)	.18	
	212.91	212.99	0.08	0.08			Coal - boney	.08	
	212.99	213.24	0.25				Claystone - carbonaceous, dark grey	.25	
	213.24	213.29	0.05	.05			Coal - bright	.05	
	213.29	213.69	0.40				Claystone - dark grey, carbonaceous, coaly stringers	.40	
						215.54			
	213.69	213.94	0.25				Claystone - dark grey, carbonaceous and coaly lenses, sheared with slickensides	.25	
							Top of Box 76		
	213.94	214.06	0.12	.12			Coal - boney with bright bands	.12	
	214.06	214.12	0.06	.06			Coal - core loss		
	214.12	214.43	0.31	.31			Claystone - core loss		
	214.43	214.63	0.20	.20			Coal - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	41 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	214.63	214.95	0.32	.32			Claystone - core loss		
	214.95	215.20	0.25	.25			Coal - core loss		
	215.20	215.46	0.26	.26			Claystone - dark grey, carbonaceous	.26	
	215.46	215.59	0.13	.13			Stoney Coal	.13	
	215.59	216.45	0.86				Claystone - dark grey, carbonaceous, coal stringers	.86	
	216.45	216.48	0.08	.03			Coal - bright	.03	
	216.48	217.60	1.12				Claystone - dark grey, carbonaceous, coaly stringer	1.12	
						218.60	Top of Box 77		
85°	217.60	220.45	2.85				Siltstone/Claystone - laminated carbonaceous fossil plants	2.72	
							calcite veins on fractured planes at 2.34 30% fractured		
							slickensides - coal shear		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	42 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 78		
							Siltstone - sandy stringers	013	
						221.64			
	220.45	220.95	0.50				Siltstone - silty very fine grained alternating bands	.50	
	220.95	224.54	3.59				Siltstone - very fine grained sands medium grey, fracture, highly massive calcite healing veinlets throughout, coal on slickensides surfaces	234	
							Top of Box 79		
							Siltstone - factured zone calcite healing	.60	
						224.69	Approximately 40° BCA fracture		
							Siltstone/more Claystone toward bottom	065	
	224.54	225.66	112				Claystone - very fractured shattered carbonaceous slickensides - shears at 40° fossiliferous	030	
							Claystone - carbonaceous	082	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	43 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 79		
	225.66	225.69	0.03	.03			Coal - bone	.03	
	225.69	226.56	0.87				Claystone - carbonaceous	015	
							Top of Box 80		
							Claystone - carbonaceous	072	
						227.74			
	226.56	229.96	3.40				Siltstone - some sandy laminated and claystone also coal stringers sparse	200	
							Top of Box 81		
80°							Siltstone - very fined sandy interlaminted - soft sediment deformation 30° fractured slickensides calcite cement	100	
						230.79			
							Same as above	040	
	229.96	233.29	3.33				Sandstone/Siltstone - medium fined sands light grey interlaminated	126	

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	44 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 82		
85°							Sandstone/Siltstone - medium/light grey, carbonaceous laminated, cross bedded some siltstone units (cm) calcite veinlets	134	
						238.84			
85°							Siltstone - same as above	073	
	233.29	238.18	4.89				Siltstone/Claystone - carbonaceous soft sediment deformation	061	
							Top of Box 83		
							Siltstone - carbonaceous (black color) solid core odd coal stringer - sparse	151	
						236.89			
							Siltstone/Claystone - carbonaceous, slickensides fracture 40° BCA, calcite veinlets	113	
							Top of Box 84		
							Siltstone/Claystone 60/40 carbonaceous	164	
						239.94			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	45 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	238.18	241.05	2.87				Claystone/Siltstone	092	
							Top of Box 85		
60°							Claystone/Siltstone - soft sediment deformation 60° fracture bedding	195	
							Box 85		
	241.05	241.15	0.10	0.10			Coal	.10	
						242.98			
	241.15	241.28	0.13	0.13			Coal - bright metallic lustre	.13	
	241.28	241.35	0.07	0.07			Claystone - 60/40 coal stringers	.07	
	241.35	241.43	0.08	0.08			Coal - bone bright stringers	.08	
	241.43	241.53	0.10	0.10			Coal - sub-metal lustre	.10	
					57				
	241.53	241.88	0.35	0.34			Coal - dull/bright bands shattered/pulverized	.35	
	241.88	241.92	0.04	0.04			Coal - core loss		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	46 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 86		
	241.92	241.96	0.04	0.04			Coal - dull to bright	.04	
	241.96	242.06	0.10	0.10			Coal - stoney bright stringers	.10	
	242.06	242.10	0.04	0.04			Coal - pulverized	.04	
*	242.10	245.00	2.90				Claystone - carbonaceous interlaminated siltstone	050	
							Claystone/Siltstone - interlaminated, some clasts	062	
75						246.03			
							Claystone - same as above	072	
							Top of Box 87		
							Claystone - carbonaceous	040	
							Claystone - laminated, brown coal stringers, broken	066	
	245.00	245.50	0.50				Claystone - core loss		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	47 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 87		
	245.50	245.64	0.14	.14			Coal - bone coal bright bands alternating with dull bands	.14	
	245.64	245.74	0.10	.10			Claystone - carbonaceous bright coal stringers, slickensides heavily broken	.10	
	245.74	246.25	0.51	.50			Coal - core loss		
	246.25	246.28	0.03	.03			Coal - bright	.03	
	246.28	246.32	0.04	.04			Coal - bone	.04	
	246.32	246.72	0.40	.39			Claystone - coaly bright stringers (80 ft.) laminated	.40	
	246.72	246.82	0.10	.10			Coal - stony, bright stringers	.10	
	246.82	246.95	0.13	.13			Claystone - carbonaceous, stringers	.13	
	246.95	247.25	0.30	.30			Coal - core loss		
						249.09			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	48 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 88		
	247.25	249.54	2.29				Siltstone/Claystone - dark grey - interlaminated, soft sediment deformation, at 189 claystone clasts 4 cm width	2.29	
	249.54	249.74	0.20	.20			Coal - core loss		
	249.74	249.77	0.03	.03			Coal - bright	.03	
	249.77	249.87	0.10				Claystone - carbonaceous calcite vein fractures 30°	.10	
	249.87	250.12	0.25				Claystone - carbonaceous broken up	.25	
	250.12	250.19	0.07	0.07			Coal - core loss		
	250.19	250.34	0.15	0.15			Coal - bright pulverized	.15	
	250.34	250.40	0.06	0.06			Claystone	.06	
					58				
	250.40	250.45	0.05	0.05			Coal - bone	.05	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	49 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 89		
	250.45	250.55	0.10	0.10			Coal	.10	
						253.13			
	250.55	251.10	0.55	0.55			Dull with bright bands	.55	
	251.10	251.35	0.25	0.25			Claystone - carbonaceous coal stringers	.25	
					59				
	251.35	251.50	0.15	0.15			Claystone - core loss		
	251.50	251.61	0.11	0.11			Coal - core loss	.11	
					60				
	251.61	251.72	0.11	0.11			Coal - dull bright bands		
	251.72	252.00	0.28				Claystone - bright coal stringers, carbonaceous	.28	
	252.00	253.13	1.13				Siltstone/Sandstone - very fine grained interlaminated and inter-bedded, dark grey sandstone, cross bedding, soft sediment deformation	1.13	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	50 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 90		
	253.13	253.23	0.10				Siltstone/Sandstone - same as above core butt, calcite	.10	
						255.18			
	253.23	253.79	0.56				Sandstone/Siltstone - very fine grained fracture 20° light grey breaks in core recemented	.56	
	253.79	254.26	0.47				Siltstone - dark some carbonaceous stringers	.47	
	254.26	255.07	0.81				Claystone - silty - carbonaceous brown silty clasts - 10 cm.	043	
							Claystone - carbonaceous	030	
							Claystone - coal stringers - broken up	008	
	255.07	255.43	0.36				Claystone - carbonaceous (possible core loss)	.36	
	255.43	256.07	0.64				Claystone - core loss		
							Top of Box 91		
	256.07	256.50	0.43				Claystone/Silty - carbonaceous	.43	
						258.23			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	51 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	256.50	256.59	0.09				Coal - stony	.09	
	256.59	256.63	0.04				Coal - bright lustre	.04	
	256.63	256.79	0.16				Claystone - carbonaceous	006	
							Claystone - carbonaceous coal stringers	010	
	256.79	256.83	0.04				Coal - bright	.04	
	256.83	256.94	0.11				Claystone - carbonaceous	.11	
	256.94	257.06	0.12				Coal - bright banded some dull (loss)	.12	
	257.06	257.21	0.15				Coal - core loss		
	257.21	257.49	0.28				Claystone - carbonaceous slickensides next bottom coal stringers throughout sparse	.28	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	52 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 91		
	257.49	258.21	0.72				Claystone - carbonaceous silty	.72	
85°	258.21	261.69	3.48				Siltstone/Claystone - laminated low cross bedding, light grey	064	
							Top of Box 92		
							Siltstone/Claystone - laminated (poor)	074	
						261.28			
							Siltstone/Claystone - carbonaceous	124	
							Siltstone/Claystone - carbonaceous		
							SEAM B5		
							Box 93		
85°	261.69	262.65	0.96				Siltstone - dark grey, plant fragments throughout, rare coaly stringers, becoming carbonaceous at base, increasing in grain size to very fine grained sandstone at base	.96	
						264.33			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	53 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	262.65	263.05	0.40				Sandstone - medium grey, very fine grained, convolute bedding, minor cross beds near top, some thin (1 cm) siltstone laminations throughout, plant fragments on bedding surface frequently, grades back to siltstone at base	.40	
	263.05	263.19	0.14				Siltstone - dark grey, carbonaceus, numerous plant fragments throughout, slickensides at base	.14	
	263.19	263.23	0.04				Coal - mainly bright (70%)	.04	
85°	263.23	263.53	0.30				Claystone - dark grey, plant fragments throughout, slickensides and listric surface at top, becoming very carbonaceous at base	.30	
	263.53	263.68	0.15	0.15			Coal - dull, 5% bright, abrupt upper contact with claystone	.15	
	263.68	263.72	0.04	0.04	61		Claystone - dark grey, very carbonaceous, two 3 mm bright bands within	.04	
	263.72	263.90	0.18	0.18			Coal - dull, thin 1 mm vitrain stringers = 5% bright	.18	
	263.90	264.04	0.14	0.14	62		Claystone - dark grey, very carbonaceous at top and bottom - plant fragments and thin 2 mm bright bands throughout	.14	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	54 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	264.04	264.10	0.06	0.06			Coal - mainly dull - 5% bright, slickensides at base and top	.06	
	264.10	264.15	0.05	0.05			Stoney Coal - very hard	.05	
					63				
	264.15	264.38	0.23	0.23			Coal - mainly dull with bright (10-15%), slickensides at top	.23	
	264.38	264.50	0.12	0.12			Coal - core loss		
							Top of Box 94		
	264.50	264.55	0.05	0.05			Claystone - dark grey, very carbonaceous with thin bright stringers, slickensides at base, grading to stoney at base	.05	
					64				
	264.55	264.60	0.05	0.05			Coal - dull with bright (~10%), calcite crystal on base	.05	
	264.60	264.70	0.10	0.10			Claystone - dark grey, slightly, carbonaceous, bare plant fragments thin bright bands (1 mm) at top and bottom	.10	
	264.70	265.12	0.42	0.42			Coal - dull and bright, with several 1 cm bright bands near base	.42	
					65				
	265.12	265.22	0.10	0.10			Coal - dull, 5% bright	.10	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	55 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649113 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	265.22	265.27	0.05	0.05			Claystone - dark grey, carbonaceous, very soft at base	.05	
	265.27	265.37	0.10	0.10	66		Boney Coal - dull with base 4 cm (bright)	.10	
	265.37	265.43	0.06	0.06			Stoney Coal - several 1 mm bright bands	.06	
	265.43	265.48	0.05	0.05		267.37	Claystone - dark grey, very carbonaceous, top has slickensides	.05	
	265.48	265.57	0.09	0.09			Coal - core loss		
	265.57	265.78	0.21	0.21			Coal - dull, several .5 cm fugain lenses	.21	
	265.78	265.94	0.16	0.16			Coal - dull and bright (25%)	.16	
	265.94	266.34	0.40	0.40	67		Coal - dull, (5%) bright	.40	
	266.34	266.38	0.04	0.04			Coal - mainly bright	.04	
	266.38	266.50	0.12	0.12			Coal - dull trending to boney several thin vitrain stringers	.12	
	266.50	266.85	0.35				Claystone - dark grey, slightly carbonaceous, slickensides on several breaks	.35	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	56 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
83°	266.85	267.03	0.18		68		Claystone - dark grey, very soft, resembling gouge material	.18	
							breaks easily between fingers		
	267.03	267.05	0.02				Claystone - dark grey, solid	.02	
	267.05	267.06	0.01		68		Claystone/Coal - pulverized	.01	
	267.06	267.10	0.04				Claystone/Coal - core loss		
							Top of Box 95		
	267.10	267.50	0.40				Claystone - dark grey, vitrain stringers (3-4 mm) throughout,	.40	
							slickensides on breaks, abrupt lower contact		
	267.50	267.76	0.26'	.26	69		Coal - boney, vitrain stringers, very hard, broken at base	.26	
	267.76	267.80	0.04	.04			Coal - core loss		
	267.80	267.84	0.04	.04			Claystone - dark grey, carbonaceous	.04	
	267.84	267.95	0.11	.11	70		Claystone - dark grey, slickensides at base, very carbonaceous	.11	
							at base		
	267.95	268.00	0.05	.05			Claystone - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	57 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	268.00	268.40	0.40	.40			Coal - mainly dull 10% vitrain, very hard	.40	
	268.40	268.48	0.08	.08			Claystone/Coal - pulverized and squeezed together, listric	.08	
							(50) (50) Surfaces and slickensides		
	268.48	268.67	0.19	.19	71		Coal - core loss		
	268.67	268.71	0.04	.04			Coal - dull, heavily broken	.04	
	268.71	268.83	0.12	.12			Coal - bright banded, heavily broken and sheared	.12	
							slickensides		
						270.42			
	268.83	268.92	0.09	.09			Coal - dull with 5% bright	.09	
	268.92	268.98	0.06	.06			Coal - boney, some fusain lenses, heavily broken	.06	
	268.98	269.16	0.18	.18			Coal - mainly dull with bright (10%) adequately broken	.18	
	269.16	269.29	0.13	.13			Coal - dull	.13	
	269.29	269.39	0.10	.10			Claystone - dark grey, coal stringers throughout	.10	
	269.39	269.43	0.04	.04			Coal - dull heavily broken	.04	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	58 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID N E		UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	269.43	269.73	0.30	.30	↓		Coal - dull and bright	.30	
	269.73	269.80	0.07	.07			Claystone - dark grey, carbonaceous	.07	
							Top of Box 96		
	269.80	269.85	0.05	.05			Claystone/Coal - heavily broken and pulverized slickensides and listric surfaces	.05	
	268.85	269.90	0.05	.05			Claystone/Coal - lost core		
	269.90	270.18	0.28	.28			Claystone - dark grey, very carbonaceous at top and bottom	016	
							Claystone - dark grey, carbonaceous heavily broken	012	
	270.18	270.23	0.05				Claystone - lost core		
	270.23	270.28	0.05				Claystone - dark grey, very carbonaceous	.05	
	270.28	270.31	0.03	.03			Coal - bright	.03	
	270.31	270.56	0.25				Claystone - dark grey, coaly stringers, moderately broken	.25	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	59 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	270.56	270.59	0.03				Claystone - lost core		
85°	270.59	270.79	0.20				Siltstone - dark grey, slightly carbonaceous at top, grades to	.20	
							very fine grained, sandstone at base		
	270.79	272.47	1.68				Sandstone - medium grey, very fine grained, laminated, are	083	
							carbonaceous plant fragments, minor convolute bedding		
						273.45			
							Sandstone - same as above, slightly broken	085	
							Top of Box 97		
85°	272.47	277.23	4.76				Siltstone - very fine grained sands laminated dark grey	1.66	
							soft sediment deformation, slight cross bedding		
							Siltstone - same as above, broken up - core loss	032	
							Siltstone - very fine grained sands	024	
						276.52			
							Siltstone - very fine grained sandstone - interlaminated sands	045	
							sparse slight claystone laminated (sparse)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	60 OF 86

DATE BEGUN	February 24, 1981	DATE FINISHED	February 28, 1981	MINE GRID N E		UTM 69069 N	649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
87°							Top of Box 98		
							Siltstone/Sandstone - very fine grained interlaminated and interbedded	209	
							Siltstone Bands - worm burrowing extensive, medium grey	209	
	277.23	277.47	024				Siltstone - lost core		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	61 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	277.47	280.70	3.23				Sandstone/Siltstone - interlaminated, sandstone, medium bands	027	
						279.57			
87°							Sandstone/Siltstone - medium grained sands, interlaminated sands	041	
							siltstone, cross bedding, lovely planar		
							Top of Box 99		
							Sandstone/Siltstone - interlaminated interbedded varies cross	064	
							bedding, siltstone bands medium grained sand, dark grey		
							Sandstone - laminated, medium grained, light grey, bottom	033	
							siltstone/sandstone interlaminated, cross bedding also		
							Siltstone/Sandstone - interlaminated varying in thickness to	158	
							interbedded, cross bedding in sands. Some siltstone/clay-		
							stone laminae - add worm burrow near bottom in siltstone		
	280.70	280.74	0.04			296.34	Lost Core - (Likely silty claystone)		
	280.74	280.96	0.22				Sandstone/Siltstone - interlaminated fine to very fine sands	.22	
							30° fractured carbonaceous slickensides		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	62 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 100		
87°	280.96	288.83	7.87				Siltstone/Sandstone/Claystone - soft sediment deformation, very	280	
							fine sands, laminations. Bedding cross bedding, slump		
							structures, worm burrows, siltstone clasts		
							Top of Box 101		
							Siltstone/Sandstone - very fine graines sand interlaminated	268	
							interbedded soft sediment deformation, worm burrows, very		
							fine laminated cross bedding, some reworking of sediments		
							Top of Box 102		
							Siltstone/Sandstone - interlaminated dark minor cross bedding	046	
87°						288.72			
							Siltstone/Sandstone - very fine grained cross bedded inter-	193	
							laminated, soft sediment deformation in sands		
	288.83	289.26	0.43				Sandstone/Siltstone - light grey interlaminated cross bedding	.43	
							siltstone bands/ 20° fracture calcite current		
							reworking carbonaceous matter		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	63 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HO

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 103		
	289.26	294.86	5.60			291.76	Siltstone - very fine laminated, slight deformation	066	
							Siltstone - very fine sands laminated (sparse) dark -	210	
							claystone, carbonaceous, soft sediment deformation clasts -		
							siltstone - reworking by currents		
							Top of Box 104		
							Siltstone - laminated cross bedding 10 cm	095	
						294.81			
87°							Siltstone - very fine grained sands, dark soft sediment	189	
							deformation, sandy laminated, worm burrows, rework of		
							sediments, bottom 27 cm, sandstone/siltstone laminated/		
							sedg		
							Same as above - Box 103 - 102		
	294.86	294.94	0.08				Siltstone - lost core		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD81-02	64 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID N E	UTM 69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE 60°	TOTAL DEPTH 371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY E. P. & A. K. E. Panchy & A. Karnapke	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 105		
88°	294.94	297.72	2.78				Siltstone-Claystone - laminated, dark, slight disturbed by Marine	108	
							organism, consistent current - likely deeper water very little		
							sand - horizon bedding (BCA)		
						297.86			
							Siltstone - same as above	170	
							Seam B4		
							Top of Box 106		
85°	297.72	298.14	0.42				Siltstone - dark grey, carbonaceous at base, argillaceous	.42	
	298.14	298.34	0.20	0.20			Coal - dull, broken at top, several .5 cm bright bands at base	.20	
	298.34	298.54	0.20	0.20			Coal - dull and bright	.20	
					72				
	298.54	298.61	0.07	0.07			Coal - dull with claystone chips, heavily broken to pulverized	.07	
	298.61	298.74	0.13	0.13			Coal - dull and bright, hard	.13	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	65 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	298.74	299.00	0.26	0.26	73		Claystone - dark grey, slightly carbonaceous, plant fragments,	.26	
							bright stringers		
	299.00	299.60	0.60	0.60	74		Coal - dull and bright	.60	
						300.91			
	299.60	299.66	0.06	0.06			Claystone - dark grey, carbonaceous, broken	.06	
	299.66	299.75	0.09	0.09			Claystone - core loss		
	299.75	299.95	0.20	0.20			Coal - mainly dull - some .5 cm bright bands near top 5-10%	.20	
					75		bright		
	299.95	300.05	0.10	0.10			Coal - core loss		
	300.05	300.15	0.10	0.10			Claystone - dark grey carbonaceous, heavily broken	.10	
	300.15	300.45	.30	0.30			Coal - dull and bright - few fusain lense 1 cm thickness near	.30	
							base		
					76				

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	66 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 107		
	300.45	300.56	0.11	0.11			Coal - mainly dull - 10% bright	.11	
	300.56	300.66	0.10	0.10			Coal - mainly bright 75%, broken at base	.10	
	300.66	301.08	0.42				Claystone - dark grey, listric surface and slickensides at top	.42	
	301.08	301.28	0.20				Coal - core loss		
	301.28	301.83	0.55				Claystone - dark grey, carbonaceous partings throughout displaying fissile weathering about 5 cm thick	.50	
	301.83	301.90	0.07				Claystone - core loss		
	301.90	301.93	0.03	.03			Coal - bright, slickensides and listric surface at top	.03	
	301.93	302.08	0.15	.15			Coal - core loss		
	302.08	302.13	0.05	.05			Coal - bright, slickensides and listric surface at base	.05	
	302.13	302.21	0.08				Claystone - dark grey, carbonaceous at top	.08	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	67 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	302.21	302.24	0.03	.03			Coal - bright	.03	
						303.93			
	302.24	302.50	0.26				Claystone - dark grey, very carbonaceous at top, 2 cm bright coal	.26	
							13 cm from top		
	302.50	302.59	0.09	0.09			Coal - bright	.09	
	302.59	302.70	0.11	0.11			Coal - boney, very hard	.11	
	302.70	303.12	0.42	0.42			Coal - dull - 5% bright, very hard	.42	
	303.12	303.22	0.10	0.10			Coal - bright - hard	.10	
	303.22	303.30	0.08	0.08	77		Coal - dull - hard	.08	
	303.30	303.38	0.08	0.08			Coal - bright - hard	.08	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	68 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 108		
	303.38	303.73	0.35	0.35			Coal - dull and bright (70-30) bright bands .5 cm thick	.35	
	303.73	304.04	0.31	0.31			Coal - dull - 5-10% bright, hard	.31	
	304.04	304.47	0.43	0.43	77		Coal - dull and bright (70-30) hard	.43	
	304.47	304.61	0.14	0.14			Coal - dull and bright, heavily broken	.14	
	304.61	304.95	0.34	0.34			Coal - dull - 5-10% bright	.34	
	304.95	305.07	0.12				Claystone - dark grey become silty at base, carbonaceous at top	.12	
						307.00			
85°	305.07	305.83	0.76				Siltstone - dark grey, carbonaceous, plant frabments, argillaceous listric surfaces on breaks	.76	
							Top of 109		
	305.83	306.48	0.65				Claystone - carbonaceous, dark fossiliferous, coal stringers	.65	
	306.48	306.61	0.13				Claystone - core loss		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	69 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	306.61	308.78	2.17				Siltstone-Claystone - medium grey, very fine sand, laminated	152	
							cross bedding - add worm burrows 5 cm sand band angled		
							bedding		
						310.06			
87°							Siltstone-Claystone - sands soft sediment deformation,	065	
							laminated and banded throughout		
							Top of Box 110		
	308.78	309.52	0.74				Sandstone-Siltstone - interlaminated 10° bross bedding,	.74	
							carbonaceous particles, fine grained sands, calcite		
							veinlets at top 2 cm. Silty at bottom - light grey		
						313.11			
87°	309.52	317.16	764				Siltstone - plain - slight laminated cross bedding, horizontal	043	
							bedding		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	70 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 111		
87°							Siltstone - slight cross bedding laminated, 2 or 3 burrows, very	263	
							plain consistent core, some very fine sands, laminated		
						316.16			
							Siltstone - same as above	010	
							Top of Box 112		
87°							Siltstone - very fine sands, interlaminated, light grey slight	282	
							cross bedding at 1.40 - plain and consistent at 212 sect.		
							very fine sands and silts interlaminated cross bedding		
	317.16	317.27	011				Siltstone - lost core		
							Top of Box 113		
						319.20			
	317.27	321.02	375				Siltstone - same as above, more laminated with silts, alternating	279	
							with very fine sands cross bedding, more worm burrows, more		
							reworking of fine laminations		
							Bottom 30 cm, very carbonaceous going to a silty claystone		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	71 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 114		
							Seam B3		
							Siltstone - dark grey interlaminated with light grey, very fine	036	
							grained, sandstone, soft sediment deformation features, load		
							cast becoming very carbonaceous at base		
						322.25			
85°							Siltstone - same as above	060	
	321.02	321.10	0.08				Claystone - lost core		
	321.10	321.55	0.45				Claystone - dark grey, slightly at top, plant fragments abundant,	.45	
							becoming carbonaceous at base		
	321.55	322.05	0.50	0.50			Coal - mainly dull, heavily broken and pulverized	.50	
	322.05	322.72	0.67	0.67			Coal - core loss		
					78				

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	72 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 115		
	322.72	322.93	0.21	0.21	79		Claystone - dark grey, very carbonaceous, plant fragments, throughout	.21	
	322.93	323.20	0.27	0.27			Coal - dull (5% bright) heavily broken	.27	
	323.20	323.37	0.17	0.17			Coal - dull and bright (60-40)	.17	
					80	325.30			
	323.37	323.49	0.12	0.12			Coal - dull, heavily broken to pulverized	.12	
	323.49	323.76	0.27	0.27			Coal - core loss		
	323.76	324.16	0.40		81		Claystone - dark grey, carbonaceous, heavily broken, slickensides and listric surfaces	.40	
	324.16	324.43	0.27				Coal - core loss		
85°	324.43	324.85	0.42				Claystone - dark grey, carbonaceous, vitrain stringers at base, solid	.42	
					82				
	324.85	325.10	0.25				Claystone - core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	73 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	325.10	325.20	0.10	0.10			Coal - mainly bright (75%)	.10	
					83		Top of Box 116		
	325.20	325.44	0.24	0.24			Coal - mainly bright (75%)	.24	
	325.44	325.88	0.44				Claystone - dark grey, carbonaceous, 2 cm vitrain band near top	.44	
	325.88	326.53	0.65		84		Claystone - dark grey, slightly carbonaceous, abundant plant fragments throughout, slickensides on breaks	.65	
						328.35			
	326.53	326.70	0.17				Claystone - same as above	.17	
	326.70	326.94	0.24	0.24	85		Coal - mainly bright - heavily broken, slickensides and listric surfaces	.24	
	326.94	327.18	0.24				Claystone - dark grey, carbonaceous at top	.24	
	327.18	327.83	065				Claystone - same as above	.65	
					86				

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	74 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 117		
	327.83	328.45	0.62				Claystone - dark grey, carbonaceous at base with several thin (1 cm) vitrain bands, calcite filled micro-fractures near top and midway down section	.62	
	328.45	328.55	0.10				Claystone - same as above, heavily broken	.10	
	328.55	328.80	0.25				Claystone - core loss		
	328.80	328.90	0.10	0.10			Coal - bright - pulverized	.10	
	328.90	328.94	0.04	0.04			Coal - core loss		
	328.94	329.29	0.35	0.35	87		Coal - dull, 5% bright	.35	
	329.29	329.34	0.05	0.05			Coal - bright	.05	
	329.34	329.40	0.06	0.06			Coal - mainly bright 65%	.06	
	329.40	332.06	226				Claystone - dark grey, heavily broken		
						331.40			

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	75 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - same as above, slickensides at top	110	
							Top of Box 118		
85°							Claystone - dark grey, plant fragments throughout, mirco-fractures near top and base parallel to bedding	070	
							Claystone - fractured at base with slickensides and listric surfaces, micro-fractures throughout	044	
							Claystone - same as above	020	
							Claystone - carbonaceous at base, same as above	015	
	332.06	332.12	0.06	.06			Coal - dull	.06	
	332.12	332.26	0.14	.14			Coal - dull with bright (20% bright)	.14	
85°	332.26	332.49	0.23				Sandstone - medium grey, very fine grained, laminated, carbonaceous at top	.23	
	332.49	332.57	0.08				Sandstone - lost core		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	76 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						334.45			
	332.57	333.31	0.74				Sandstone - light grey, very fine grained, minor cross bedding,	074	
							laminated, coal stringers 30 cm from top for 10 cm		
							Top of Box 119		
87°	333.31	334.31	100				Claystone-Siltstone - laminated carbonaceous coal stringers	1.00	
							sandstone band 14 cm		
	334.31	334.46	0.15				Sandstone - lost core		
	334.46	335.66	120				Sandstone - very fine - fine grained - light grey, laminated	1.20	
							cross bedding with siltstone lamina		
						337.50			
	335.66	338.98	3.32				Siltstone - sandy - carbonaceous claystone near bottom	.53	
							horizontal laminated bedding		
							Claystone - carbonaceous coal stringers	.04	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	77 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 120		
							Claystone - carbonaceous - coal stringers	.13	
							Siltstone - very fine sandstone - also siltstone with fossil	236	
							plants, many laminated - wavy angular bedding, little or		
							no cross bedding, dark grey due to carbonaceous		
						340.54			
87°							Siltstone - very fine sandstone	026	
							- same as above		
							Top of Box 121		
	338.98	341.06	208				Sandstone-Siltstone - very fine - fine grained, very laminated	2.08	
							- slight cross bedding horizontal low		
							- carbonaceous traces - at 100 20° fractured fresh part		
							calcite, odd burrow - dark grey		
	341.06	341.19	0.13				Lost core - carbonaceous shale		
	341.19	341.84	065				Claystone - carbonaceous coal splits and stringers, bright -	.65	
							highly carbonaceous - coaly toward the bottom		
						343.59			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	78 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						343.59	Top of Box 122		
	341.84	342.37	0.53	0.53	88		Coal - dull with bright bands - 10% bright	.53	
	342.37	342.56	0.19	0.19	89		Claystone - dark grey, slightly carbonaceous, slickensides	.19	
							breaks		
	342.56	343.08	0.52	0.52			Coal - dull with bright bands - 10% bright	.52	
	343.08	343.14	0.06	0.06			Claystone - dark grey, silty	.06	
					90				
	343.14	343.31	0.17	0.17			Coal - dull with bright bands 15% bright	.17	
	343.31	343.41	0.10	0.10			Coal - boney	.10	
	343.41	343.68	0.27	0.27	91		Claystone - dark grey, bentonitic, expanded, soft	.27	
	343.68	343.92	0.24	0.24	92		Coal - dull and bright, hard	.24	
	343.92	344.03	0.11				Claystone - dark grey, carbonaceous	.11	
	344.03	344.71	0.68				Claystone - dark grey, vitrain band 1 cm th at top	.68	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	79 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 123		
	344.71	344.89	018				Siltstone - carbonaceous, same as above	.18	
						346.64			
	344.89	345.06	017				Claystone - carbonaceous	.17	
	345.06	345.09	003				Coal - bright	.03	
	345.09	345.28	019				Claystone - carbonaceous	009	
							Claystone - soft, broken up, core loss	010	
	345.28	345.42	0.14				Claystone - core loss		
	345.42	345.83	041				Claystone - carbonaceous	007	
							Claystone - soft shattered	004	
							Claystone	030	
	345.83	347.71	1.88				Siltstone - very fine sands, laminated, very fine cross bedding	1.88	
							angular laminated, soft sediment deformation		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	80 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 124		
85°	347.71	347.84	0.13				Siltstone - dark grey, massive	.13	
	347.84	348.04	0.20				Sandstone - light grey, very fine grained, cross bedded, soft sediment deformation	.20	
						349.69			
	348.04	348.41	0.37				Sandstone - same as above	.37	
	348.41	349.08	0.67				Sandstone - light grey, very fine grained, minor cross bedded, 5 cm vitrain band 34 cm from top	.67	
	349.08	349.19	0.11				Siltstone - dark grey, slickensides at top, calcite filled fracture parallel to bedding marks base	.11	
	349.19	349.21	0.02	.02			Coal - bright	.02	
	349.21	349.35	0.14				Siltstone - dark grey, very carbonaceous at base	.14	
	349.35	349.45	0.10	.10			Coal - bright banded	.10	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	81 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K.	CORE SIZE	HQ

E. Panchy & A. Karnapke

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	349.45	349.69	0.24	.24			Claystone- dark grey, carbonaceous at top, calcite filled	.24	
							fractures 1-5 mm thick parallel to bedding 7, 15, 22 cm		
							from top		
	349.69	349.71	0.02				Claystone - dark grey, pulverized	.02	
	349.71	349.95	0.24				Claystone - lost core		
80°	349.95	350.26	031				Claystone - dark grey, broken with slickensides on breaks	018	
							Claystone - dark grey, soft, bentonitic, expanding	005	
							Claystone - dark grey, calcite fracture parallel to bedding	008	
							2 mm thick marking base		
	350.26	350.29	0.03	.03			Coal - bright		
	350.29	351.35	106				Claystone - dark grey, basal 6 cm bentonitic - soft	030	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	82 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID N E	UTM 69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE 60°	TOTAL DEPTH 371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE HO

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 125		
85°							Claystone - dark grey, calcite fracture to bedding 25 cm from top 1-4 mm thick underlain by 2 cm bentonitic claystone unit soft	041	
							Claystone - dark grey - broken	035	
						352.76			
85°	351.35	351.92	0.57				Siltstone - dark grey, massive, carbonaceous at base	.57	
	351.92	352.05	0.13				Claystone - dark grey, carbonaceous	013	
	352.05	352.20	0.15				Same as above - calcite fracture parallel to bedmarks base	015	
	352.20	352.40	0.20	0.20			Coal - dull, slickensides at top	.20	
	352.40	352.55	0.15	0.15	93		Coal - dull banded	.15	
	352.55	352.75	0.20	0.20			Coal - bright banded		
	352.75	352.83	0.08				Claystone - dark grey, slickensides at top	.08	
	352.83	352.85	0.02				Coal - bright	.02	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	83 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W.Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	352.85	359.07	622				Siltstone- dark grey, argillaceous, carbonaceous at top, plant	062	
							fragments throughout		
							Top of Box 126		
							Siltstone - dark grey plain - uniform - interlaced by calcite	071	
							veinlets		
87°						355.79			
							Siltstone - dark grey, soft sediment deformation plain - few	215	
							features, contains some very fine sands		
							Top of Box 127	081	
							Siltstone - Claystone - carbonceous		
						358.84			
							Siltstone - Claystone - carbonaceous - sand stringers, soft	193	
							sediment deformation - disturbed laminated sands and silts		
							very fine grained sands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	84 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 128		
							Seam B1		
85°	359.07	359.98	091				Sandstone - light grey, very fine grained, minor cross bedding, soft sediment deformation, calcite filled fractures parallel to bedding 50 cm from top 2 mm thick	073	
	359.80	359.98	0.18				Sandstone - same as above	018	
	359.98	360.90	092				Claystone - dark grey, carbonaceous at base, plant fragments and coaly stringer throughout	023	
						361.89			
							Claystone - same as above	069	
	360.90	361.18	0.28	0.28			Coal - dull with bright bands (10%)	.28	
	361.18	361.43	0.25	0.25			Coal - dull	.25	
	361.43	361.63	0.20	0.20			Coal - dull with bright (15%)	.20	
					94				
	361.63	361.81	0.18	0.18			Coal - dull	.18	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	85 OF 86

DATE BEGUN	Feb 24/81	DATE FINISHED	Feb 28/81	MINE GRID	N E	UTM	69069 N 649114 E
ELEV. COLLAR	N1312 m	BEARING	225°	HOLE ANGLE	60°	TOTAL DEPTH	371.03
COAL LICENCE	3203	CONTRACTOR	D.W. Coates	LOGGED BY	E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 129		
	361.81	362.01	0.20	0.20			Coal - dull	.20	
	362.01	362.20	0.19	0.19			Coal - bright banded (70%)	.19	
						364.02			
	362.20	364.94	2.74				Claystone - dark grey - carbonaceous	.13	
							Coal - dull	.04	
							Claystone - dark grey, plant fragments	1.80	
							Top of Box 130		
							Claystone - carbonaceous very fossil plants, some silt laminated calcite stringers	.77	
	364.94	366.16	1.22			367.98	Claystone - lost core		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MDD 81-02	86 OF 86

DATE BEGUN: Feb 24/81	DATE FINISHED: Feb 28/81	MINE GRID: N E	UTM: 69069 N 649114 E
ELEV. COLLAR: N1312 m	BEARING: 225°	HOLE ANGLE: 60°	TOTAL DEPTH: 371.03
COAL LICENCE: 3203	CONTRACTOR: D.W. Coates	LOGGED BY: E.P. & A.K. E. Panchy & A. Karnapke	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	366.16	366.96	.80				Claystone - carbonaceous fossil several lower angle	.80	
							fracture calcite		
							- remainder core shattered broken - lost		
	366.96	367.40	044				Claystone - lost core		
							Top of Box 131		
80°	367.40	369.21	181				Sandstone - light grey, medium to coarse grained, 1.00 m no real	1.81	
							cross bedding, fracture, calcite coating - very stratified		
							- dirty sand		
						371.03			
							THE END		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/4/81	1 OF 3

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-03	COATES	63	232	397	HQ		N23/9500N	3944	Surface	7

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1285.6	6,068,409.87 N	649,922.9 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FDE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		133.25-134.51	24	1.15	0.62/0.53	85	95-97		Kh	126.39	1172.99		
B11		144.23-145.05	22	0.76	0.62/0.14	100	98						
B10		180.28-180.96	10	0.67	0.67/0.00	70	99						
B9	1095.68	207.21-213.15	15	5.78	4.89/0.89	99	100/106						
		217.13-217.55	25	0.38	0.32/0.06	50							
B8		224.66-225.19	30	0.46	0.46/0.00	100	107						
B7	1076.61	233.92-234.55	25	0.57	0.57/0.00	100	108						HOLE NUMBER MUD 81-03

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PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-03	2 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
		237.82-238.37	25	0.50	0.50/0.00	100	109						
		240.80-242.60	25	1.63	1.63/0.00	62	110						
B6(u)		270.10-271.47	35	1.10	0.92/0.18	83	111/113						
B5(u)	1026.37	287.71-290.93	15	3.12	2.71/0.41	63	114/120						
B4		322.72-325.14	15	2.37	2.03/0.34	79	121-123						
B4		326.16-329.31	15	3.12	2.57/0.55	88	124-126						
B4	988.63	331.00-333.30	15	2.20	2.17/0.03	75	127						
B3	972.41	349.40-351.50	17	2.00	1.56/0.44	76	128/132						
B2(u)		365.00-365.55	23	0.50	0.50/0.00	85	133						
B2(m)		368.70-369.25	23	0.48	0.48/0.00	96	134						
B2(l)		376.09-378.03	25	1.77	1.62/0.15	86	135/137						
													HOLE NUBMER MUD 81-03

473A-8106

PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-03	3 OF 3

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV. BASE	TRUE THICKNESS	
B1(1)	941.39	384.98-386.31	10	1.32	1.32/0.00	100	139						
													HOLE NUBMER MUD 81-03

473A-8106

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	1 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1		
	7.20	8.90	170				Sandstone - light grey, fine grained with interbeds of dark and	1.70	
							light grey siltstone and claystone. Highly oxidized and		
							broken. Soft in places. Looks brecciated in many fragments		
							in soft gauge.		
						17/8.23			
	8.90	11.30	2.40				Claystone - dark grey to brown. Highly oxidized. Badly broken.	0.40	
							Also appears brecciated.		
							Sandstone - light to medium grey, fine grained with minor dark	0.20	
							grey siltstone.		
							Claystone - dark grey, soft, broken, silty.	0.40	
							Top of Box 2		
							Claystone - medium grey - grey brown, soft, oxidized, badly	0.30	
							broken.		
							Sandstone - light grey, fine grained with pounds of dark grey	0.52	
							siltstone. Core badly broken. Fe staining.		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	2 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - medium - dark grey, interbedded light grey fine	0.72	
							grained sandstone and minor dark grey claystone. Core broken.		
							Claystone - medium - dark grey, soft. Core broken.	0.12	
						37/11.28			
							Claystone - same as above	0.10	
47°	11.30	14.68	3.38				Sandstone - light - medium grey fine grained with interbedded	0.86	
							dark siltstone, slight shearing		
							Top of Box 3		
46°							Sandstone - light grey, fine grained, slight shearing along	0.33	
							bedding minor interbedded, dark grey siltstone		
							Claystone - medium - dark grey, soft. Core broken.	0.06	
49°							Sandstone - light to medium grey, fine grained interbedded dark	0.49	
							grey, claystone bands up to 1 cm wide		
							Claystone - medium grey, soft, body broken	0.10	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	3 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
42							Sandstone - light to medium grey, fine grained with interbedded	0.84	
							dark grey siltstone bands up to 1 cm wide		
						47/1433			
43							Sandstone - same as above with calcite filled fractures	0.70	
							perpendicular to beddings width of fractures 1-2 mm		
							(fracture zone begins 10 cm from top of interval and		
							runs to 20 cm from top. Small scale load casting and		
							possible bioturbation.		
							Top of Box 4		
51	14.68	29.01	14.33				Siltstone - dark grey with interbedded light - medium grey fine	0.71	
							grained sandstone and minor dark grey claystone. Slight		
							shearing along bedding.		
							Siltstone - same as above. Core badly broken.	0.84	
							Claystone - medium grey - soft, badly smashed in siltstone	0.08	
							fragments.		
							Siltstone - same as above, badly broken.	0.33	
						57/17.37			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	4 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 5		
							Siltstone - dark grey with interbedded light grey fine grained sandstone and minor dark grey claystone.	0.58	
50							Sandstone - light grey fine grained with interbedded dark grey siltstone. Slight shearing along bedding.	0.67	
							Siltstone - dark grey, soft in places with interbedded light grey fine grained sandstone and dark grey claystone. Core broken. Slight shearing along bedding.	1.12	
						67/2042			
							Siltstone - same as above.	0.18	
							Top of Box 6		
47							Siltstone - dark grey with interbedded light grey fine grained sandstone and minor dark grey claystone. Slight shearing along bedding.	1.46	
							Siltstone - same as above. Core badly broken.	0.10	
							Siltstone - same as above.	0.83	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	5 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above. Core badly broken.	0.08	
						76/23.17			
							Siltstone - same as above.	0.13	
							Top of Box 7		
45							Siltstone - dark grey with interbedded medium grey fine grained	2.75	
							sandstone and minor dark grey claystone. Minor load casting		
							in sandstone bands. Scattered worm burrows. Slight shearing		
							along bedding.		
							Top of Box 8		
							Siltstone - same as above.	0.17	
						86/26.21			
48							Siltstone - same as above.	2.33	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	6 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 9		
46							Siltstone - dark grey with light grey fine grained sandstone	0.71	
							interbeds. Slight shearing along bedding.		
						96/29.26			
							Siltstone - same as above.	0.19	
							Siltstone - same as above. Core badly broken.	0.15	
							Siltstone - same as above. % of sandstone increasing.	0.92	
50	29.01	32.20	3.19				Sandstone - light grey fne grained with interbeds of dark	0.70	
							siltstone. Minor load castings and rip up clasts. Few		
							worm burrows as well.		
							Top of Box 10		
50							Sandstone - light grey fine grained with thin bands of dark grey	0.33	
							siltstone % of siltstone increasing downhole.		
54							Siltstone - dark grey with interbeds of claystone.	0.05	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	7 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
56							Claystone - medium dark grey, soft.	0.08	
							Sandstone - light grey fine grained.	0.08	
48							Siltstone - dark grey with interbeds claystone.	0.06	
							Sandstone - medium grey - fine grained with interbeds dark grey		
							siltstone and claystone. Minor shearing with calcite		
							filling perpendicular to bedding.	0.49	
							Sandstone - same as above. Core badly broken.	0.10	
						107/32.62			
49							Sandstone - same as above. Minor shearing. Small scale	1.30	
							cross bedding. Minor load casting and bioturbation.		
							of siltstone, increasing towards bottom of box.		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	8 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 11		
46	32.20	37.50	5.30				Siltstone - dark grey with interbeds of light grey fine grained	0.67	
							sandstone, slight shearing		
							Siltstone - same as above. Core badly broken.	0.26	
45							Siltstone - same as above, slight shearing, minor turbation.	0.68	
						117/35.66			
47							Siltstone - same as above, dark grey with minor interbeds of	1.10	
							light grey fine grained sandstone. Sandstone has minor		
							load casting and small scale cross bedding on small rip up		
							clasts		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	9 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 12		
47							Siltstone - dark grey with minor interbeds of light grey	2.06	
							fine grained sandstone, slight shearing		
						127/38.71			
52							Siltstone - same as above	0.53	
	37.50	38.50	1.00				Claystone - dark grey, minor interbeds of dark grey siltstone	0.15	
							minor shearing (listric surfaces)		
							Top of Box 13		
							Claystone - dark grey with interbeds of dark grey siltstone	0.80	
							slight shearing		
							Claystone - medium to dark grey, soft gritty	0.05	
	38.50	38.60	10				Bentonite - light grey soft	0.20	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	10 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	38.60	38.63	0.03				Bentonite - core loss		
52	38.63	39.11	48				Claystone - medium to dark grey, silty. Slight shearing,	0.48	
							minor interbeds of dark siltstone.		
48	39.11	43.17	4.06				Siltstone - dark grey with interbeds of light grey fine grained	0.87	
							sandstone. Slight shearing. Minor load casting and small		
							rip up clasts.		
						137/41.76			
							Siltstone - same as above with light grey sandstone interbeds.	0.33	
							Slight shearing listric surfaces.		
							Top of Box 14		
45°							Siltstone - dark grey, with interbeds light grey, fine grained	1.05	
							sandstone, minor claystone, sandstone bands up to 5 cm		
							Siltstone - same as above, core highly broken, siltstone	0.10	
							listric surfaces		
45°							Siltstone - with interbeds, light grey, sandstone, siltstone	1.62	
							listric surfaces, thin clay band		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	11 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 15		
							Siltstone - dark grey, with interbeds of light grey, fine	0.09	
							grained sandstone and dark grey claystone, siltstone		
							listric surfaces		
						147/44.81			
	43.17	43.27	10				Claystone - dark grey, soft	0.10	
51°	43.27	45.39	212				Siltstone - dark grey, with light grey, fine grained sandstone	2.12	
							and dark grey claystone, soft clay band at 53 cm from top		
	45.39	45.47	08				Claystone - dark grey, soft, core heavily crushed, listric	0.08	
							surfaces, dark grey, siltstone fragments (Fault zone)		
	45.47	46.09	62				Claystone - core loss		
	46.09	46.15	06				Claystone - dark grey	0.06	
						157/			
						47.85			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	12 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 16		
	46.15	48.90	2.75				Siltstone - dark grey, with interbeds, dark grey, claystone	0.35	
							and minor light grey, fine grained sandstone, minor listrics		
							Claystone - soft, medium - dark grey	0.08	
54°							Siltstone - medium - dark grey, with interbeds light grey,	0.72	
							fine grained sandstone, cross bedding, throughout, minor		
							listrics		
							Siltstone - same as above, heavily broken	0.14	
							Sandstone - light grey fine grained, cross bedded, with minor	0.13	
							interbedded, dark grey, siltstone		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	13 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone/Claystone - dark grey, major listrics, core	0.15	
							heavily crushed		
							Siltstone - dark grey, with interbeds light grey, fine grained	0.16	
							sandstone, core badly broken, listric surfaces		
38°							Siltstone - dark grey, with interbeds light grey, fine grained	1.02	
							sandstone, minor calcite fractures, minor turbations		
							Top of Box 17		
	48.90	50.64	1.74				Siltstone - dark grey, with interbeds of dark grey, claystone	0.30	
							and minor interbeds light grey sandstone bands, fining		
							downwards		
						167/50.90			
45°							Siltstone/Sandstone - dark grey, with light grey, fine grained	1.14	
							sandstone and minor interbedded dark grey claystone,		
							minor listrics		
							Claystone/Clay - dark grey, with minor dark grey siltstone,	0.30	
							core soft in areas, core highly broken		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	14 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
58°	50.64	51.30	0.66				Sandstone - medium grey, fine grained with major amounts	0.66	
							of interbedded dark grey siltstone minor interbedded		
							dark grey claystone		
							Top of Box 18		
	51.30	53.01	1.71				Siltstone - dark grey, with interbedded light grey, fine grained	0.62	
							sandstone and minor dark grey claystone, slight listrics		
						177/53.95			
55°							Siltstone - dark grey, with interbedded light grey, fine grained	0.97	
							sandstone, minor cross bedding		
							Claystone - soft, dark grey, listric surfaces, minor siltstone	0.12	
							and sandstone, core heavily crushed		
52°	53.01	56.83	3.82				Sandstone - light - medium grey, fine grained, with major	0.96	
							interbedded dark grey siltstone and minor interbedded		
							claystone, load casts, cross bedding and other turbidities,		
							slight listrics		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	15 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 19		
52°							Siltstone - dark grey, with interbedded light grey, fine grained	0.36	
							sandstone, calcite filled shears parallel to bedding, minor		
							load casts		
							Claystone - medium - dark grey, soft	0.07	
							Sandstone - light - medium grey fine grained, with interbedded	0.66	
							dark grey siltstone, minor cross bedding		
						187/57.0			
49°							Sandstone - light - medium grey, fine grained, with major inter-	1.40	
							bedded dark grey siltstone, slight listrics, 3 cm of dark		
							grey claystone 17 cm from top		
							Claystone - dark grey, soft, core broken, listric surfaces	0.07	
							Sandstone - light - medium grey, fine grained, with interbedded		
							dark grey siltstone		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	16 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 20		
52°	56.83	58.19	1.36				Siltstone - medium - dark grey, with interbedded medium grey,	1.36	
							fine grained sandstone, minor load casts, minor turbations		
							slight shearing along bedding, percentage of sandstone		
							increasing downward		
						197/60.05			
52°	58.19	59.60	1.41				Sandstone - light - medium grey, fine grained, with minor inter-	1.41	
							bedded dark grey siltstone, two clay bands at 80 cm and 97		
							cm from top; both 3 cm thick		
							Top of Box 21		
	59.60	59.67	7				Siltstone - medium to dark grey with minor light grey fine	0.07	
							grained sandstone		
	59.67	59.80	13				Claystone - medium grey, soft with interbeds of dark grey	0.13	
							siltstone. Core badly broken and fractured.		
	59.80	60.10	30				Claystone - core loss.		
55°	60.10	62.85	2.75				Siltstone - dark grey with interbedded light grey fine grained	1.44	
							sandstone, small scale cross bedding		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER 8103

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						207/63.09			
52							Siltstone - dark grey with interbeds light grey fine grained	1.01	
							sandstone and minor dark grey claystone, minor load casts		
							Top of Box 22		
							Siltstone - dark grey with medium grey, fine grained sandstone	0.30	
							bottom 8 cm is broken. Grinding of core indicated by tapering		
							of core towards end of run.		
	62.85	64.29	1.44				Bentonite - core loss		
						217/66.14			
52	64.29	67.42	3.13				Siltstone - dark grey with minor interbeds of dark grey claystone	2.23	
							and light grey fine grained sandstone. Some shearing along		
							bedding (listrics). Also minor fracturing perpendicular to		
							bedding (possibly drill induced)		
							Top of Box 23		
53							Siltstone - same as above, bottom 6 cm badly broken.	0.90	
						227/69.19			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	18 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
53	67.42	69.32	1.90				Sandstone - light grey fine grained with interbeds of dark	1.90	
							siltstone, minor dark grey claystone as well. Sandstone		
							has small scale cross bedding and minor convolute bedding.		
							Core slightly sheared. Also minor scouring and fill structures		
							Core broken in places		
							Box 24		
	69.32	69.48	0.16				Claystone - medium grey, soft, core broken	0.16	
46	69.48	70.67	1.19				Siltstone - dark grey with interbeds of light grey, fine grained	1.19	
							sandstone. Sandstone shows minor cross bedding, load		
							casts and bioturbation. Slight shearing along bedding.		
						237/72.24			
49	70.67	71.93	1.26				Sandstone - light grey, fine grained with interbeds of dark	1.26	
							grey siltstone. Sandstone has small scale cross beds, rip		
							up clasts, load casts and other turbidities		
							Top of Box 25		
52	71.93	79.80	7.87				Siltstone - dark grey with interbeds of light grey fine grained	1.06	
							sandstone. Slight shearing along bedding, minor load		
							casting and small rip up clasts		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	19 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
48							Sandstone - light grey, fine grained with interbeds of dark grey siltstone, minor rip up clasts and load castings	0.51	
50							Siltstone - dark grey with light grey fine grained sandstone, slight shearing along bedding. Small scale cross bedding and turbidities. Minor load cast as well.	0.27	
						247/75	39		
47							Siltstone - dark grey with light grey fine grained sandstone. Shearing in listric surfaces along bedding with calcite film as well.	0.78	
							Top of Box 26		
40							Siltstone - dark grey with minor interbeds of light grey fine grained sandstone. Slight shearing with calcite film along bedding. 2 cm soft clay band 11 cm from top. Core slightly broken in places.	1.60	
							Claystone - medium to dark grey, very soft with minor siltstone fragments.	0.10	
							Siltstone - dark grey with interbeds of light grey fine grained sandstone, slight shearing with listric surfaces	0.51	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	20 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						257/78.33			
42							Siltstone - same as above, again slightly sheared. Sandstone has minor small rip up clasts and small scale cross bedding. Minor calcite along shears. Core breaks perpendicular to bedding when hit with hammer	0.50	
							Top of Box 27		
56							Siltstone - dark grey with interbeds of light grey fine grained sandstone, shearing along bedding (listrics)	0.52	
							Sandstone - medium grey, silicious, hard, with calcite stringers	0.10	
							Siltstone - dark grey with interbeds of light grey fine grained sandstone and minor dark grey claystone. Shearing along bedding. Sandstone has small scale cross bedding, rip up clasts and minor load casts. Bedding in sandstone convolute in a few places.	1.92	
						267/81.38			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	21 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 28		
42	79.80	82.60	2.80				Sandstone - light to medium grey, fine grained with interbeds of dark grey siltstone. Minor shearing along bedding. Core breaks perpendicular to bedding. Minor fractures with calcite filling. Sandstone has small scale cross bedding bioturbation load casts and rip up clasts	2.80	
							Top of Box 29		
44	82.60	85.02	2.42				Siltstone - dark grey with light grey fine grained sandstone interbeds. Sheared surfaces with listrics	0.33	
						277/84.43			
							Claystone - medium grey soft	0.05	
							Sandstone - light grey fine grained calcite filled fractures	0.08	
43							Siltstone - dark grey with interbeds light grey fine grained sandstone. Sheared with listric surfaces	0.84	
							Siltstone - same as above, badly broken and sheared	0.40	
40							Siltstone - same as above.	0.18	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	22 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, badly broken and sheared	0.07	
40							Siltstone - same as above	0.10	
							Siltstone - dark grey with interbeds of light grey fine grained sandstone and dark grey claystone. Core broken and sheared and distorted	0.37	
	85.02	86.61	1.59				Siltstone - dark grey with interbeds of light grey fine grained sandstone and dark grey claystone. Bottom 3 cm broken.	0.23	
							Top of Box 30		
							Siltstone - dark grey with interbeds of sandstone, light grey fine grained and minor dark grey claystone. Slight shearing Core broken in places	0.88	
						287/87.48			
28							Siltstone - same as above, light grey fine grained sandstone bands have minor small scale cross bedding and turbation structures rip up clasts and load casts (very small scale)	0.34	
							Claystone - dark grey with interbeds of dark grey siltstone, whole interval is soft, badly broken and sheared	0.14	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	23 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
29	86.61	87.71	110				Sandstone - medium grey fine grained with interbeds of dark	1.10	
							grey siltstone. Thin bands of medium grey to dark grey		
							claystone		
							Top of Box 31		
	87.71	89.61	1.90				Siltstone - medium - dark grey with light grey fine grained	0.47	
							sandstone. Slight shearing. Core somewhat broken.		
							Siltstone - same as above with minor claystone as well. Core	0.17	
							badly broken. Minor shearing.		
37							Siltstone - same as above	0.27	
							Claystone - medium grey - soft	0.11	
34							Sandstone - light grey fine grained	0.08	
							Siltstone - dark grey with interbeds of light grey fine grained	0.18	
							sandstone and dark grey claystone. Core badly broken and		
							sheared		
						297/90	53		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	24 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, % of light grey fine grained	0.52	
							sandstone increasing downward. Minor rip up clasts in		
							sandstone. Slight shearing. Core slightly broken.		
							Siltstone - same as above. Core badly broken.	0.10	
30	89.61	93.47	3.86				Sandstone - light grey to medium grey - fine grained with	0.73	
							interbeds of dark grey siltstone. Slight shearing (listric		
							surfaces) turbidities. Minor calcite filled fractures		
							Top of Box 32		
27							Sandstone - light to medium grey fine grained interbeds of dark	0.34	
							grey siltstone. Slight shearing with listric surfaces.		
							Sandstone - same as above. Core broken	0.12	
28							Sandstone - same as above. Minor load casts and rip up clasts	0.37	
						304/92.66			
33							Sandstone - light grey fine grained minor interbeds of dark	2.02	
							grey siltstone. Minor load casting, pinch and swell		
							structures and other assorted turbidities. Core slightly		
							broken at bottom.		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	25 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
35							Sandstone - medium grey with dark grey siltstone. Slight shearing along bedding.	0.28	
	93.47	95.98	2.51				Siltstone - dark grey with interbeds of light to medium grey fine grey sandstone. Core sheared and badly broken.	0.64	
						313/95.43			
34							Siltstone - same as above, slightly broken. Core also has slight shearing	0.85	
							Siltstone - same as above. Core badly broken and sheared with listric surfaces	0.32	
							Siltstone - same as above. Core slightly broken	0.18	
						317/96.62			
32							Siltstone - dark grey with interbeds of light grey fine grained sandstone, slight shearing. Small scale cross bedding in sandstone	0.24	
							Top of Box 34		
							Siltstone - dark grey with minor interbeds of light grey fine grained sandstone	0.28	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	26 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	95.98	97.28	1.30				Claystone - dark grey, soft with sheared surface at bottom	0.12	
							of interval		
35							Claystone - dark grey with interbeds of light grey fine grained	0.76	
							sandstone		
							Claystone - dark grey with interbeds of dark grey siltstone	0.42	
							and minor medium grey fine grained sandstone. Core badly		
							broken and sheared		
						324/98	76		
	97.28	99.28	2.00				Sandstone - light to medium grey fine grained with minor inter-	0.42	
							beds of dark grey siltstone and dark grey claystone.		
							Fractures with calcite filling bedding distorted (convolute)		
							Sandstone - light to medium grey fine grained core badly broken.	0.15	
							Interbeds of dark grey claystone. Calcite filled fractures		
28							Sandstone - light to medium grey fine grained scattered calcite	0.39	
							filled fractures (-2 mm wide)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	27 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 35		
							Sandstone - light to medium fine grained with thin calcite filled fractures. Bedding distorted (convolute) slight shearing with listric surfaces	0.18	
							Siltstone - dark grey with interbeds of dark grey claystone and medium grey fine grained sandstone. Core badly broken and sheared	0.15	
						327/99	67		
							Siltstone - dark grey with interbeds of dark grey claystone and medium grey fine grained sandstone. Core badly broken and sheared	0.08	
							Sandstone - light to medium grey fine grained. Minor interbeds of dark grey siltstone to dark grey claystone. Bedding badly distorted. Almost parallel to core axis at bottom of interval. BCA from 50 at top of interval to 24 at bottom of interval	0.48	
							Sandstone - light to medium grey fine grained minor dark grey siltstone. Core badly broken.	0.15	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	28 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
68	99.28	101.67	2.39				Sandstone - light to medium grey fine grained with minor	1.60	
							interbeds of dark grey siltstone and dark grey claystone.		
							VERY MARKED CHANGE IN BEDDING TO CORE AXIS		
							Small scale cross bedding minor bioturbation and scattered		
							very thin (1-2 mm) calcite filled fractures		
							Top of Box 36		
70							Sandstone - light grey fine grained with minor interbeds of	0.33	
							dark grey siltstone. Slight shearing along bedding. Small		
							scale cross bedding and bioturbation		
						337/102.72			
70							Sandstone - same as above, % of siltstone increasing going	0.46	
							downward		
70	101.67	110.40	8.73				Siltstone - dark grey with interbeds of light grey fine grained	2.08	
							sandstone to dark grey claystone. Sandstone has minor small		
							scale cross bedding and small rip up clasts. Slight shearing		
							listric surfaces		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	29 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 37		
66							Sandstone - light grey fine grained with interbeds of dark grey siltstone. Small scale cross bedding, minor cut and fill, minor small rip up clasts and load clasts	0.56	
						347/105.77			
70							Sandstone - same as above with minor interbeds of dark grey siltstone again small scale cross bedding and other turbidities structures	1.38	
62							Sandstone - light grey fine grained minor turbidities, very minor dark grey siltstone	0.70	
							Siltstone - dark grey with minor light grey fine grained sandstone	0.18	
							Top of Box 38		
69							Sandstone - light grey fine grained with minor interbeds of dark grey siltstone. Minor calcite filled fractures cut and fill structures, minor load casts and small rip up clasts	0.71	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	30 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						357/108.81			
68							Sandstone - same as above, light grey fine grained structures	2.07	
							or above		
							Top of Box 39		
70							Sandstone - light grey fine grained with interbeds of dark grey	1.05	
							siltstone. % of siltstone increasing going down hole		
						367/111.86			
71	110.40	111.42	1.02				Siltstone - dark grey with interbeds of light grey fine grained	1.02	
							sandstone		
	111.42	111.67	0.25				Bentonite and bentonitic clay zone, white to light yellow to	0.25	
							medium grey, very soft		
	111.67	112.00	0.38				Bentonitic clay - core loss		
65	112.00	112.12	0.12				Siltstone - dark grey with interbeds of dark grey claystone	0.12	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	31 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 40		
69	112.12	114.79	2.67				Sandstone - light grey fine grained with interbeds of dark grey	1.24	
							siltstone. Small scale cross beds, minor load casts and cut		
							and fill structures		
						377/114.91			
68							Sandstone - same as above, slight shearing with (listrics)	1.43	
							Top of Box 41		
63	114.79	116.37	1.58				Siltstone - dark grey with interbeds of light grey fine grained	1.20	
							sandstone. Slight shearing, minor small scale cross bedding		
							and turbidities structures in sandstone		
							Claystone - dark grey, soft in part	0.24	
							Siltstone - medium grey bentonitic, streak light, blue grey	0.14	
						387/117.96			
63	116.37	123.63	7.26				Sandstone - light grey fine grained, with interbeds of dark grey	1.09	
							siltstone and claystone. Minor small scale cross bedding and		
							turbidities		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	32 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 43		
68							Sandstone - light grey fine grained with interbeds of dark grey	0.56	
							siltstone. Small scale cross bedding, minor load casts		
							bedding slightly convolute in places. Minor fractures with		
							calcite filling		
							Siltstone - dark grey with interbeds of soft, dark grey claystone	0.13	
							badly sheared and broken		
68							Sandstone - light grey with interbeds of dark grey siltstone,	1.16	
							minor calcite filled fractures. Slight shearing with listric		
							surfaces, cross bedding		
						397/121.01			
							Sandstone - same as above, minor interbed dark grey, claystone	0.86	
							bands as well		
							Top of Box 43		
68							Sandstone - same as above, slight coarsening of sandstone down-	2.16	
							ward, few rip up clasts, coaly laminations at 19 cm from top		
						407/124.06			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	33 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, 11 cm of broken core at 36 cm from top, minor dark grey claystone band near bottom	0.59	
							Top of Box 44		
75							Sandstone - light grey, fine grained, with minor interbeds of dark grey siltstone and dark grey claystone, load casts and other turbidities	0.71	
	123.63	124.31	68				Claystone - dark grey, soft, core heavily broken and crushed at top, listric surfaces, 10 cm coal band 6 cm from top, 5 cm of carbonaceous claystone at bottom	0.68	
	124.31	124.76	0.45				Sandstone - light grey, fine grained with interbeds of dark grey siltstone, abundant pyrite blebs and small nodules, thin disc. coaly stringers, slight turbidities	0.45	
	124.76	125.34	0.58				Siltstone - dark grey, abundant pyrite blebs	0.48	
						417/127.10			
							Siltstone - same as above	0.10	
67	125.34	126.39	1.05				Sandstone - light grey, fine grained with very minor claystone laminations	0.28	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	34 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 45		
68							Sandstone - light grey, fine grained with very minor interbeds	0.31	
							of dark grey siltstone, cross bedding, occasional pyrite		
							bleb		
						419/127.71			
							Sandstone - light grey, fine grained, same as above	0.46	
	126.39	127.19	0.80				Siltstone - medium dark grey, with interbeds light grey fine	0.80	
							grained sandstone, turbidities		
72	127.19	130.87	3.68				Sandstone - light grey, fine grained, minor rip ups and load	1.03	
							casts, minor soft sediment deformation		
							Top of Box 46		
						427/130.15			
							Sandstone - light - medium grey, fine grained with interbeds of	0.50	
							dark grey siltstone. Siltstone increasing downward, thin		
							coal laminations		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	35 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone/Sandstone - interbeds fine grained light grey sandstone	2.15	
							with interbeds medium grey siltstone, scattered discontinuous		
							coaly laminaes, core slightly broken		
							Top of Box 47		
	130.87	133.16	2.29				Siltstone - medium - dark grey, with major interbeds fine grained	0.35	
							light grey sandstone		
						437/133.20			
							Siltstone - same as above	1.86	
							Claystone - dark grey	0.08	
	133.16	133.49	33				Coal Seam		
							- 2 cm - boney		
							+ 7 cm - carbonaceous claystone		
					95		+24 cm - coal		
							also minor pyrite		
							core broken		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	36 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 48		
					95				
	133.49	133.64	15				Coal - core highly broken		
	133.64	134.09	45		96		Claystone - dark grey, few thin coaly laminaes throughout,		
							slight shearing		
	134.09	134.23	14				Coal - core loss		
						447/136.35			
	134.23	134.36	13				Claystone - dark grey, slight shearing, partly broken, few coaly		
							laminaes		
	134.36	134.47	11		97		Coal - coal, core slightly broken		
	134.47	134.51	4				Coal - core loss		
	134.51	134.58	7				Coal - stoney		
	134.58	136.90	2.32				Sandstone - light - medium grey, medium grained, turbidities and	1.21	
							minor rip up clasts		
							Siltstone - medium - dark grey, soft, with dark grey claystone	0.10	
							interbeds, slight listrics		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	37 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light - medium grey, medium grained, turbidities and	0.45	
							discontinuous coaly laminaes		
							Top of Box 49		
							Sandstone - light grey, fine grained, with very minor interbeds	0.43	
							dark grey siltstone, slightly turbidities, small calcite		
							fractures		
							Siltstone - dark grey, with interbeds, dark grey claystone,	0.13	
							few coaly laminaes, core highly broken and sheared		
	136.90	136.99	0.09				Siltstone - core loss		
	136.99	137.77	0.78				Sandstone - light grey, fine grained, few coaly laminaes, with	0.36	
							very minor dark grey siltstone, few turbidities		
						457/137.39			
70							Sandstone - same as above	0.42	
	137.77	137.97	0.20				Siltstone - dark grey	0.20	
	137.97	138.44	0.47				Claystone - dark grey, coaly laminaes, with minor dark grey	0.47	
							siltstone, core slightly broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	38 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	138.44	138.49	0.05				Claystone - core loss		
	138.49	138.69	0.20				Siltstone light - medium grey, fine grained, with minor inter-beds dark grey siltstone, minor turbidities	0.49	
	138.69	142.34					Sandstone - light to medium gray, fine grained with minor inter-bedded dark gray siltstone, minor bioturbation		
							Box 50 Sandstone - light - medium grey, fine grained, with minor inter-beds of dark grey siltstone, minor turbidities	1.21	
						457/142.34			
65							Sandstone - same as above, percentage of siltstone increasing downwards, slight shearing with calcite fractures	1.46	
							Top of Box 51		
							Sandstone - light - medium grey, with minor dark grey siltstone, cross bedding	0.49	
	142.34	142.77	43				Siltstone - medium - dark grey, core highly broken and sheared at base, few coaly laminaes	0.43	
	142.77	142.89	0.12				Claystone - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	39 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	142.89	143.10	0.21				Claystone - dark grey, slightly sheared with coaly laminaes	0.21	
	143.10	143.44	0.34				Siltstone - dark grey, with very minor light grey fine grained sandstone	0.34	
						474/145.39			
	143.44	143.57	0.13				Bone Coal - core loss		
	143.57	143.64	0.07				Claystone - carbonaceous, dark grey, core highly broken and sheared with coaly laminaes	0.07	
	143.64	144.12	0.48				Siltstone - medium grey, with interbeds of dark grey claystone, clayey content increasing downwards	0.48	
	144.12	144.23	0.11				Claystone - dark grey, carbonaceous, slightly shearing, broken	0.11	
							Seam B11		
	144.23	144.85	0.62		↑		Coal - interval, occasional pyrite specks		
					98		- top 43 cm coal		
							+ 15 cm coal and carbonaceous claystone		
							+ 4 cm coal		
							- core badly broken and smashed		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	40 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 52		
	144.85	145.05	0.20				Coal - core highly crushed and sheared, some claystone interbedded		
	145.05	145.17	0.12				Siltstone - dark grey, minor coaly laminaes	0.12	
	145.17	145.64	0.47				Sandstone - light grey, fine grained, with very minor interbedded dark grey siltstone and minor turbidities	0.47	
	145.64	145.99	0.35				Siltstone - medium - dark grey, with dark grey claystone bands few coaly laminaes	0.35	
	145.99	146.44	0.45				Sandstone - light grey, medium grained, fining downwards, with minor discontinuous coaly laminaes	0.45	
						487/148.44			
	146.44	146.64	0.20				Siltstone - medium grey, with interbedded light grey fine grained sandstone	0.20	
	146.64	146.94	0.30				Claystone - dark grey with coaly laminaes	0.18	
							Claystone - dark grey with coal and dark grey siltstone. Core pulverized and badly sheared	0.12	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	41 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	146.94	147.05	11				Claystone - core loss		
	147.05	154.13	7.08				Siltstone - medium grey, with interbeds light grey fine grained sandstone bands. Coaly laminae, minor calcite filled fractures	0.63	
							Top of Box 53		
							Siltstone - dark grey, with minor interbeds of dark grey. Claystone, minor shearing with occasional calcite filled fractures, minor light grey fine grained sandstone towards base	1.65	
							Claystone - dark grey, silty, core heavily broken and crushed, minor coaly laminaes, sheared	0.16	
						497/151.49			
							Siltstone - medium - dark grey, few minor thin dark grey claystone band	0.86	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	42 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 54		
69							Siltstone - medium - dark grey with minor dark grey claystone	2.16	
							bands, slight shearing with minor calcite along shears,		
							ironstone nodule at 107 cm from top		
						507/154.54			
							Siltstone - same as above	0.62	
							Top of Box 55		
							Siltstone - dark grey, same as above	1.00	
	154.13	154.25	0.12				Coal - boney, core badly broken		
	154.25	154.89	0.64				Coal - core loss		
	154.89	155.05	0.16				Claystone - carbonaceous, dark grey, plant fragments and other	0.16	
							assorted coaly plant debris, Fe rich		
	155.05	155.58	0.53				Siltstone - dark grey, occasional calcite filled fractures,	0.53	
							slight shearing, becoming sandy towards based		
						517/157.58			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	43 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	155.58	156.56	0.98				Sandstone - light - medium grey, fine - medium grained, carbonaceous plant debris, slight cross bedding	0.13	
							Top of Box 56		
56							Sandstone - light - medium grey, medium grained, carbonaceous plant debris, thin calcite filled fracture oriented sub-parallel to core axis, fines downwards	0.85	
60	156.56	158.43	1.87				Siltstone - dark grey, with minor bands of medium grey fine grained sandstone, minor claystone and odd nonstone nodules, slight shears, minor calcite fractures	1.08	
							Ironstone - grey brown, calcite fractures	0.15	
							Siltstone - dark grey, slight sheared, calcite filled fractures, fractures, few coaly laminaes, some minor interbedded claystone, core slightly broken	0.64	
	158.43	160.81	2.38				Sandstone - light grey, medium grained, calcite fractures en-echelon	0.20	
						527/160.63			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	44 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 57		
							Sandstone - light grey, medium grained, slight fining downwards,	1.93	
							minor carbonaceous laminaes - sheared and filled with		
							calcite, calcite fractures		
							Sandstone - light grey, badly fractured with calcite filling in	0.25	
							fractures, highly broken, possible small fault, claystone and		
							siltstone, mixed in with pulverized sandstone core		
	160.81	160.89	8				Sandstone/Siltstone/Claystone - core loss		
	160.89	162.05	1.16				Siltstone - dark grey, core badly broken and sheared middle	0.54	
							nom, calcite filled fractures, minor claystone interbedded,		
							listric surfaces		
							Top of Box 58		
							Siltstone - dark grey, sheared and fractured with calcite	0.25	
							filling in fractures, minor interbedded claystone, iron		
							stone nodule 7 cm long		
						537/163.68			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHT.
8103	45 of 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey, silty, listric surface on top, broken on top and at base, minor carbonaceous plant fragments	0.37	
	162.05	162.21	16				Claystone - core loss		
	162.21	162.91	0.70				Siltstone - dark grey, with occasional thin cark grey. Claystone band, minor plant fragments, minor occasional calcite filled fractures, minor coaly laminaes	0.70	
66	162.91	164.66	1.75				Sandstone - light grey, very fine grained - fine grained, coarsens downwards, num. calcite filled fractures, few slight listrics, very few minor discontinuous carbonaceous strings	1.45	
							Top of Box 59		
							Sandstone - light grey, fine - medium grained, calcite fractures, minor listrics, same as above	0.13	
							Claystone - dark grey, minor carbonaceous plant fragments, few scattered coaly laminaes, core broken on top and at base	0.17	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	46 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	164.66	164.82	16				Claystone - core loss		
						547/166.73			
79	164.82	165.82	100				Siltstone - medium - dark grey, with minor interbeds of light	1.00	
							grey, fine grained sandstone and minor claystone bands,		
							minor carbonaceous plant fragments, occasional thin coaly		
							laminaes, minor turbidities, core slightly sheared in middle		
							with listric surfaces, minor calcite filling on some shears		
74	165.82	167.42	1.60				Sandstone - medium - light grey, fine - medium grained, coarsening	1.30	
							downwards, carbonaceous plant fragments with minor interbeds		
							of dark grey, siltstone with in upper half, core slightly		
							broken in lower half, odd thin carbonaceous laminaes		
							Top of Box 60		
							Sandstone - light grey, fine grained	0.30	
	167.42	168.75	1.33				Siltstone - dark grey, with minor interbeds of light grey, fine	0.37	
							grained sandstone		
						557/169.78			
							Siltstone - same as above, few calcite filled fractures, slight	0.96	
							shearing		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	47 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
87	168.75	173.59	4.84				Sandstone - light grey, medium grained, massive, minor claystone clast	1.16	
						564/171.91			
							Top of Box 61		
							Sandstone - light grey, medium grained, massive, slight fining downwards, few minor claystone and ironstone clasts	2.91	
							Top of Box 62		
81							Sandstone - light - medium grey, fine grained, with minor interbeds of dark grey siltstone, minor calcite fractures at right angles to bedding	0.64	
						584/178.01			
							Sandstone - light grey, same as above	0.13	
77	173.59	174.30	0.71				Siltstone - dark grey, with interbeds light grey fine grained sandstone	0.71	
83	174.30	174.87	0.57				Sandstone - light grey, fine grained with minor interbeds of dark grey siltstone, minor calcite filled fractures	0.57	
	174.87	175.79	0.92				Siltstone - dark grey, with interbeds light grey fine grained sandstone	0.80	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	48 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 63		
							Siltstone - dark grey with claystone and ironstone, core heavily broken and crushed	0.12	
	175.79	175.97	0.18				Silstone/Claystone - core loss		
						574/174	96		
83	175.97	177.84	1.87				Sandstone - light grey, fine - medium grained, coarsening downwards, occasional bands of dark grey siltstone, few small calcite filled fractures, minor cross bedding and few assorted turbidities, few discontinuous coaly laminaes	1.87	
	177.84	178.46	0.62				Siltstone - dark grey, with interbedded light grey, fine grained sandstone	0.57	
							Top of Box 64		
							Siltstone - dark grey, coal stringer at top, massive, grades to very fine grained sandstone at base	0.05	
75°	178.46	179.00	0.54				Sandstone - light to medium grey, very fine grained, coaly stringer abundant through entire length	0.54	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	49 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75	179.00	180.05	1.05				Siltstone/Sandstone - dark grey siltsotne interlaminated with light grey, very fine grained sandstone, cross bedded, minor soft sediment deformation (70-30) (Siltstone/Sandstone)	0.25	
							Siltstone - dark grey, massive, argillaceous	0.10	
						181.09			
							Siltstone - same as above	0.70	
80	180.05	180.28	0.23				Claystone - dark grey, carbonaceous, abrupt contact with overlying siltstone, basal 4 cm heavily broken		
	180.28	180.41	13	0.13			Coal - dull with bright stringer (10%), heavily broken		
					99				
	180.41	180.61	20	0.20			Coal - core loss		
	180.61	180.96	35	0.34			Coal - dull - 5% bright, heavily broken		
	180.96	180.98	0.02				Claystone - dark grey, bright stringers 2 mm th, very carbonaceous	0.02	
	180.98	181.07	9				Siltstone - dark grey carbonaceous, massive, broken	0.09	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	50 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 65		
74	181.07	181.48	0.41				Sandstone - light - medium grey, fine grained, with interbedded dark grey siltstone minor cross bedding	0.41	
	181.48	183.82	2.34				Siltstone - dark grey, with interbeds dark grey claystone, minor shears, few thin coaly laminaes	1.02	
						605/184.41			
							Siltstone - dark grey, with interbeds dark grey claystone, calcite fractures, slight shearing with listrics, few thin coaly laminaes, core broken badly in middle	1.32	
	183.82	184.06	0.24				Claystone - core loss		
							Top of Box 66		
	184.06	184.20	0.14				Siltstone - dark grey, with interbeds of dark grey claystone	0.14	
63	184.20	184.75	0.55				Sandstone - medium grey, fine grained, with interbeds dark grey siltstone, slight shearing, minor calcite fractures	0.55	
	184.75	185.69	0.94				Siltstone - dark grey, with interbeds dark grey claystone, few minor coaly laminaes, slight shearing	0.94	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	51 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	185.69	185.81	0.12				Coal - core pulverized	0.12	
						616/187.76			
	185.81	186.70	0.89				Siltstone - dark grey, with interbeds of dark grey claystone	0.27	
							Claystone - dark grey, carbonaceous, coaly bands, core badly	0.33	
							broken		
							Siltstone - dark grey, with interbeds of dark grey claystone,	0.29	
							core broken at base, one coaly 5 cm wide at 9 cm from top		
	186.70	186.95	25				Claystone - core loss		
							Top of Box 67		
70°	186.95	195.28	8.33				Sandstone - light grey fine grained with dark grey siltstone	2.19	
							interbeds. Minor calcite filled fractures along bedding.		
							Minor small scale cross bedding and occasional ironstone		
							band. Also minor load casting and other turibidities. Slight		
							coarsening downwards.		
						626/190.81			
75°							Sandstone - same as above	0.65	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	52 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 68		
76							Sandstone - light grey, medium grained, minor very thin calcite	2.49	
							fractures along bedding		
						636/193.86			
69							Sandstone - same as above	0.34	
							Top of Box 69		
							Sandstone - light grey, medium grained, with 7 cm ironstone	2.66	
							band on top, massive, few minor dark grey siltstone clasts		
						647/197.21			
							Top of Box 70		
62	195.28	198.47	319				Sandstone - light grey, medium grained, massive, slight	2.90	
							coarsening downwards, core heavily broken on top for 15 cm		
							Top of Box 71		
							Sandstone - same as above	0.29	
						657/200.26			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	53 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
50	198.47	201.52	3.05				Sandstone - same as above, fining downwards, few minor calcite	2.53	
							stringers, minor slight shearing with calcite filling		
							Top of Box 72		
							Sandstone - light grey, fine grained with dark grey interbedded	0.52	
							siltstone, minor turbidities		
						667/203.30			
77	201.52	206.63	5.11				Sandstone - light grey, fine grained, with minor interbeds of	2.34	
							dark grey siltstone, thin coaly laminaes, turbidities, few		
							rip up clasts, slight shearing		
							Top of Box 73		
							Sandstone - light grey, fine grained, with minor interbeds of	0.70	
							dark grey siltstone, minor carbonaceous laminaes, slight		
							shearing		
						677/206.35			
77							Sandstone - light grey, fine grained, with interbeds of dark		
							grey siltstone increasing downward, turbidities thin coaly		
							laminaes, rip up clasts and load casts		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	54 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 74		
							Seam B9		
75	206.63	207.21	58				Siltstone - dark grey, with 30% light grey, very fine grained,	0.58	
							sandstone lenses scattered throughout, soft sediment		
							deformation, carbonaceous at base with minor amounts of		
							claystone, abrupt contact		
	207.21	207.33	12	0.12			Coal - dull 5% bright		
	207.33	207.46	13	0.13			Coal - dull 10% bright		
	207.46	207.48	2	0.02	100		Claystone - dark grey, very carbonaceous		
	207.48	207.56	8	0.05			Coal - bright		
	207.56	207.70	14	0.14			Coal - dull - banded		
						209.45			
	207.70	208.06	36	0.35	101		Claystone - dark grey, carbonaceous		
	208.06	208.65	59	0.57			Coal - dull, 5% bright, metallic lustre, hard		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	55 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	208.65	209.09	44	0.43			Coal - dull with bright bands (10%)		
	209.09	209.22	0.13	0.13			Coal - boney		
	209.22	209.37	15	0.15			Coal - dull with bright bands (10%)		
							Top of Box 75		
	209.37	209.59	22	0.21			Coal - dull with bright bands (5-10%), hard		
	209.59	209.71	12	0.12	102		Coal - dull, very hard		
	209.71	210.06	35	0.34			Coal - dull with bright bands, hard		
	210.06	210.11	05	0.05			Coal - stoney		
	210.11	210.36	25	0.24			Coal - dull with bright bands 5%		
	210.36	210.48	12	0.12			Coal - dull, hard		
	210.48	210.71	23	0.22			Coal - dull with bright bands, briken basal 4 cm		
						212.50			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	56 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	210.71	210.82	0.11	0.11	103		Claystone - dark grey, broken at top		
	210.82	210.88	0.06	0.06			Core loss - coal		
	210.88	211.09	0.21	0.20			Coal - dull, 5% bright bands		
	211.09	211.39	0.30	0.29			Coal - dull and bright, broken 30% bright		
	211.39	211.51	0.12	0.12			Coal - dull with bright 5%		
	211.51	211.81	0.30	0.29			Coal - dull		
					104				
	211.81	211.99	0.18	0.17			Coal - dull and bright (25-30%)		
							Top of Box 76		
	211.99	212.05	0.06	0.06			Coal - dull		
	212.05	212.13	0.08	0.08	105		Claystone - dark grey, basal 30 cm carbonaceous		
	212.13	212.27	0.14	0.14			Claystone/Coal - pulverized		
	212.27	212.36	0.09	0.09			Coal - bright		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	57 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	212.36	212.70	0.34	0.33			Coal - dull		
	212.70	212.74	4	0.04			Coal - bright		
	212.74	212.76	2	0.02			Coal - bright, pulverized		
	212.76	212.81	5	0.05			Coal - stoney, slickensides on top and base		
	212.81	212.87	6	0.06			Coal - bright		
	212.87	212.91	4	0.04	106		Claystone - dark grey, carbonaceous, bright stringers		
	212.91	212.94	3	0.03			Coal - boney		
	212.94	212.99	5	0.05			Claystone - dark grey		
	212.99	213.09	10	0.10			Coal - dull, calcite stringers		
	213.09	213.15	6	0.06			Coal - bright, pulverized		
	213.15	213.44	0.29				Claystone - dark grey, carbonaceous, slickensides on top	0.23	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	58 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone/Stoney - dark grey, calcite stringers, slickensides at base, broken	0.06	
	213.44	213.46	0.02				Coal - bright, broken slickensides		
						215.54			
	213.46	214.61	1.15				Claystone - dark grey, broken at top, carbonaceous at top, slickensides at top, .5 cm calcite filled fracture 30 cm from top with BCA of 10°, slickensides and calcite on base, base broken and carbonaceous	0.44	
							Claystone - dark grey, carbonaceous, rare bright band 2 mm	0.71	
							Top of Box 77		
65	214.61	216.54	193				Siltstone - medium - dark grey, with minor interbeds of light grey, fine grained sandstone, minor very thin calcite stringers, minor turbidities and few thin coal laminaes	1.93	
						717/218.54			
	216.54	216.64	10				Claystone - core loss		
	216.64	216.89	25				Siltstone - dark grey with interbeds of dark grey claystone, slight shearing with listrics, few calcite filled fractures	0.25	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	59 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	216.89	217.13	24				Claystone - dark grey, carbonaceous	0.24	
	217.13	217.18	5				Coal - boney, broken		
	217.18	217.28	10				Coal - broken		
	217.28	217.49	21				Coal - core loss		
	217.49	217.55	6				Coal - stoney		
	217.55	217.75	20				Claystone - dark grey, carbonaceous, soft in places, few coaly laminaes	0.20	
	217.75	219.17	142				Siltstone - dark grey		
							Top of Box 78		
							Siltstone - medium grey, with interbeds of light grey, fine grained, thin calcite filled fractures along bedding, slight trubidities, thin coaly laminaes with slight shearing	1.02	
							Claystone - dark grey	0.14	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	60 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey	0.16	
	219.17	222.33	3.16				Sandstone - light - medium grey, fine grained, with interbeds of	0.66	
							dark grey siltstone, minor calcite fractures, coaly laminaes,		
							slight shearing		
						727/221.59			
							Sandstone - light - medium grey, fine grained, with minor	0.70	
							interbedded dark grey siltstone, bioturbation, cross bedding		
							Top of Box 79		
							Sandstone - light - medium grey, fine grained, with interbeds	1.80	
							of dark grey siltstone, turbidities, discontinuous coaly		
							laminaes, slight shearing		
45	222.33	223.22	89				Siltstone/Claystone - dark grey, badly sheared with listrics	0.30	
							and calcite filling		
						737/224.64			
			59				Siltstone/Claystone - same as above, badly sheared and fractured	0.59	
							bedding subparallel to core axis, calcite along shears		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	61 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 80		
							Seam B8		
	223.22	223.70	48				Claystone - dark grey, carbonaceous, top has listric, slickensides and calcite coating, 8 cm from top - calcite filled fracture with slickensides at BCA of 35°, solid for 10 cm, fractured at 18 cm from top with calcite coating and slickensides of break-broken core, 26 cm from top-fractured along 1 cm coal band with slickensides - BCA 45°, core solid for another 22 cm, listric surface on base	0.48	
50									
	223.70	223.80	10				Coal - boney, slickensides at base		
	223.80	223.90	10				Bone Coal - core loss		
	223.90	224.06	0.16				Claystone - dark grey, carbonaceous, broken, slickensides on base and roof with calcite	0.06	
							Claystone - same as above, slickensides on roof	0.10	
	224.06	224.08	2				Coal - bright - broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	62 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
60	224.08	224.66	58				Claystone - dark grey, carbonaceous	0.58	
	224.66	224.71	5	0.04			Coal - bright - heavily broken		
	224.71	224.91	20	0.17			Coal - dull, with bright bands (10%)		
	224.91	224.99	8	0.07	107		Coal - boney		
	224.99	225.16	17	0.15			Coal - dull, heavily broken		
	225.16	225.19	3	0.03			Coal - dull - pulverized		
	225.19	225.26	7				Claystone - dark grey, carbonaceous	0.07	
	225.26	225.32	0.06				Coal - pulverized	0.18	
	225.32	225.50	18				Claystone - dark grey, broken at base and top		
	225.50	225.54	4				Coal - pulverized - bright?		
	225.54	225.60	6				Coal - core loss		
						227.74			
	225.60	225.66	6				Coal - dull with bright bands (5-10%)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	63 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 81		
45	225.66	225.86	20				Claystone - dark grey, 10% bright band 2.3 mm th (60)	0.20	
							carbonaceous		
	225.86	225.89	3				Coal - dull - heavily broken		
	225.89	225.94	5				Rock - core loss		
	225.94	225.97	3				Claystone - dark grey, carbanceous	0.03	
	225.97	226.00	3				Coal - bright		
	226.00	226.26	0.26				Claystone - dark grey with bright coal bands 10%	0.07	
							Claystone - dark grey - two 2 mm $CaCo_2$ fractures parallel to	0.19	
							bedding, 3 cm from base, carbonaceous at base		
	226.26	226.31	5				Rock - core loss		
	226.31	226.36	5				Coal - dull with 10% bright bands		
	226.36	226.50	14				Rock - core loss (60)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	64 of 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	226.50	226.77	27				Claystone - dark grey, listric at top	0.27	
	226.77	226.85	8				Rock - core loss		
	226.85	226.88	3				Coal - bright, pulverized		
	226.88	226.97	9				Rock - core loss		
	226.97	227.15	18				Claystone - dark grey	0.18	
	227.15	227.28	13				Claystone/Coal - heavily broken to pulverized		
	227.28	227.30	2				Coal - bright - pulverized		
65	227.30	227.91	61				Claystone - dark grey, carbonaceous at top, fracture 42 cm from top with slickensides and calcite coating, fracture is concave in cross section	0.61	
	227.91	228.63	72				Siltstone - dark grey, massive - 1 mm th calcite stringer 6 cm from top, slickensides at base	0.72	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	65 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 82		
						757/230.74			
	228.63	233.53	4.90				Siltstone - dark grey, minor interbeds of dark grey claystone,	2.69	
							few coaly laminaes, 8 cm ironstone nodule with calcite		
							fractures at base		
							Top of Box 83		
							Siltstone - medium grey, with interbeds of medium grey fine	0.33	
							grained sandstone, slight shears with calcite filling, core		
							partially broken		
						767/233.78			
							Siltstone - as above with claystone percentage increasing	1.88	
							downward		
	233.53	233.92	0.39				Claystone - carbonaceous, dark grey, sheared, listric surfaces,	0.39	
							calcite filled fractures, coaly laminaes, core broken		
							heavily at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	66 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 84		
	233.92	234.42	50	0.45	108		Coal - heavily broken to pulverized		
	234.42	234.55	13	0.12			Coal - core broken		
	234.55	236.01	1.46				Siltstone - medium grey, abundant plant debris, slickensides at top, carbonaceous at top	0.09	
						236.89			
							Siltstone - medium grey, massive, hairline $CaCo_3$ fractures throughout with BCA from 20° to 70°, broken at base with slickensides and calcite surface	0.63	
							Siltstone - same as above, argillaceous, calcite fractures	0.73	
	236.01	236.06	5				Claystone - dark grey, heavily broken, calcite surfaces on breaks	0.05	
	236.06	236.20	14				Claystone - core loss		
	236.20	236.80	60				Coal - pulverized to heavily broken, listric surfaces and calcite, chips of claystone		
	236.80	237.05	25				Claystone - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	67 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 85		
	237.05	237.07	2				Coal - bright - heavily broken		
	237.07	237.75	68				Siltstone - medium grey, carbonaceous plant remains throughout,	0.68	
							$CaCo_3$ veinlets abundant in top 10 cm at 80° BCA, fracture		
							36 cm from top with slickensides and calcite at 75° BCA,		
							fracture at 53 cm from top with slickensides and calcite -		
							BCA 45°, slickensides and calcite at base with BCA 45°, massive		
						239.93			
	237.75	237.78	3				Claystone - core loss		
	237.78	237.82	4				Claystone - dark grey, heavily broken	0.04	
	237.82	238.37	55		109		Coal - dull with bright, heavily broken and sheared, listric		
							surface and slickensides abundant, calcite fractures at 0°		
							BCA		
	238.37	239.29	0.92				Siltstone - medium grey, massive slickensides at top, calcite	0.70	
							stringers abundant in 30 cm zone 20 cm from top - BCA of		
							calcite stringers about 10°		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	68 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above	0.22	
	239.29	240.80	1.51				Claystone - dark grey, carbonaceous, heavily broken, slickensides	0.40	
							with rare calcite coating		
							Box 86		
							Claystone - dark grey, heavily broke, some coal pulverized and	0.23	
							mixed in		
							Claystone - dark grey, carbonaceous, solid	0.27	
							Claystone - dark grey, carbonaceous, heavily broken, some	0.10	
							pulverized coal		
							Claystone - same as above, fractured at 10° BCA	0.10	
						242.98			
							Claystone - dark grey, bright stringer at 0° BCA (indicates	0.41	
							vertical bedding?), fractured at base 45° - listric		
							surface and slickensides		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	69 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	240.80	241.40	60	0.54			Coal - mainly bright, calcite veinlets up to 1 cm in thickness		
							throughout at 0° BCA, coal is heavily sheared and broken,		
							with slickensides and listric surface on majority of pieces		
					110		(faulted?)		
	241.40	242.08	68	0.62			Coal - core loss		
	242.08	242.48	40	0.36			Coal - as above, highly sheared, looks bright		
	242.48	242.60	12	0.11			Coal - dull but listric shear surfaces		
							Top of Box 87		
	242.60	243.50	090				Claystone - dark grey, carbonaceous, with coal, badly smashed	0.90	
							and crushed and broken		
	243.50	243.71	0.21				Claystone - core loss		
						807/246.03			
	243.71	244.68	0.97				Siltstone - dark grey, with interbeds of dark grey claystone	0.97	
							core broken and slightly sheared and filled with calcite		
	244.68	245.15	0.47				Siltstone - core loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	70 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	245.15	245.83	0.68				Siltstone/Claystone - dark grey, core crushed, very carbonaceous	0.20	
							Siltstone - dark grey, badly fractured and core broken, minor calcite fractures	0.48	
	245.83	246.02	19				Claystone - core loss		
	246.02	246.37	35				Claystone - dark grey, core crushed for top 10 cm, very carbonaceous	0.22	
							Top of Box 88		
							Claystone - dark grey, very carbonaceous, crushed	0.13	
	246.37	246.47	10				Rock - core loss (carbonaceous)		
	246.47	246.57	10				Siltstone - dark grey with interlaminated claystone, carbonaceous	0.10	
	246.57	247.11	0.54				Rock - core loss		
	247.11	247.23	12				Claystone - dark grey, very soft, core crushed	0.12	
	247.23	247.63	3.40				Siltstone - dark - medium grey, with minor dark grey claystone bands and odd medium grey fine grained sandstone band.	2.34	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	71 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							minor coaly laminations		
							Top of Box 89		
							Siltstone - dark grey, with minor interbeds of medium grey, fine grained sandstone	0.46	
						826/251.83			
							Siltstone - same as above	0.60	
	250.63	251.59	0.96				Sandstone - medium grey, fine grained, with minor interbeds of dark grey siltstone, few turbidities, few small calcite filled fractures	0.96	
	251.59	252.15	0.56				Siltstone - dark grey, with minor interbeds of medium grey fine grained sandstone, few coaly laminations	0.56	
	252.15	252.27	0.12				Claystone - dark grey, carbonaceous, coaly laminations	0.12	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	72 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 90		
	252.27	252.37	10				Coal - crushed		
	252.37	252.47	10				Coal - core loss		
	252.47	252.89	42				Siltstone - dark grey, clay content increases towards base	0.42	
	252.89	252.97	8				Siltstone - dark grey, with thin coaly bands, badly sheared and broken	0.08	
	252.97	253.11	14				Coal - stoney, crushed and broken		
						836/254.82			
70	253.11	255.46	2.35				Siltstone - dark grey, with interbeds of dark grey claystone and minor medium grey fine grained sandstone, minor coaly laminations	1.66	
							Top of Box 91		
							Siltstone - dark grey, with interbeds of dark grey claystone, slight listric surfaces	0.69	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	73 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	255.46	255.74	28				Claystone - dark grey, silty, thin coaly bands	0.21	
							Claystone - dark grey, carbonaceous, crushed, thin coaly laminations	0.07	
	255.74	255.88	14				Coal - stoney, badly broken	0.14	
						847/258.17			
	255.88	257.41	1.53				Claystone - silty, dark grey, carbonaceous, with thin coaly laminations throughout, core broken in places	1.53	
							Top of Box 92		
	257.41	266.25	8.84				Siltstone - dark grey, with interbeds of dark grey claystone and medium medium grey fine grained sandstone, slight shears and listric surfaces, few coaly laminations	1.52	
						837/261.22			
							Siltstone - same as above	1.22	
							Top of Box 93		
							Siltstone - dark grey, with interbeds of dark grey claystone and minor medium grey, fine grained sandstone, scattered thin coaly laminations and slight shearing, core slight broken	1.83	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	74 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						867/264.26			
							Siltstone - same as above	0.83	
							Top of Box 94		
60							Siltstone - medium - dark grey, with interbeds of light - medium	2.34	
							grey fine grained sandstone, small scale cross bedding in		
							sandstone		
					887/267.31				
							Siltstone - same as above	0.60	
							Top of Box 95		
							Siltstone - dark grey, interbeds of medium grey fine grained	0.50	
							sandstone		
	266.25	266.99	74				Claystone - dark grey, soft, squeezed and broken in places,	0.74	
							carbonaceous and coaly plant fragments, listrics		
	266.99	267.14	15				Coal - boney, broken		
	267.14	267.31	17				Coal - core loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	75 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	267.31	267.39	8				Claystone - carbonaceous, dark grey, soft	0.08	
	267.39	267.57	18				Claystone - core loss		
	267.57	267.74	17				Claystone - with coal, core highly squeezed, sheared and pulverized	0.17	
	267.74	267.82	8				Rock - core loss		
	267.82	268.18	36				Claystone - dark grey, silty, scattered small coal fragments	0.36	
						887/270.36			
	268.18	268.91	73				Siltstone - dark grey, with minor interbeds of dark grey claystone few coaly plant fragments	0.73	
	268.91	269.02	11				Stoney - core loss		
							Top of Box 96		
							Seam B6		
55	269.02	270.10	108				Claystone - dark grey, plant debris, 36 cm from top fracture, siltstones and calcite coating - BCA 55°	1.08	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	76 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	270.10	270.16	6	0.05			Coal - bright		
	270.16	270.38	22	0.18			Coal - dull with metallic lustre	64	
	270.38	270.71	33	0.27			Coal - bright banded, 65% bright		
	270.71	270.80	9	0.07	111		Coal - dull, 10% bright band		
	270.80	270.83	3	0.02			Coal - bright, pulverized - 3m	65	
	270.83	270.97	0.14	0.11			Coal - core loss		
	270.97	271.19	22	0.18	112		Claystone - dark grey, carbonaceous		
	271.19	271.37	18	0.14	113		Coal - bright banded, 75% bright		
	271.37	271.47	10	0.08			Coal - core loss		
	271.47	271.69	022				Claystone - dark grey, carbonaceous, thin vitrain bands in upper 20 cm, siltstone, listric surfaces on break near base	0.22	
	271.69	272.89	1.20				Siltstone - medium grey, slightly carbonaceous siltstone with calcite coating on base	0.61	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	77 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						273.47			
							Siltstone - same as above, siltstone, calcite surfaces top and	0.59	
							bottom on BCA of break 70°, similar fracture laminated		
							down, siltstone and calcite, 10 cm below another fracture,		
							BCA 25°		
							Top of Box 97		
70	272.89	281.14	8.25				Sandstone - light grey, fine grained, with minor coaly laminaes	235	
							few thin calcite filled fractures, slight shearing, few		
							carbonaceous claystone clasts		
						907/276.46			
							Sandstone - same as above		
								3.40	
							Top of Box 98		
70							Sandstone - light grey, fine grained, minor cross bedding,	2.57	
							slight shearing with calcite filling, thin coaly laminations		
						917/279.51			
							Sandstone - same as above, calcite filled fracture	0.15	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	78 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 99		
70							Sandstone - light grey, fine grained, small siltstone fragments, slight shearing with calcite filling, few thin coaly laminations, fining downwards	2.78	
							Top of Box 100		
						927/282.55			
	281.14	281.68	0.54				Siltstone - dark grey, slight shearing, with 7 cm ironstone band on top	0.54	
	281.68	282.86	1.12				Claystone - dark grey, coaly laminations, listrics, with minor interbeds of dark grey siltstone, sheared	1.12	
	282.80	285.81	3.01				Siltstone - medium - dark grey, with interbeds of dark grey claystone, scattered coaly laminations, carbonaceous fragments	121	
							Top of Box 101		
						937/285.60			
							Siltstone - dark grey, with minor interbeds of dark grey claystone thin coaly laminations and carbonaceous plant fragments, becomes sandy towards base	1.80	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	79 of 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75	285.81	287.02	1.21				Sandstone - light - medium grey, fine grained, small scale	101	
							cross bedding, slight shearing with slight calcite filling,		
							very minor carbonaceous plant fragments		
							Seam B5		
							Top of Box 102		
							Sandstone - light grey, fine grained, minor cross bedding	20	
							dark grey siltstone laminations fracture at top - BCA 20°		
							calcite coating - siltstone at base		
						288.71			
	287.02	287.71	0.69				Claystone - dark grey, abundant plant remains, carbonaceous 8 cm	27	
							bentonitic unit - 16 cm from top		
							Claystone - dark grey, carbonaceous at base	42	
	287.71	287.73	0.02	0.02			Coal - bright, pulverized		
	287.73	287.84	11	0.11			Coal - dull with light bands, 10% bright		
	287.84	287.87	3	0.03	114		Coal - bony		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	80 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	287.87	288.05	18	0.17	114		Coal - dull with bright bands, 10% bright		
	288.05	288.16	11	0.11	115		Claystone - dark grey, carbonaceous, siltstone, calcite coating		
	288.16	288.18	02	0.02			Coal - bright, pulverized		
	288.18	288.33	15	0.14			Coal - dull, sheared with listric surfaces	71	
	288.33	288.40	7	0.07	116		Coal - bright pulverized		
	288.40	288.60	20	0.19			Coal - dull (breaks along polished shear planes, looks bright)		
	288.60	288.71	11	0.11	117		Claystone - carbonaceous at top and bottom, dark grey listric surfaces, siltstone at top		
	288.71	288.89	18	0.17	118		Coal - dull with bright bands, 10% - 15%		
	288.89	289.09	20	0.19			Coal - dull with bright bands, 5% bright siltstone on sheared surfaces	50	
	289.09	289.18	9	0.09	119		Claystone - dark grey, siltstone on top, carbonaceous		
	289.18	289.22	4	0.04			Coal - bright, pulverized		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	81 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	289.22	289.24	2	0.02	119		Coal - core loss		
	289.24	289.34	10	0.10			Claystone - dark grey, carbonaceous, siltstone at base		
	289.34	289.41	7	0.07			Coal - dull and bright, siltstone		
	289.41	289.94	53	0.51			Coal - core loss		
							Box 103		
	289.94	290.23	29	0.28			Coal - heavily broken to pulverized		
	290.23	290.74	51	0.49	120		Coal - core loss		
						291.76			
	290.74	290.86	12	0.12			Coal - dull bright		
	290.86	290.93	7	0.07			Coal - dull with bright bands, metallic lustre	68	
	290.93	295.62	4.69				Siltstone - medium grey, massive, carbonaceous plant remains in upper	0.61	
							Siltstone - same as above	1.40	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	82 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 104		
							Siltstone - dark grey, with interbeds of dark grey claystone,	0.10	
							carbonaceous plant fragments, slight shearing		
						967/294.74			
							Siltstone - same as above, coaly laminations, slight shearing	2.58	
	295.62	295.72	10				Rock - core loss		
							Top of Box 105		
	295.72	317.35	21.63				Siltstone - dark grey, with interbeds of dark grey claystone,	0.34	
						977	carbonaceous plant fragments, few very thin calcite filled		
						297.75	fractures, discontinuous coaly laminaes, slight shearing		
							Siltstone - same as above	2.43	
							Top of Box 106		
							Siltstone - same as above	0.59	
						987/300.84			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	83 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey, with dark grey interbedded claystone,	2.12	
							slight shearing, thin calcite filled fractures, coaly		
							laminaes, carbonaceous plant fragments		
							Top of Box 107		
							Siltstone - same as above	0.83	
						997/303.89			
							Siltstone - same as above, slight listric surface	1.93	
							Top of Box 108		
							Siltstone - same as above	1.11	
						1007/306.93			
68							Siltstone - dark grey, with interbeds of medium grey fine grained	1.63	
							sandstone, minor coaly fragments and thin coaly laminaes,		
							carbonaceous plant fragments, slight turbidities		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	84 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 109		
							Siltstone - dark grey, with minor interbeds light grey fine	1.37	
							grained sandstone, coaly fragments, carbonaceous plant		
							fragments, few very thin calcite filled fractures		
						1017/309.98			
							Siltstone - same as above, core slight broken	1.23	
							Top of Box 110		
							Siltstone - dark grey, with minor interbeds light grey fine	1.83	
							grained sandstone, minor rip up clasts, minor convolute		
							bedding, carbonaceous plant fragments		
						1027/313.03			
							Siltstone - same as above	0.93	
							Top of Box 111		
							Siltstone - dark grey, with interbeds dark grey claystone,	2.14	
							coaly laminaes, very thin occasional calcite filled		
							fractures, coaly fragments, carbonaceous plant debris		
						1037/316.08			
							Siltstone - same as above	0.64	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	85 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 112		
							Siltstone - same as above, core is grooved	2.19	
	317.35	317.55	20				Siltstone - core loss		
						1047/319.13			
	317.55	321.69	4.14				Siltstone - same as above, core slightly broken at top, slight	0.66	
							shearing		
							Top of Box 113		
							Siltstone - dark grey, with minor interbeds of dark grey claystone	2.43	
							coaly laminaes, carbonaceous plant debris, few listric surfaces		
						1057/322.17			
							Siltstone - same as above	0.34	
							Top of Box 114		
							Seam B4		
							Siltstone - dark grey, argillaceous, rare carbonaceous plant		
							remains, massive rare bright band		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	86 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75	321.69	322.54	0.85				Claystone - dark grey, silty, carbonaceous, in places, abundant plant remains, coaly stringers, siltstones at top	03	
							Claystone - slightly carbonaceous, with plant remains, minor calcite stringers at base	0.22	
	322.54	322.56	2				Coal - bright, pulverized		
	322.56	322.72	16				Claystone - dark grey, carbonaceous		
	322.72	322.86	14	0.14	121		Coal - dull with bright bands, 10% bright		
	322.86	322.97	11	0.11			Coal - dull, heavily broken to pulverized		
	322.97	322.99	2	0.02			Coal - bright, pulverized and heavily broken		
	322.99	323.10	0.11	0.11			Coal - core loss		
	323.10	323.45	0.35	0.34	122		Claystone - dark grey, carbonaceous, 15 cm from top 9 cm bentonitic band - soft		
	323.45	323.85	0.40	0.39			Coal - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	87 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	323.85	323.90	5	0.05			Coal - heavily broken to pulverized, dull		
	323.90	324.05	15	0.15			Coal - dull with bright bands, 15% bright		
						325.30			
							Top of Box 115		
	324.05	324.15	10	0.10			Coal - bright	65	
	324.15	324.33	18	0.18	123		Coal - dull with bright bands - 15% bright		
	324.33	324.38	5	0.05			Coal - boney		
	324.38	324.68	30	0.29			Coal - dull, metallic lustre		
	324.68	324.70	2	0.02			Coal - dull with bright bands - 15% bright		
	324.70	324.95	23	0.24			Coal - dull, metallic lustre 5% bright	62	
	324.95	325.14	19	0.18			Coal - dull with bright bands, listric surfaces at base, sheared		
	325.14	325.24	10	0.10			Claystone - carbonaceous	0.10	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	88 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	325.24	325.33	9	0.09			Claystone - pulverized with coal mixed in	0.09	
	325.33	325.55	22	0.21			Claystone - dark grey, carbonaceous, coaly stringers, bentonitic base (soft), broken	0.21	
	325.55	325.81	26	0.25			Claystone - dark grey, carbonaceous, abundant plant remains, siltstone at base	0.25	
	325.81	325.87	6	0.06			Claystone/Coal - heavily broken to pulverized	0.06	
	325.87	325.91	0.04	0.04			Claystone - core loss		
	325.91	325.97	6	0.06			Claystone - dark grey, bright stringers throughout broken at top	0.06	
	325.97	326.16	19	0.18			Claystone - dark grey, carbonaceous at base	0.18	
	326.16	326.46	30	0.29			Coal - dull, metallic lustre, 5% bright		
	326.46	326.56	10	0.10	124		Coal - dull and bright bands, 40% bright		
	326.56	326.65	9	0.09			Coal - dull with bright bands, 5% bright		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	89 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 116		
	326.65	326.78	13	0.13			Coal - dull with bright bands, 5% bright		
						328.35			
	326.78	326.90	12	0.12	124		Coal - dull with bright bands, 10% bright		
	326.90	327.00	10	0.10			Coal - core loss		
	327.00	327.34	34	0.33			Claystone - dark grey, carbonaceous, abundant plant remains		
	327.34	327.41	7	0.07	125		Claystone - dark grey carbonaceous	59	
	327.41	327.51	10	0.10			Coal - dull, metallic lustrie, 5% bright		
	327.51	327.53	2	0.02			Coal - bright, pulverized		
	327.53	327.73	20	0.20			Coal - core loss		
	327.73	327.80	7	0.07	126		Coal - dull with bright bands, 10% bright		
	327.80	328.09	29	0.28			Coal - dull and bright banded, 40% bright		
	328.09	328.13	4	0.04			Claystone - dark grey carbonaceous		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	90 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER		MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	328.13	328.15	2	0.04				Claystone - core loss		
	328.15	328.19	4	0.04				Coal - pulverized	70	
	328.19	328.21	2	0.02				Coal - core loss		
	328.21	328.28	7	0.07				Coal - dull		
	328.28	328.30	2	0.02				Coal - boney		
	328.30	328.39	9	0.09				Coal - heavily broken to pulverized		
	328.39	328.42	3	0.03				Coal - core loss		
	328.42	328.48	6	0.06				Coal - dull, heavily sheared		
	328.48	328.51	3	0.03				Claystone - dark grey, carbonaceous		
	328.51	328.55	4	0.04				Claystone - core loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	91 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	328.55	328.85	30	0.29	126		Coal - dull and bright banded		
	328.85	328.94	9	0.09			Coal - heavily broken to pulverized		
	328.94	328.99	5	0.05			Coal - heavily broken to pulverized	65	
	328.99	329.06	7	0.07			Coal - core loss		
	329.06	329.31	25	0.24			Coal - dull with bright bands, 15% bright		
	329.31	329.66	35	0.34			Claystone - dark grey, carbonaceous, rare bright stringers	0.35	
							Top of Box 117		
	329.66	329.71	5	0.05			Claystone - dark grey carbonaceous, bright stringers calcite veinlets, BCA 90°, listric surface at base	0.05	
						331.40			
	329.71	329.72	1				Claystone - same as above	0.01	
	329.72	329.76	4				Claystone - core loss		
	329.76	329.81	5				Coal - dull, mod. broken		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	92 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	329.81	330.01	20				Coal - core loss		
	330.01	330.09	8				Claystone - dark grey, silty, carbonaceous at top and bottom	0.08	
	330.09	330.12	3				Coal - stoney, heavily broken		
	330.12	330.28	16				Claystone - dark grey, carbonaceous, broken at base with siltstone	0.16	
	330.28	330.36	8				Claystone - core loss		
	330.36	330.40	4				Coal - bright		
	330.40	330.72	32				Claystone - carbonaceous, dark grey, heavily broken, siltstone on top and bottom	0.02	
							Claystone - dark grey, carbonaceous, mod. broken	0.30	
	330.72	330.78	6				Coal/Claystone - pulverized		
	330.78	330.82	4				Claystone - dark grey, carbonaceous	0.04	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	93 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	330.82	330.92	10				Claystone - dark grey, carbonaceous, heavily broken	0.10	
	330.92	331.00	8				Claystone - same as above, core solid	0.08	
	331.00	331.13	13	0.13			Coal - dull		
	331.13	331.16	3	0.03			Coal - stoney		
	331.16	331.38	22	0.21			Coal - dull, 5% bright		
					127				
	331.38	331.40	2	0.02			Coal - bright band		
	331.40	331.60	20	0.19			Coal - dull with bright bands		
	331.60	331.65	5	0.05			Coal - bright		
	331.65	332.37	72	0.70			Coal - dull, 5% bright bands	72	
							Top of Box 118		
	332.37	332.57	20	0.19			Coal - dull, heavily broken, slickensides		
						334.45			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	94 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	332.57	332.72	15	0.14			Coal - dull, slickensides, heavily broken		
	332.72	333.30	58	54			Coal - core loss		
	333.30	333.78	48				Claystone - core loss		
	333.78	334.68	0.90				Siltstone - dark grey, carbonaceous plant remains, broken at top, slickensides and calcite	67	
75							Siltstone - same as above, BCA 75	0.23	
	334.68	334.70	2				Claystone - heavily broken	0.02	
	334.70	335.93	0.23				Siltstone - dark grey, laminated	0.23	
	335.93	335.29	36				Sandstone - light grey, very fine grained cross bedded	0.24	
							Sandstone - same as above, calcite filled fracture	0.12	
65	335.29	335.91	62				Siltstone - dark grey, laminated	0.62	
64							Sandstone - light - medium grey, fine grained, thin carbonaceous laminaes, siltstone cross bedding, thin calcite filled	1.86	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	95 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							fractues, slight shearing, few rip up clasts		
							Top of Box 122		
77							Sandstone - light - medium grey, fine grained rip up clasts, minor	1.14	
							turbidities, minor small scale cross bedding, few listric		
							surfaces with calcite filling, coaly laminaes		
						1137/346.56			
							Sandstone - same as above, with minor dark grey siltstone	1.66	
							Top of Box 119		
	335.91	347.00	11.09				Sandstone - medium grey, fine grained with minor interbeds of	0.38	
							dark grey siltstone, coaly plant fragments, turbidation		
						1107/337.41			
73							Sandstone - same as above	2.38	
							Top of Box 120		
68							Sandstone - same as above	0.62	
						1117/340.46			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	96 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
62							Sandstone - same as above, calcite fractures, thin carbonaceous	2.14	
							laminaes with slight listric surfaces		
							Top of Box 121		
							Sandstone - same as above	0.91	
						1127/343.51			
							Top of Box 123		
	347.00	349.07	2.07				Siltstone - dark - light grey (alternating bands) rare plant	0.73	
							remains, cross bedded, soft sediment deformation		
							Siltstone - same as above		
75						349.61			
							Siltstone - same as above, coaly stringers at base, slickensides	0.47	
							at base		
							Siltstone - same as above	0.20	
	349.07	349.40	0.33				Claystone - dark grey, carbonaceous 1 cm bright band coal, 7 cm	0.33	
							from top, broken		
	349.40	349.78	38	0.36			Coal - core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	97 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	349.78	349.80	2	0.02			Coal - bright, pulverized	26	
	349.80	350.04	24	0.23	128		Coal - dull, moderatley broken		
							Box 124		
	350.04	350.05	1	0.01			Coal - dull, heavily broken		
	350.05	350.20	15	0.14	129		Claystone - dark grey, broken		
	350.20	350.37	17	0.16			Coal - dull with bright bands, 5-10% bright bands		
	350.37	350.57	20	0.19	130		Coal - dull, heavily broken at base		
	350.57	350.62	5	0.05			Coal - dull		
	350.62	350.85	23	0.22	131		Claystone - dark grey, carbonaceous		
	350.85	350.86	1	0.01			Coal bright, pulverized		
	350.86	351.13	27	0.26			Coal - dull with bright bands - 20% bright		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	98 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	351.13	351.21	8	0.08			Claystone - dark grey, carbonaceous		
	351.21	351.34	13	0.12	132		Coal - dull		
						352.74			
	351.34	351.39	5	0.05			Coal - dull and bright bands		
	351.39	351.50	11	0.11			Coal - dull, 5% bright, moderately broken		
70	351.50	352.27	0.77				Sandstone - very fine grained light grey, minor cross bedding laminated, slickensides at top	0.41	
							Sandstone - same as above	0.36	
	352.27	352.60	33				Siltstone - dark grey, carbonaceous, several bright bands throughout slickensides at top, heavily broken at base	0.33	
							Top of Box 125		
57	352.60	355.21	2.61				Sandstone - light - medium grey, fine grained, with interbeds of dark grey siltstone, thin coaly laminaes, load casts, very thin calcite filled fractures	1.34	
						1167/355.70			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	99 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, silty towards base, calcite filled	1.27	
							fractures, one 23 cm from top 1 cm wide and one 2 cm wide		
							63 cm from top		
							Top of Box 126		
70	355.21	356.30	109				Siltstone - dark grey, with minor interbeds medium grey, fine	1.09	
							grained sandstone, coaly laminaes, thin calcite filled		
							fractures		
	356.30	356.35	5				Claystone - core badly smashed and broken	0.05	
	356.35	356.50	15				Claystone - carbonaceous, dark grey, with coaly laminaes, sheared	0.15	
							and broken, listric surfaces		
	356.50	356.80	30				Coal - core loss		
	356.80	357.00	20				Claystone - core loss		
						358.75			
	357.00	360.88	3.88				Siltstone - dark grey, with interbeds medium grey fine grained	1.00	
							sandstone, coaly laminaes, sheared, carbonaceous plant		
							remains, sandstone has turbidities and load casts		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	100 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 127		
							Siltstone - medium - dark grey, with minor interbeds of medium grey sandstone, minor coaly laminaes, very thin calcite filled fractures, carbonaceous plant debris	2.05	
						1187/361.80			
							Siltstone - medium grey, with interbeds, light - medium grey fine grained sandstone, minor cross bedding, bioturbation	0.83	
							Top of Box 128		
	360.88	362.45	1.57				Sandstone - light to medium grey, fine grained with interbedded, dark grey siltstone, a few discontinuous, calcite filled fractures, minor carbonaceous plant fragments, minor turbidities	1.57	
	362.45	363.48	1.03				Siltstone - dark grey, with interbedded minor dark grey claystone minor discontinuous calcite veins and minor carbonaceous laminations and plant fragments	0.61	
59									
						1197/364.85			
							Siltstone - same as above, claystone content increasing downwards	0.42	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	101 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 129		
	363.48	364.50	102				Sandstone - light to medium grey, fine grained, minor interbeded	1.02	
							dark grey siltstone, upper 7 cm quite silty, very minor		
							discontinuous calcite vugs, minor carbonaceous laminaes and		
							plant fragments, minor turbidities		
	364.50	364.70	20				Claystone - core loss		
	364.70	365.00	30				Claystone - carbonaceous on top, dark grey with minor bands	0.30	
							medium grey siltstone, thin coaly bands throughout. Minor		
							carbonaceous to coaly plant fragments. Bottom 11 cm		
							pulverized		
	365.00	365.10	10	0.09			Coal - core loss		
					133				
	365.10	365.55	45	0.41			Coal - straight coal - banded, light, bright		
	365.55	365.65	10				Claystone - core loss		
	365.65	365.89	24				Claystone - dark grey, carbonaceous on top, core is soft, listric	0.24	
							surfaces, carbonaceous plant fragments. Core broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	102 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	365.89	368.05	2.16				Siltstone - dark grey with interbeds of dark grey claystone minor carbonaceous plant fragments	0.31	
						1207/367.89			
							Siltstone - medium grey with interbedded light grey fine grained sandstone. Carbonaceous plant fragments, minor cross bedding	0.17	
							Top of Box 130		
67							Siltstone - medium grey, with minor interbeds dark grey claystone and minor light grey, fine grained sandstone, carbonaceous plant fragments, minor coaly laminae, listric surface 1/3 way down from top. Sandstone deformation	1.68	
	368.05	368.32	27				Claystone - medium to dark grey, interbedded medium grey siltstone calcite fracture, thin coaly laminae and minor carbonaceous plant fragments. Basal contact at 90°	0.27	
	368.32	368.70	38				Claystone - core loss		
	368.70	369.23	53	0.46	134		Coal - coal 80% vitreous, 20% bright; basal 4 cm of core is bony coal and basal 11 cm of zone pulverized		
	369.23	369.25	2	0.02			Coal - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	103 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 131		
	369.25	369.30	5				Rock - Claystone - core loss		
65	369.30	370.61	131				Sandstone - light grey, fine medium grained, coarsens downwards,	1.31	
							claystone interbeds between 35 and 63 cm from top		
62	370.61	372.21	160				Siltstone - medium - dark grey, with interbeds dark grey clay-	113	
							stone and minor interbeds light grey fine grained sandstone,		
							minor cross bedding, minor thin coaly laminaes to base,		
							soft sediment deformation and truncated laminaes		
							Top of Box 132		
							Siltstone - same as above, coarsening from above	47	
						1227/373.99			
	372.21	374.44	223				Sandstone - light - medium grey, fine grained, with minor	2.23	
							dark grey claystone laminaes, soft sediment deformation,		
							flaser bedding, calcite filled fracture at 75 cm from top,		
							minor laminaes, calcite fracture 62° to core axis		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	104 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 133		
65	374.44	374.72	28				Siltstone - dark grey, carbonaceous at top, slickensides at base	0.28	
	374.72	374.82	10				Rock - core loss		
	374.82	376.09	127				Sandstone - light grey, laminated, cross bedding, very fine grained	42	
							Sandstone - same as above	6	
						377.13			
							Sandstone - light grey, very fine grained laminated with dark grey siltstone, several thin (1 mm) calcite fractures 36 cm from top	52	
							Sandstone - light grey, very fine grained coaly stringers throughout	7	
	376.09	376.34	25	0.23			Coal - dull with bright bands - 10% bright	50	
	376.34	376.39	5	0.05			Coal - dull		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	105 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
					135				
	376.39	376.58	19	0.17			Coal - dull with bright bands, 15% bright		
	376.58	376.72	14	0.13			Coal - dull with bright bands, 10% bright		
	376.72	376.92	20	0.18			Coal - bright banded, 65% bright		
	376.92	377.12	20	0.18			Coal - dull with bright bands		
	377.12	377.15	3	0.03			Coal - bright		
	377.15	377.21	6	0.06			Coal - dull		
	377.21	377.31	10	0.09			Coal - core loss		
							Box 134		
	377.31	377.38	7	0.06			Coal - bright banded	31	
	377.38	377.47	9	0.08			Coal - stoney, dull		
	377.47	377.62	15	0.14			Coal - dull with bright bands		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	106 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	377.62	377.70	8	0.07	136		Claystone - dark grey, slightly carbonaceous slickensides at top and bottom		
	377.70	377.88	18	0.16	137		Coal - core loss		
	377.88	378.03	15	0.14			Coal - dull		
	378.03	378.15	0.12				Claystone - dark grey, carbonaceous	0.03	
							Claystone - dark grey, carbonaceous	0.09	
	378.15	378.23	8				Coal - dull, 5% bright		
	378.23	378.55	0.32				Siltstone - medium grey, carbonaceous at top, slickensides at base fractured - BCA 60° near base	0.29	
						380.18			
							Siltstone - same as above, slickensides at top	0.03	
	378.55	378.72	0.17				Siltstone - core loss		
	378.72	379.40	68				Siltstone - dark grey, fractured, slickensides - 10 cm from top, BCA of fracture is 50°, 1 cm bright band, 50 cm from top	068	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	107 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	379.40	379.43	3				Coal - bright, slightly broken		
	379.43	379.52	9				Coal - core loss		
	379.52	379.57	5				Coal - dull with bright bands, moderately broken		
	379.57	379.62	5				Claystone - dark grey	0.05	
	379.62	379.63	1				Coal - pulverized		
	379.63	379.85	22				Claystone - dark grey, carbonaceous, bright stringers	0.22	
	379.85	379.91	6				Coal - heavily broken to pulverized		
	379.91	379.96	5				Claystone - broken, dark grey	0.05	
	379.96	379.97	1				Coal - pulverized		
	379.97	381.53	1.56				Siltstone - dark grey, carbonaceous at top	0.14	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	108 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 135		
							Siltstone - dark grey, slickensides at top with calcite fracture at 45°, cross bedding, laminated soft sediment deformation	0.74	
							Siltstone - same as above	0.03	
	381.53	381.56	0.03				Coal - dull, heavily broken	2	
							Coal - stoney, heavily broken, listric surfaces		
	381.56	381.59	3				Coal - core loss		
	381.59	381.71	12				Clyst - Core loss		
	381.71	382.23	0.52				Claystone - dark grey, carbonaceous, bright stringers near top	0.46	
							Claystone - same as above, slickensides at base	0.06	
	382.23	382.58	35	0.33			Coal - dull with bright bands		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	109 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	382.58	382.73	15	0.14			Coal - dull, few fusain partings		
					138				
	382.73	382.75	2	0.02			Coal - bright		
							Box 136		
	382.75	382.82	7	0.07			Coal - bright, heavily broken		
	382.82	382.97	15				Rock - core loss		
	382.97	383.62	65				Siltstone - dark grey, broken at top, massive fracture from top,		
							calcite filled slickensides, 17 cm - BCA - 60° of fracture		
	383.62	384.87	125				Siltstone - same as above, hairlike calcite fractures throughout	0.72	
							BCA 60° - 90°		
							Siltstone - same as above	0.37	
						386.28			
							Siltstone - dark grey, carbonaceous plant remains throughout,	0.16	
							broken with slickensides, calcite filled fractures		
	384.87	384.98	11				Claystone - 1 cm bright band at top, dark grey	0.11	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	110 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	384.98	385.21	23	0.23			Coal - bright banded		
	385.21	285.51	30	0.30			Coal - dull, 5% bright		
	385.51	385.54	3	0.03			Coal - bright		
					139				
	385.54	385.59	5	0.05			Coal - dull		
							Box 137		
	385.59	385.97	33	0.33			Coal - dull with bright bands, 10% bright		
	385.97	386.04	12	0.12			Coal - bright		
	386.04	386.24	20	0.20			Coal - bright banded, 60% bright		
	386.24	386.31	7	0.07			Coal - bright		
80	386.31	388.25	1.94				Siltstone - dark grey, laminated	0.73	
							Siltstone - same as above	0.57	
						389.32			

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	111 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey, laminated, cross bedded, soft sediment	0.64	
							deformation		
	388.25	389.36	1.11				Sandstone - slight grey, fine - medium grained, occasional	0.12	
							clay bands - lenses?		
74							Sandstone - light grey, fine grained, laminaes, slight listric	0.99	
							surfaces, calcite filling on fractures		
							Top of Box 138		
	389.36	390.98	1.62				Claystone - dark grey, silty, thin coaly laminaes, carbonaceous	1.29	
							plant remains, slight listric surfaces, gradational from above,		
							core broken in middle		
						1287/392.28			
							Claystone - same as above, core slight broken	0.33	
							Top of Box 139		
	390.98	391.13	0.15				Claystone loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8103	112 OF 113

DATE BEGUN February 25, 1981	DATE FINISHED March 2, 1981	MINE GRID N E	UTM 668,437 N 649,918 E
ELEV. COLLAR 1283 M	BEARING 232°	HOLE ANGLE 60°	TOTAL DEPTH 396.55
COAL LICENCE 3944	CONTRACTOR Coates	LOGGED BY Covert/Soprovich	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85	391.13	392.13	100				Siltstone - light - medium grey, with interbeds of light grey	1.00	
							fine grained sandstone and minor interbeds of dark grey		
							claystone, gradational from above, minor load casts,		
							carbonaceous plant fragments, thin carbonaceous laminaes		
	392.13	392.19	6				Claystone - carbonaceous, dark grey, with coaly bands (bright),	0.06	
							core sheared and pulverized		
	392.19	392.35	0.16				Clyst - core loss		
75	392.35	396.90	4.55				Sandstone - light grey, medium grey, contact to overlying unit	1.40	
							at 74° to core axis, becoming laminaes towards base, massive		
							at top		
						1297/395.33			
							Sandstone - same as above, core broken on top	0.06	
							Top of Box 140		
68							Sandstone - same as above, cross bedding, fractures along bedding	2.80	
							Top of Box 141		
							Sandstone - same as above	0.08	
						1307/398.37			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8103	113 OF 113

DATE BEGUN	February 25, 1981	DATE FINISHED	March 2, 1981	MINE GRID	N E	UTM	668,437 N 649,918 E
ELEV. COLLAR	1283 M	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	396.55
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	Covert/Soprovich	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, minor carbonaceous laminaes, grinding	0.21	
							on top of core		
						1308/398.68			
							E.O.HL (396.90)		

474-8010

HOLE NUMBER

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/5/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-04	COATES	67	223	347	HQ		N23/9500N	3203	3	10

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1378.1	6,067,910.66 N 649,339.77 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Basal Gates to Cadomin

Heavily sheared zone between 240 m and 265 m. Approximately 25 m thicknening

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B2(1)		23.40-25.47	3	2.07	1.62/0.45	83	2433-35		Kg	59	1323.79		
B1(u)		30.53-31.80	3	1.50	1.28/0.22	58	2436-37		Kmb	166	1225.3		
B1(1)	1346.7	32.70-34.12	3	1.42	1.42/0.00	92	2439		Kbs	167.5	1223.92		
									Kgt	318.5	1084.92		
		175.32-175.76	2	0.44	0.44/0.00	100	2440						
		212.70-213.98	2	1.28	1.13/0.15	73	2441-43						High ash coal
		241.38-244.34	25	2.64	2.64/0.00	56	2446						
		245.33-246.56	25	1.13	1.13/0.00	73	2446						
		250.10-252.96	23	2.62	2.62/0.00	63	2449						
		259.32-261.23	25	1.73	1.73/0.00	80	2450						HOLE NUMBER MUD 81-04

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-04	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
		262.93-264.93	10	1.97	1.65/0.32	100	2451-53						
		277.93-282.54	15	4.45	4.24/0.21	82	2454-56						
		307.50-309.65	25	1.95	1.93/0.02	24	2459						
		311.70-312.20	25	0.45	0.45/0.00	100	2460						
													HOLE NUBMER MUD 81-04

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	1 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	0.00	9.93					Casing - no core recovered		
							Top of Box 1		
	9.93	19.30	9.37				Sandstone - pebbles - shattered core loss	160	
							Sandstone - medium grained cross bedding, silty laminated	73	
							Top of Box 2		
82							Sandstone - medium grained, laminated cross bedded	86	
							- carbonaceous coaly stringers		
						1432			
							Sandstone - medium grained carbonaceous	168	
							- claystone bands and stringers throughout, numerous		
							claystone rip up clasts - fractured iron staining		
							- core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	2 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 3		
							Sandstone - light grey, medium grained, dirty carbonaceous	127	
							particles, some silt clasts - massive - cross bedding		
							some low angle - not very prominent		
						17.37			
							Sandstone - same as above	158	
							- fracture 63° or BCA 27° iron staining		
							Top of Box 4		
							Sandstone - medium-coarse grained cross bedding light grey	73	
							Sandstone - medium-carbonaceous stringers - laminated	42	
							- fracture BCA 10° Fe staining (heavy)		
							Sandstone-Siltstone - very fine grained sands interlaminated	30	
						20.42			
	19.30	20.00	0.70				Siltstone - very fine sands interlaminated soft sediment	70	
							deformation in siltstone		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	3 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E S W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	20.00	21.21	1.21				Claystone - silty very carbonaceous, coaly stringers,	72	
							laminated - 27 cm fractured somewhat broken		
							Top of Box 5		
							Claystone - carbonaceous - coaly stringers	49	
							- some core loss		
	21.21	22.43	1.22				Siltstone-Claystone - interlaminated - cross bedding	90	
						23.42			
							Siltstone-Claystone - interlaminated grading into a claystone	32	
							near bottom		
	22.43	22.71	0.28				Claystone - very carbonaceous including 5 cm band medium, broken	28	
	22.71	23.30	59				Rock loss -		
	23.30	23.40	0.10				Claystone-Sandstone - interlaminated coaly stringers	10	
							Seam B1 - Coal Zone		
	23.40	23.50	0.10	0.10	↑		Coal - dull - some bright bands, very broken up, core loss		
	23.50	23.83	0.33	0.33	2433		Coal loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	4 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E:S: W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 6 - section of coal broken up		
	23.83	23.95	0.12	0.12			Coal Bone - some bright bands		
	23.95	24.16	0.21	0.21	2434		Claystone - carbonaceous	.21	
	24.16	24.36	020	0.20			Coal Bone - with bright stringers 020 sludge shattered - core loss		
	24.36	24.42	006	0.06			Coal Bone		
	24.42	24.82	040	0.40			Coal - dull lustre - seams laminated - layered		
	24.82	24.89	007	0.07			Coal - dull to boney coal - core loss - broken		
	24.89	24.95	0.06	0.06			Claystone - carbonaceous	0.06	
					2435				
	24.95	25.05	010	0.10			Coal - bright banded		
	25.05	25.09	004	0.04			Claystone - carbonaceous	0.01	
	25.09	25.18	009	0.09			Coal - seam bright very broken up		
	25.18	25.32	0.14	0.14			Claystone - carbonaceous	0.14	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	5 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
					2435		Top of Box 6, cont'd.		
	25.32	25.44	012	0.12			Coal - dull bright bands - very broken - core loss		
	25.44	25.47	0.03	0.03			Coal - coal loss		
	25.47	26.50	1.13				Claystone - carbonaceous	0.08	
						2652			
							Claystone/Siltstone - carbonaceous - broken up near bottom	0.57	
87°							Top of Box 7		
							Claystone - carbonaceous - silty laminated	0.38	
	26.50	26.60	0.10				Coal - boney interlaminated bright stringers some claystone		
							broken up, iron stained, calcite vein	0.07	
	26.60	26.67	0.07				Claystone		
	26.67	26.80	0.13				Coal - dull lustre, bright bands - shattered (quality)		
	26.80	28.77	1.97				Claystone - carbonaceous plant remains, top broken up	0.60	
							- two (small) .05 cm coal lenses		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	6 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - very silty interlaminated cross bedding	1.01	
						29.57			
							Claystone - very silty interlaminted cross bedding soft sediment	0.36	
							deformation		
							Top of Box 8		
	28.77	29.50	0.73				Siltstone - Claystone - interlaminated soft sediment deformation	0.73	
							- odd burrow		
	29.50	30.02	0.52				Claystone - very carbonaceous, coal stringers - entire length	0.52	
							shattered		
	30.02	30.22	20				Core loss, very carbonaceous, coaly claystone		
	30.22	30.50	0.28				Claystone - carbonaceous	0.28	
	30.50	30.53	0.03		2436		Coal - pulverized		
	30.53	30.90	37				Core loss, very carbonaceous, coaly claystone		
	30.90	30.99	0.09				Claystone	0.09	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	7 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	30.99	31.12	13				Claystone - core loss		
	31.12	31.16	004	0.04			Coal - pulverized		
	31.16	31.22	0.06	0.06			Coal loss		
	31.22	31.42	020	0.20			Coal - possible boney, very broken up		
					2437				
	31.42	31.80	038	0.38			Coal - dull lustre - bright bands		
						3262			
	31.80	31.98	0.18	0.18			Claystone - carbonaceous - silty	0.18	
	31.98	32.03	0.05	0.05			Claystone - core loss		
							Top of Box 9		
	32.03	32.67	0.64	0.64			Claystone-Siltstone - brown plant debris	0.42	
					2438				
							Claystone - very carbonaceous - coal stringers	0.22	
	32.67	32.70	003	0.03			Coal - stony		
	32.70	32.97	027	0.27			Coal - bright		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	8 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	32.97	33.12	015	0.15			Coal - dull - bright bands pulverized		
	33.12	33.24	012	0.12			Coal loss		
	33.24	33.44	020	0.20	2439		Coal - dull boney		
	33.44	33.99	055	0.55			Coal - bright - some dull		
	33.99	34.12	013	0.13			Coal - dull/bright - shattered		
	34.12	34.62	0.50				Claystone - carbonaceous - very silty	50	
						3567	with 3 cm coal stoney band		
							Top of Box 10		
87°	34.62	37.47	2.85				Claystone - very carbonaceous - silty interlaminated interbedded	285	
							with medium grained sandstone at 129 - core broken up		
							due to bright coal lenses at 210 - 10 cm medium		
							sand band interlaminated claystone/coaly stringers		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	9 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 11		
87°	37.47	38.32	0.85				Siltstone - very sandy fine grained interlaminated	7	
						38.72			
							Siltstone - very sandy soft sediment deformation	58	
							- grading into a claystone - silty		
							Claystone/Silty - carbonaceous	20	
	38.32	38.34	0.02				Claystone - coaly stringers	2	
	38.34	39.00	66				Claystone - core loss		
	39.00	67.46	28.46				Sandstone - coarse grained - medium - dirty - horizontal	167	
							- laminated - BCA fracture 10-15°		
							- carbonaceous		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	10 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 12		
88°							Sandstone - medium/coarse dirty carbonaceous matter	34	
							- extremely cross bedded (BCA 25°) interlaminated		
						41.76			
							Sandstone - continued throughout Box	214	
							Top of Box 13		
							Sandstone - same as above	49	
						44.82			
							Sandstone - medium grained fracture/shear BCA 65°	236	
							- soft sediment deformation, burrows		
							- filling with siltstone		
							- very cross bedded		
							- bottom 74 cm BCA 75°		
							- laminated planar bedding		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	11 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 14		
							Sandstone - same as above - top 40 cm numerous burrows 2 cm	74	
							width		
						4286			
							Sandstone - medium fracture in core at 10°	215	
							- bottom 140 massive sandstone cross bedding		
							faint - no features		
							Top of Box 15		
80°						5091	Sandstone - same as above - light grey cross bedding, BCA 80°	290	
							- massive sand few features		
							Top of Box 16		
							Sandstone - same as above	104	
						5396			
80°							Sandstone - same as above massive 80° BCA planar bedding	183	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	12 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E S W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 18		
							Sandstone - same as above	134	
						60.06			
							Sandstone - same as above, some claystone rip up clast	34	
							Claystone	8	
							Sandstone - very fine grained - interlaminated siltstone 80°	32	
							bedding, siltstone clasts		
							Sandstone - interlaminated fine grained - massive - 1st 10 cm	77	
							massive - poor in features		
							Top of Box 19		
72°							Sandstone - medium grained interlaminated	149	
							- bottom claystone interlaminated cross bedding and		
							clasts		
						63.11			
							Sandstone - light grey medium grained planar horizontal bedding	111	
							claystone clasts, bottom 50 cm fracture broken up		
							10° BCA fracture - core loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	13 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 20		
							Sandstone - medium grained light grey	189	
						6616			
75°							Sandstone - same as above - 15° bedding - massive	92	
							Top of Box 21		
75°							Sandstone - medium grained planar angular bedding	143	
							- claystone bands, clasts - soft sediment deformation		
							at 50 cm		
	67.46	68.12	0.66				Sandstone-Siltstone-Claystone - interbedded interlaminated	66	
							- cross bedding interfingering sands		
							- medium - soft sediment deformation		
						6920			
	68.12	68.87	0.75				Sandstone - silty to claystone bands interlaminated 30 cm	75	
							- worm burrows - large 2 cm - small burrow traces		
							- soft sediment deformation - bottom interlaminated		
							- cross bedding siltstone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	14 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 21		
75°							Sandstone - medium grained planar angular bedding	143	
							- claystone bands, clasts - soft sediment		
							deformation at 50 cm		
	67.46	68.12	0.66				Sandstone-Siltstone-Claystone - interbedded interlaminated	66	
							- cross bedding interfingering sands - medium - soft		
							sediment deformation		
						6920			
	68.12	68.87	0.75				Sandstone - silty to claystone bands interlaminated - 30 cm	75	
							- worm burrows - large 2 cm - small burrow traces		
							- soft sediment deformation - bottom interlaminated		
							cross bedding siltstone		
							Top of Box 22		
80°	68.87	71.78	2.91				Siltstone/Claystone - interbedded sandstone - fine grained	291	
							- sandstone, claystone clasts, worm burrows throughout		
							soft sediment deformation cross bedding throughout		
							- carbonaceous interbedded siltstone/sandstone at bottom		
							increasing in sandstone		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	15 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 23		
75	71.78	74.00	2.22				Sandstone/Siltstone - same as above	61	
						73.41			
							Sandstone - fine grained, claystone clasts and laminations, worm burrows, soft sediment deformation fining downwards more claystone content, cross bedding	143	
						75.30			
							Sandstone - interlaminated with siltstone, horizontal bedding, - fine grained sandstone	18	
							Top of Box 24		
	74.00	74.15	0.15				Siltstone/Claystone - carbonaceous mainly rip up clasts	15	
85	74.15	75.65	1.50				Sandstone - medium grained light grey, planar bedding 26 cm fracture, broken up sandstone, vertical fracture	150	
	75.65	79.39	3.74				Sandstone/Siltstone - highly interbedded with carbonaceous silt cross bedding, bedding at 70° some sand bands, medium grained	111	
						78.35			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	16 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 25		
75°							Sandstone/Siltstone - cross bedded, interbedded, silt at	263	
							bottom of hole, worm burrows, soft sediment deformation		
							fine grained sandstone, interbedded department at 2 m,		
							carbonaceous (core loss)		
	79.39	79.70	31				Sandstone/Siltstone - core loss		
							Top of Box 26		
85°	79.70	81.04	1.34				Sandstone/Claystone - fine grained sandstone planar laminations	50	
						81.40			
							Sandstone/Claystone - same as above	18	
85°							Sandstone/Siltstone/Claystone - interbedded, interlaminated,	66	
							cross bedding, worm burrows, soft sediment deformation		
	81.04	84.37	3.33				Sandstone - light grey, planar laminations, sandstone massive,	148	
							laminations cross bedding at bottom, carbonaceous claystone		
							bands, fine grained		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	17 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 27		
87°							Sandstone - fine grained laminated - silty laminated 17 cm	74	
							fracture broken core claystone bands		
						84.45			
							Sandstone - fine grained laminated claystone bands, cross	111	
							bedded sands several burrows		
	84.37	84.99	0.62				Siltstone-Claystone - carbonaceous soft sediment deformation	62	
							burrows, interlaminated sand stringers throughout		
	84.99	87.80	2.81				Sandstone - fine grained light grey planar lamination	36	
							Top of Box 28		
80°							Sandstone - medium grained - claystone lamination	101	
						87.50			
							Sandstone - same as above	144	
	87.80	88.07	027				Claystone - laminated carbonaceous very fine sands	27	
							- bioturbation - burrows - clasts claystone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	18 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	88.07	93.00	4.93				Sandstone - medium grained sands laminated	7	
							Top of Box 29		
70°							Sandstone - medium grained - laminated 70° bedding. 10 cm band	128	
							claystone interlaminated with siltstone - burrows -		
							disturbed sediments - same as previous band in Box 28		
							- claystone clasts and bands scattered throughout core		
							- calcite in old - healed fracture		
						9055			
80°							Sandstone - medium grained planar laminated - claystone splits	156	
							Top of Box 30		
70°							Sandstone-Claystone - laminated and bands, cross bedding burrows	149	
						9359			
							Sandstone - medium grained planar laminated - few claystone bands	53	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	19 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	93.00	94.04	1.04				Sandstone-Siltstone-Claystone - bands and laminated clasts	71	
							- cross bedding rip up clasts, soft sediment deformation -		
							borrows, very banded appearance		
							Top of Box 31		
87°							Sandstone/Siltstone-Claystone - same as above - break in core	33	
	94.04	94.87	83				Sandstone/Siltstone - core loss		
	94.87	95.01	014				Sandstone - laminated fine grained, cross beddings	14	
	95.01	95.62	0.61				Siltstone/Claystone - sandy bands burrows soft sed. deformation	61	
	95.62	96.00	0.38				Sandstone - medium, laminated, clean	38	
						96.64			
85°							Siltstone/Claystone - sandy bands and laminated cross bedding	94	
							sands - worm burrows, bioturbation - claystone bands inter-		
							bedded with sands pyrite module near bottom		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	20 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 32		
88°							Siltstone-claystone - carbonaceous interlaminated interbedded	216	
							- burrows - bioturbated - planar bedding - clasts - very fine sand stringers		
						9969			
	99.41	100.07	0.66				Sandstone - very fine siltstone interlaminated interbedded cross	66	
							bedded, carbonaceous clasts and fragments		
							Top of Box 33		
87°	100.07	102.93	2.86				Siltstone-Claystone-Sandstone - bands and stringers	236	
							- siltstone and claystone is interbedded and interlaminated		
							- width 1-2 cm to mm		
							- sandstone - fine grained cross bedded lamination		
							- mm to 5 cm bands		
							- rip up silt clasts and burrows		
							- churning of sediments evident		
							- interfingering of lithologies - very		
							interbedded and interlaminated		
						10274			
							Siltstone-Claystone - same as above	55	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	21 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 34		
	102.93	104.08	1.15				Sandstone/Siltstone - fine grained interbedded interlaminated	115	
							- claystone clasts burrows - carbonaceous cross bedding		
	104.08	108.38	4.30				Siltstone-Claystone-Sandstone - interlaminated interbedded	130	
							- bands of all types, claystone, siltstone - sands		
							show cross bedding fine grained - very disturbed		
							sediments - clasts - carbonaceous stringers and particles		
							throughout - burrows		
							(repeat of Box 33)		
						105.79			
70°							Siltstone - same as above, carbonaceous partings calcite	42	
							stringers		
							Top of Box 35		
							Siltstone-Claystone-Sandstone - same as above	258	
							- 20 cm sand band - soft sed. deformation - churning -		
							burrows rip up clasts - sands cross bedded		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	22 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						108.84			
	108.38	119.00	10.62				Siltstone-Sandstone - same as above	20	
							Top of Box 36		
							Siltstone-Sandstone - same as above	214	
							Siltstone-Sandstone - fracture zone - core broken vertically	58	
							- no stains or shearing		
							Top of Box 37		
							Siltstone-Sandstone - very fine sands	7	
						111.89			
							Siltstone-Sandstone very fine grained interbedded interlaminated	248	
							- carbonaceous, soft sediment deformation, bioturbation		
							burrows - burrow canals - sandy cross bedded bands		
							- weakness fracture 30 cm BCA 0° at 114-182 fracture		
							BCA 0°		
							- no staining or shearing visible		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	23 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 38		
							Siltstone - Sandstone	43	
						11493			
							Disturbed sediments - bioturbation	198	
							Siltstone/Sandstone - burrowing		
							- very mixed section of core		
							- no outstanding bands over 2 cm width - same as above		
							Top of Box 39		
							Siltstone - Sandstone	83	
						11798			
							Siltstone - Sandstone - same as above	191	
							- many silt or claystone rip up clasts - great deal of		
							burrowing		
							Top of Box 40		
	119.00	120.10	1.10				Siltstone-Claystone - sandy - very mixed - laminations	110	
						121.03			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	24 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	120.10	121.77	1.67				Not banded but composition is the same as Box 39	167	
							- sands very fine		
							Top of Box 41		
88°	121.77	154.00	32.23				Siltstone-Claystone - carbonaceous - 5% very fine sands	123	
							- claystone content increasing		
							- sand decreasing		
							- very horizontal planar bedding		
							- numerous tiny clasts and carbonaceous fragments		
						124.08			
							Siltstone-Claystone - same as above	153	
							Top of Box 42		
							Siltstone-Claystone - 50/50 very little sand 5%	148	
							- core uniform - seems to be		
							- fining downwards to a more claystone comp. - traces of		
							burrows rip up clasts and sand stringers		
						127.13			
							Siltstone-Claystone - same as above	125	
							- fracture BCA 10° no shearing or staining		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	25 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 43		
							Siltstone-Claystone - sandy throughout - carbonaceous - sand	175	
							intermixed - very few small bands - soft sed. deformation		
						13018			
							Siltstone - same as above	89	
							Top of Box 44		
							Siltstone-Claystone - carbonaceous	218	
							- somewhat sandier - burrowing		
							- burrows in core cross sections		
						13323			
							Siltstone-Claystone - same as above	43	
							Top of Box 45		
							Siltstone - carbonaceous claystone - sand	255	
							- lenses and stringers, same as above		
						13628			
							Siltstone - same as above	17	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	26 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 46		
87°							Siltstone-Claystone - very laminated	283	
							- uniform throughout core - clasts		
							- same as above		
							Top of Box 47		
							Siltstone	15	
						13933	Siltstone - carbonaceous slightly sandy	260	
							- same as above		
							Top of Box 48		
							Siltstone - same as above	42	
						14238			
							Siltstone at 80 cm core broken into fragments		
							- same as above - over 20 cm	230	
							Top of Box 49		
							Siltstone - same as above	77	
						14542			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	27 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above at 140 core fracture -- BCA 0°	195	
							- no stains or shearing		
							Top of Box 50		
88°							Siltstone - again vertical fracture BCA 0°	116	
							- no stains nor shearing		
						148.48			
							Siltstone - black carbonaceous very uniform	156	
							- nothing of interest		
							- same as above - unit is very consistent		
							Top of Box 51		
							Siltstone - same as above	125	
						151.25			
							Siltstone - odd burrow tiny mm claystone clast	151	
							- more sandy lenses		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	28 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 52		
							Siltstone - same as above - very little burrow evidence	145	
						15457			
							Fracture zone	82	
							Siltstone - core shattered, broken up - expect core loss		
							- composition - same as above		
							- no shears or staining		
	154.00	157.08	3.08				Siltstone - core loss		
							Top of Box 53		
87°	157.08	166.08	9.00				Siltstone - Claystone	163	
							- 34 - fracture zone core broken up		
							- no core (solid) fragmented shattered		
							- remaining 1 metre good core - core loss		
							Top of Box 54		
						15762			
87°							Siltstone - Claystone - silt/clasts - rip up	286	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	29 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 54, cont'd.		
							- very fine sands as stringers throughout section		
							- very uniform core - identical to previous boxes		
							Top of Box 55		
88°							Siltstone - same as above	28	
						160.67			
							Siltstone - carbonaceous claystone 50/50 ratio - almost no sand		
							- very compact and uniform - planar bedding		
							Top of Box 56		
88°							Siltstone - same as above	43	
						163.72	- very fine sediment almost claystone size		
							Siltstone - same as above very planar - uniform	242	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	30 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 57		
							Siltstone - carbonaceous same as above	25	
						166,76			
							Siltstone - carbonaceous same as above - very fine grained	113	
							- pebbles at bottom 5 cm - abrupt contact		
							- erosional siltstone/claystone - no gradation		
	166.08	167.45	1.37				Conglomerate - rounded pebbles	137	
							- cemented with silty sandstone		
							- large 2 - 3 cm		
							Top of Box 58		
	167.45	167.61	0.16				Conglomerate	16	
	167.61	167.89	0.28				Coal - claystone is 28 cm - core loss	28	
							- very abrupt contact conglomerate versus coal		
	167.89	168.12	23				Conglomerate - core loss		
	168.12	168.27	015				Coal - dull with bright bands - coal is shattered broken up -	15	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	31 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							- 06 - Coal - dull bright bands - pyrite mods		
							- 06 - Bone Coal		
							- 03 - Stony Coal toward claystone		
	168.27	168.50	023				Claystone - plant remains - very carbonaceous	23	
						169.82	- coal splits shows shearing and slickensides		
88°	168.50	169.36	0.86				Siltstone - fine grained (sandy)	40	
							- planar		
							Siltstone-Sandstone - very fine grained laminated cross bedding	46	
							- low angle		
	169.36	169.41	0.05				Coal - bright pulverized		
	169.41	172.61	3.20				Siltstone - very carbonaceous claystone - becoming more silty	119	
							- soft sed. deformation		
							- laminated cross bedded - calcite veinlets		
							- coal stringers		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	32 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 59		
88°							Siltstone - carbonaceous very fine sands - laminated	93	
							- cross bedding		
						172.87			
							Siltstone - same as above	108	
	172.61	172.67	0.06				Claystone - coaly stringers	6	
	172.67	172.72	0.05				Coal Boney - stoney pulverized	5	
	172.72	175.16	2.44				Siltstone - carbonaceous - sandstone fine grained	56	
							- increased sand fine sandstone - siltstone		
							- toward bottom - consistent		
							- no features - other than coal stringers		
							Top of Box 60		
88°							Siltstone - laminated very fine sands as stringers	188	
							- interlaminated with silt		
							- 120 break - core bright coal remains - weakness		
	175.16	175.19	0.03	0.03			Coal - Boney - core loss	3	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-4	33 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	175.19	175.32	0.13	.13			Siltstone - carbonaceous, coal stringers	13	
	175.32	175.76	0.44	.44			Coal - dull with bright bands 75/25		
					2440				
	175.76	175.97	0.21	.21			Coal - stoney to a claystone/coal mixture		
							- material is pulverized and mixed		
	175.97	176.21	24				Core loss - rock with clay and silt material		
	176.21	184.75	8.54				Siltstone - carbonaceous - coal stringers	13	
							Top of Box 61		
90°							Siltstone - laminated very fine sand stringers	159	
							- low cross laminated		
						178.96			
							Siltstone - laminated same as above - less sand toward the bottom	120	
							Top of Box 62		
							Siltstone - laminations same as above	167	
						182.01	- fossil plants in silts		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	35 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 6		
							Siltstone - same as above		
						185.06		200	
							Siltstone - same as above - sand content increasing toward	84	
							bottom 70 cm		
90°							Top of Box 64		
	184.75	186.84	209				Sandstone - very fine grained dark grey - sand bands	179	
							- medium grained		
							- likely some silt content		
							- sand is massive in appearance		
							Sandstone - medium to coarse - well sorted	30	
							- cross bedding - Hi to low angle		
							- occasional - carbonaceous laminations - coal stringers		
							- core lenses - fracture slickensides		
	186.84	187.08	24			188.11	Sandstone - core loss		
	187.08	190.38	3.30				Sandstone - same as above	70	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	36 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N	E	UTM 67,929 N	649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 65		
							Sandstone - same as above - fine medium - coarse		
							- numerous	231	
							- carbonaceous laminated - alternates greatly		
							- flaser cross bedding		
							- coal stringers - rare		
						191.16			
							Sandstone - same as above	47	
							Top of Box 66		
50°									
	190.38	193.14	2.76				Sandstone - same as above - medium to coarse grained, well sorted	211	
							- coarsens basally		
							- rare coal splits		
						194.21			
							Sandstone - same as above - occasional sedimentary pebbles	65	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	37 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 67		
65°	193.14	193.31	17				Sandstone - same as above	17	
	193.31	194.02	71				Conglomerate - light grey, moderate sorted, rounded, sediment		
							- pebbles in coarse sandstone matrix		
							- rare coal splints		
	194.02	198.09	4.07				Sandstone - light to medium grey, fine to medium grained, rare	162	
							- coal splints and pebbles		
							- bedding at approximately 65° to CA		
							- gives the impression of cross bedded		
						197.25			
							Sandstone - same as above	31	
							Top of Box 68		
80°							Sandstone - medium - well sorted massive (60 cm)	214	
							- laminated thinly bedded		
	198.09	199.13	1.04				Conglomerate - in sandstone - poorly sorted conglomerate sands	65	
						20030	- medium well sorted		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	38 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							- pebbles rounded to angular		
							- sediment sandstone and cherts		
							Top of Box 69		
80°							Conglomerate - Sandstone - same as above	39	
90°	199.13	200.05	092				Siltstone - abrupt contact - dark grey	92	
							- very fine sands toward bottom		
	200.05	204.69	4.64				Conglomerate - sandstone - coarse matrix, poorly sorted	148	
							pebbles mostly rounded		
							- sediment origin - quartzes, cherts sandstone		
							Top of Box 70		
							Conglomerate - Sandstone - same as above	30	
						203.35			
							Conglomerate - cemented with medium sand	247	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	39 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 71		
							Conglomerate - same as above - coal fragments - stringers	39	
							- abrupt change		
	204.69	210.03	5.34				Sandstone - medium grained - dirty - coal fragments and stringers	20	
							- pebbles - few		
						206.40			
88°							Sandstone - medium - coarse - odd pebbles and zones		
							- cross bedding - low angle - coal slickensides on fractures	213	
							- even core		
							Top of Box 72		
							Sandstone - medium to coarse laminated cross bedding	92	
							- pebble band 6 cm same as conglomerate		
						209.45			
							Sandstone - same as above - 70° fracture slickensides	180	
							- calcite on face		
							- well sorted sands - massive appearance		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	40 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 73		
							Sandstone - same as above	29	
	210.03	210.65	62				Sandstone - core loss		
85°	210.65	212.70	2.05				Conglomerate - sand matrix, most of them rounded sediment origin	100	
							- pebbles poorly sorted		
						21250			
							Conglomerate - same as above - abrupt lower contact, possible	105	
							erosional		
	212.70	212.76	006	0.06			Coal - dull - maybe 5% bright		
	212.76	212.84	008	0.08			Coal - dull - 10% bright sands		
	212.84	212.90	006	0.06	2441		Coal - bone - dull with brights		
							- coal broken up - expect core loss		
	212.90	213.25	35	0.35			Coal loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	41 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 74		
	213.25	213.31	006	0.06	2422		Coal - stoney		
	213.31	213.35	004	0.04			Siltstone - carbonaceous - coaly stringers		
	213.35	213.40	005	0.05			Coal - bright to dull - bright lenses 55/45		
	213.40	213.48	008	0.08			Coal - dull - bright bands 90/10% - pyrite nods - claystone lenses (1)		
	213.48	213.53	005	0.05			Claystone - carbonaceous - plant remains		
	213.53	213.72	019	0.19	2443		Coal - bone - shattered - pulverized - core loss - difficult to determine grade - expect very high ash		
	213.72	213.86	014	0.14			Coal - dull - bright bands 75/25		
	213.86	213.98	012	0.12			Coal - boney dull - mm size bright stringers		
	213.98	214.08	010	.10			Coal - stoney		
	214.08	222.33	8.25				Siltstone - carbon	6	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	42 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						215.55			
90°							Siltstone - sandy laminated	103	
							- soft sediment deformation - plain core		
							Top of Box 75		
90°							Siltstone - laminated	73	
							Siltstone - carbonaceous - plant remains	24	
							- coal stringers		
							Siltstone - sandy - laminated	78	
							Siltstone - carbonaceous coaly stringers	10	
						218.60			
							Siltstone - carbonaceous with coaly stringers	20	
							Siltstone - very carbonaceous with coal bands	2	
							Coal - dull with bright bands - 10% bright	4	
							Siltstone - carbonaceous with abundant coal bands and stringers	61	
							throughout		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	43 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 76		
							Siltstone - carbonaceous, dark grey, with occasional coal bands	205	
							and stringers		
						221.65			
							Siltstone - carbonaceous, abundant plant remains occasional	60	
							coaly stringers throughout		
							Box 77		
							Siltstone - same as above	130	
	222.33	223.26	.93				Sandstone - medium grey, light grey, low angl cross bedding	.93	
							laminated		
	223.26	223.72	.46				Sandstone - core loss		
						224.70			
	223.72	240.72	17.00				Sandstone - same as above	52	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	44 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 78		
90°							Sandstone - medium to coarse laminated cross bedded	251	
							- several coaly stringers		
							- sandstone looks 'dirty' grey		
							- odd silt clast or pebble		
						227.70			
							Sandstone - same as above	28	
							Top of Box 79		
							Sandstone - medium grained - dark grey silty laminated	271	
							- soft sediment deformation - burrows		
							- cross bedding continuous throughout		
							- reworking of sand cross beds		
						230.80			
							Top of Box 80		
							Sandstone - medium grained - almost massive	277	
							- low angle cross beds but - faint, to see		
							- very consistent and uniform core		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	45 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 81		
							Sandstone - same as above	31	
						233.84			
90°							Sandstone - same as above almost massive - laminated cross	250	
							bedding faint or none distinct		
							Top of Box 82		
							Sandstone - same as above	35	
						236.90			
							Sandstone - same as above	232	
							Top of Box 83		
							Sandstone - same as above - light grey	69	
						239.94			
75°							Sandstone - same as above - 10 cm claystone band	204	
							1.00 m from marker (269.68 to 270.68)		
							slickenside - coaly sandstone/claystone		
	240.72	240.88	.16				Siltstone - core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	46 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 84		
70°	240.88	241.38	50				Siltstone - with very fine sandstone interbedded cross bedding	34	
							- odd burrow		
							Sandstone - medium to fine grained cross bedded	16	
							- pebbles at bottom		
	241.38	241.50	012	0.11			Coal - dull - bright stringers 90/10		
	241.50	241.70	020	0.19			Coal - dull lustre - bright bands 90/10		
							- coal structure is by small cubic particles - note fusion		
							bands		
	241.70	241.74	004	0.04			Coal - dull bright bands 75/25		
							- quite hard		
	241.74	241.94	020	0.19			Coal - dull - a few bright stringers		
					2444		- very hard compact		
						24298			
	241.94	242.01	007	0.07			Coal - dull - bright lenses and stringers		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	47 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	242.01	242.06	005	0.05			Coal - shattered flaky - core loss		
	242.06	242.31	25	0.23			Coal loss		
60	242.31	242.56	025	0.22			Coal - flaky soft - sheared		
							- BCA 60° fold or faulted		
							- dull to bright - hard to determine		
	242.56	242.62	006	0.05			Coal - flaky pulverized - core loss		
					2444				
	242.62	242.97	35	0.30			Coal loss		
	242.97	243.07	010	0.09			Coal - soft, flaky - barely in core		
							- pulverized		
	243.07	243.42	35	0.30			Coal loss		
	243.42	243.72	030	0.26			Coal - pulverized -		
	243.72	244.10	38	0.33			Coal loss		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	47 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 85		
	244.10	244.34	024	0.21			Coal - soft pulverized		
	244.34	244.71	037	0.32			Siltstone - plant remains	.32	
					2445	246.03			
	244.71	244.93	022	0.19			Siltstone - partially ground up mush	19	
	244.93	245.33	40	0.35			Siltstone - core loss - sandstone - coal in lower part		
	245.33	245.55	022	0.19			Coal - dull - bright stringers 75/25		
							- core very broken and mixed up - core loss		
	245.55	245.70	15	0.13			Coal loss		
	245.70	246.35	065	0.56			Coal - dull - bright - shearing evidence		
					2446		- fossil plant cross sections		
	246.35	246.56	21	0.18			Coal loss		
	246.56	246.64	008	0.07			Coal - pulverized mush		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	48 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	246.64	249.17	2.53				Siltstone - abrupt contact with end of coal	.27	
							Top of Box 86		
65							Siltstone - laminated with very fine sandstone stringers	1.03	
						249.08			
							Siltstone - same as above	1.23	
	249.17	249.37	20				Siltstone - core loss		
	249.37	249.62	025	0.23	2447		Coal - flaky soft broken up		
							- no description of coal possible		
	249.62	249.65	3	0.03			Coal loss		
							Top of Box 87		
	249.65	249.72	7	0.06	2448		Siltstone - core loss		
67	249.72	250.10	038	0.35			Siltstone - slickenside at top BCA 67°	.35	
							- soft sediment deformation - plant remains		
							- carbonaceous at bottom		
	250.10	250.22	012	0.11		827	Coal - pulverized shattered		
	250.22	250.55	33	0.30		252.13	Coal loss		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	49 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	250.55	250.95	40	0.37			Coal - pulverized		
	250.95	251.28	33	0.30	2449		Coal loss		
	251.28	251.68	40	0.37			Coal - sheared appears 'bright' to dull possible BCA 10°		
							- soft and broken		
	251.68	252.01	33	0.30			Coal loss		
	252.01	252.96	95	0.87			Coal - pulverized		
	252.96	253.67	.71				Siltstone - sheared	.06	
							Top of Box 88		
							Siltstone - medium grey, sandy especially at bottom	.65	
							- fine laminated		
						255.12			
	253.67	254.77	110				Sandstone - very fine grained grades up to unit above	1.10	
							- medium grey, fine laminated		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	50 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	254.77	254.94	17				Claystone/Siltstone - core loss		
	254.94	255.00	6				Claystone/Siltstone - very brown, sheared, coal bit	.06	
	255.00	256.69	169				Coal loss		
	256.69	256.81	12				Claystone - silty	.12	
	256.81	257.43	.62				Sandstone - very fine grained, laminated	.39	
						258.17			
							Sandstone - as above	.23	
							Top of Box 89		
65°	257.43	258.19	0.76				Siltstone - very fine sand stringers	.76	
							- convolute bedding - calcite veinlets		
							- fracture headed by calcite BCA 25°		
							- slickensides		
							- bottom core broken up - coaly		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	51 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	258.19	258.25	.06				Siltstone - core loss		
	258.25	258.28	0.03	.03			Coal - split - pulverized	.03	
	258.28	258.49	.21	.19			Coal loss		
	258.49	258.69	0.20				Siltstone - broken up -	.20	
	258.69	259.32	.63			260.36	Siltstone - core loss		
	259.32	260.12	080	0.73			Coal - dull to bright 85/15		
							- shattered, broken up - core loss		
							- from solid core to flaky		
							- soft - slickensides throughout		
	260.12	260.30	.18	0.16			Coal loss		
					2450				

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	52 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 90		
	260.30	260.70	040	0.36			Coal - dull - slickensides - 10% bright - broken up		
	260.70	260.80	010	0.09			Coal - dull - very hard - bright 10%		
	260.80	260.86	006	0.05			Coal - dull - bright 90/10 slickensides - broken up		
	260.86	261.07	21	0.19			Coal loss		
	261.07	261.23	016	0.15			Coal - pulverized -		
	261.23	261.29	6				Siltstone - core loss		
	261.29	262.51	122				Siltstone - laminated sandy stringers	1.22	
						263.72			
85°	262.51	262.93	042				Siltstone - more carbonaceous toward bottom	.42	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	53 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 91		
	262.93	263.36	043	0.42	2451		Coal - dull - bright - broken up		
							- slickensides - moved around		
	263.36	263.58	0.22	0.22			Siltstone - laminated	.22	
					2452				
	263.58	263.68	010	0.10			Siltstone - carbonaceous	.10	
	263.68	263.81	013	0.13			Coal - dull - very hard		
	263.81	264.23	042	0.41	2453		Coal - dull - platy slices, slickensides		
	264.23	264.93	070	0.69			Coal - dull - broken up		
							- shear planes - BCA 20°		
							- slickensides		
							- pulverized coal toward bottom		
70°	264.93	269.64	4.71				Siltstone - coaly stringers of plant remains	.60	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	54 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 92		
							Siltstone - laminated - coarse silt to very fine sands stringers	.20	
						266.77			
							Siltstone - same as above	1.09	
						266.68			
45°							Sandstone - very fine grained cross bedding laminated	.74	
							- two fracture BCA 50° - slickensides		
							Siltstone - laminated - coaly stringers	.73	
							- plant material throughout		
							Top of Box 93		
							Sandstone - very fine grained - silty laminated cross bedding	1.02	
							- convolute bedding interlaminated		
							- soft sediment deformation		
						270.43			
							Siltstone - carbonaceous coal stringers	.33	
							- coal lense or split missing 02 cm		
							75/25		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	55 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	269.64	269.72	008				Coal - dull - bright - broken	8	
	269.72	269.88	16				Coal loss		
							Top of Box 93		
	269.88	269.96	8				Siltstone - carbonaceous	8	
	269.96	270.08	12				Coal - dull - bright 75/25	12	
	270.08	270.19	11				Coal loss		
	270.19	270.26	007				Siltstone - slickensides - carbonaceous	7	
	270.26	270.28	002				Coal - dull bright	2	
	270.28	270.39	11				Coal loss		
	270.39	270.44	005				Siltstone - carbonaceous	5	
	270.44	270.48	004				Coal - dull with bright bands	4	
	270.48	270.59	11				Coal loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	56 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°	270.59	270.82	23				Siltstone - laminated	23	
	270.82	270.88	6				Coal - bone - band - crushed	6	
	270.88	270.94	6				Coal loss		
	270.94	277.93	6.99				Siltstone - calcite veinlets throughout	40	
							Top of Box 94		
							Sandstone - fine grained silty - interlaminated cross bedded	67	
							- plant remains throughout		
							Siltstone - laminated - plant remains	63	
							- 003 cm coal band near bottom		
						273.48			
							Sandstone - fine grained cross bedded	20	
							Siltstone - carbonaceous slickensides - two fracture BCA 60°	50	
							Sandstone - very fine - fine grained medium grey - laminated	84	
							- disturbed - reworked sediments - worm burrows - very mixed		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	57 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 95		
85°							Siltstone - sandy interlaminated cross bedding	150	
							- churned - reworked		
						276.52			
60°							Siltstone - same as above - plant remains	108	
							- fining down - 003 cm coal split		
							Top of Box 96		
75°							Siltstone - same as above - calcite veins on fracture	117	
							- surfaces - slickensides		
	277.93	278.04	0.11	0.11			Coal - dull pulverized		
	278.04	278.35	0.31	0.30			Coal loss		
	278.35	278.84	0.49	0.47			Coal - dull - 10% bright bands - very hard		
						279.57			
	278.84	279.44	0.60	0.58			Coal - dull 10% bright bands - very hard		
					2454				

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	58 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 97		
	279.44	279.59	15	0.14			Coal - bone Fe staining sandy very hard		
	279.59	279.86	27	0.26			Coal - dull - bright band		
	279.86	279.93	007	0.07			Sandstone - medium grained		
	279.93	279.97	4	0.04			Coal - bone - very fine grained,iron staining		
							- possible sand grained throughout		
	279.97	280. 1	14	0.14			Coal - dull with bright bands 80/20		
							- sand throughout		
	280.11	280.18	007	0.07			Sandstone - medium grained carbonaceous	.07	
	280.18	280.29	011	0.11			Coal - dull - Fe stains - sandy		
							- bone coal - very hard		
	280.29	280.52	023	0.22			Coal - dull bright bands 60/30, iron staining		
					2455				
	280.52	280.54	2	0.02			Coal loss		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	59 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	280.54	280.61	007	0.07			Sandstone	.07	
	280.61	281.13	52	0.50			Coal loss		
	281.13	281.78	065	0.63			Coal - dull - some bright - flaky soft		
							- mostly pulverized or shattered - core loss		
					2456	282.67			
	281.78	282.05	027	0.26			Coal - dull Fe stains - very hard - slickensides		
	282.05	282.18	013	0.12			Coal - pulverized soft, core loss		
							Top of Box 98		
	282.18	282.54	036	0.35			Coal - dull - slickensides - coal was moved		
							- rare bright bands - core loss		
					2457				
	282.54	282.74	020	0.19			Siltstone - carbonaceous	.19	
	282.74	282.87	13	0.13			Siltstone - core loss		
	282.87	282.97	010	0.10	2458		Coal - completely pulverized		
	282.97	283.11	14	0.13			Coal loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	61 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID N E		UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	283.11	284.76	165				Siltstone - laminated with very fine sands	124	
							- two fracture BCA 70° calcite		
							- on shear surface		
							- one fracture BCA 20°		
						285.67			
80°							Siltstone - laminated burrows soft sediment deformation	41	
	284.76	285.46	70				Sandstone - medium to coarse grained - massive	17	
							Top of Box 99		
							Sandstone - fine grained, light to medium grey, to interbedded	53	
							- medium-dark grey siltstone, few rip up clasts and minor		
70°							flasar bedding, slightly carbonaceous laminaes		
	285.46	286.88	1.42				Siltstone - dark grey, with minor claystone, siltstone, massive	34	
							Siltstone/Claystone - very fine grained, light grey, poorly	28	
							- cemented, side band 2.5 cm, 10 cm from top, carbonaceous		
							plant remains, siltstone, core broken to crushed		
							coaly, discontinuous lenses, calcite stringers		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	62 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65°							Sandstone - fine grained, light grey, siltstone, very minor	23	
							- interbedded siltstone bands, numerous discontinuous		
							calcite laminaes near top, listric surface of calcite		
							infilling		
							Siltstone/Sandstone - 70% - 30%, fine grained sandstone, light	13	
							grey, thin calcite laminaes, listric surfaces		
							Siltstone - carbonaceous and coaly partings, dark grey, core	44	
							broken with minor claystone, clay content increasing		
							downwards, listric surfaces, few calcite stringers		
	286.88	287.42	54				Siltstone - core loss		
	287.42	287.58	16				Coal/Siltstone/Claystone - pulverized, with minor fine grained	16	
							- sandstone clasts, occasional calcite, blebs, listric		
							surfaces, sheared soft		
	287.58	290.76	3.18				Siltstone/Claystone - listric surfaces, grey carbonaceous, thin	13	
							- discontinuous coaly laminaes, core broken, highly sheared,		
							dark grey		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	63 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						288.72			
							Siltstone - dark grey, with minor claystone, occasional	15	
							carbonaceous, plant remains, discontinous calcite		
							stringers, coaly partings listric surfaces		
							Top of Box 100		
							Siltstone - medium to dark grey, very minor light grey, fine	26	
							- grained sandstone interlaminated minor carbonaceous		
							plant remains		
65°							Sandstone - light - medium grey, fine grained becoming silty	113	
							- towards base, minor siltstone laminae, soft sediment		
							deformation, few minor calcite stringers, cross bedding,		
							minor siltstones, thin coaly laminaes		
							Siltstone - dark grey, with minor interbeds of claystone, coaly	15	
							- leases, discontinuous calcite laminaes, core broken and		
							crushed at top		
							Siltstone - dark grey, becoming, sandier towards base, minor	29	
							- interbedded dark claystone, carbonaceous plant remains		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	64 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E S. W/W:N:)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
60°							Sandstone - silty at top, very fine - fine grained, coarsening	104	
							- downwards, slight listric surfaces at base, minor calcite		
							thin laminations, soft sediment deformation, load casts,		
							carbonaceous partings		
							Top of Box 101		
							Siltstone		
						291.77			
	290.76	293.56	2.80				Siltstone - carbonaceous - slickensides	46	
							- calcite on shear surfaces		
							- plant remains		
							- fractured angles - BCA 45° - 70°		
							Siltstone - grey very mottled	207	
							- sandy throughout - no bedding		
							or laminations - massive possible soil profile - rootlets		
							and plant remains - clayey		
							- more sand toward bottom		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	65 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 102		
							Sandstone - medium grained slickensides BCA 50°	.18	
							Siltstone - same as in Box 101 - calcite veins	9	
	293.56	296.78	3.22				Sandstone	24	
						294.81			
NA							Sandstone - medium to coarse cross bedding - fracture	213	
							- BCA 50° - slickensides calcite		
							Top of Box 103		
							Sandstone - medium to coarse grained - massive	85	
							- shearing BCA 40° - calcite		
							- silty - carbonaceous part - dark grey		
	296.78	296.81	3				Siltstone - ground up sheared	3	
	296.81	297.17	36			297.87	Siltstone - core loss		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	66 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
NA	297.17	298.86	169				Siltstone - completely broken up	169	
							- calcite veins throughout		
							- very abundant		
							- no structures or features		
							- shears BCA 35° - slickensides		
	298.86	299.00	14				Siltstone - core loss		
							Top of Box 104		
	299.00	301.76	2.76				Sandstone - very fine grained - dark brown	131	
							- massive - shears BCA 50°		
						300.91			
60°							Sandstone - light grey, fine grained cross bedding	145	
							Top of Box 105		
	301.76	307.50	5.74				Sandstone - light grey, medium to coarse	85	
							- several round pebbles		
							- shear BCA 70°		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	67 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Conglomerate - pebbles - up to 6 cm width	75	
							- well rounded - poorly sorted		
							- sediment origin		
						303.96			
							Conglomerate - same as above - almost - cobble size	111	
							Top of Box 106	167	
							Conglomerate - pebbles to cobbles		
							- medium to coarse sand cement		
							- well rounded - sub-rounded		
							- poorly sorted		
						307.01			
							Conglomerate - same as above	72	
							Top of Box 107		
							Conglomerate - same as above	64	
	307.50	307.74	024	0.22			Coal - pulverized - ground up, abrupt contact coal versus		
							- conglomerate erosional		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	68 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	307.74	309.03	129	1.17		310.06	Coal loss		
	309.03	309.08	005	0.05			Coal - slickensides - slices - fragments of coal only - core loss		
					2459				
	309.08	309.10	002	0.02			Siltstone - core fragments - carbonaceous	.02	
	309.10	309.37	27	0.24			Boney Coal - core loss		
	309.37	309.57	020	0.18			Coal - pulverized		
	309.57	309.65	8	0.07			Coal loss		
	309.65	310.05	040				Siltstone		
	310.05	310.10	005				Siltstone - carbonaceous - rich in plant matter	.05	
	310.10	310.15	005				Siltstone		
	310.15	310.17	002				Coal - bone - carbonaceous siltstone - pulverized		
	310.17	310.37	20				Coal loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-4	69 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	310.37	310.40	3				Siltstone - core loss		
	310.40	310.75	35				Siltstone	.35	
	310.75	310.85	010				Sandstone - medium grained	.10	
							Top of Box 108		
	310.85	311.70	085				Siltstone - laminae	.85	
	311.70	312.00	030				Coal - dull - rare bright stringer		
							- hard and compact		
					2460				
	312.00	312.20	020				Coal - dull - bright 60/40		
							- coarse large blocks formed by joint fracture pattern		
						313.11			
65°	312.20	316.31	4.11				Siltstone - interlaminated fine grained sands	139	
							Top of Box 109		
							Sandstone - fine grained light grey - laminated	68	
						316.16			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	70 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65°							Sandstone - fine grained - medium interlaminated with siltstone	124	
							Siltstone		
							Sandstone - high silt content - churned - fine grained	39	
							Top of Box 110		
	316.31	318.57	2.26				Sandstone - medium to coarse - massive	159	
							- coarsening downward		
							- pebbles at base		
						319.20			
NA							Sandstone - dark grey coarse - few pebbles	67	
	318.57	345.04	26.47				Conglomerate - pebbles well rounded	46	
							- poorly sorted		
							- size up to 2 cm		
							- sediment source		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	71 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 111		
							Conglomerate - light to medium grey, matrix fine to medium grained sandstone poorly sorted, pebble to cobble (12 cm) size clasts, rounded to subrounded	193	
						322.25			
							Conglomerate - same as above, smaller clasts	71	
							Top of Box 112		
							Conglomerate - same as above, poorly sorted	229	
						325.30			
							Conglomerate - same as above, clasts size decreasing downwards	27	
70°							Sandstone - medium grey, fine grained carbonaceous laminae	12	
							Top of Box 113		
							Conglomerate - poorly sorted, with sandstone intervals - fine grained, light to medium grey, medium grained ground mass subrounded clasts, 9 cm interval of sub-angular to angular pebble band, 53 cm from top, slightly packed	254	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	72 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W. E.S. W. W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light to medium grey, medium grained massive	10	
						328.35			
							Top of Box 114		
							Sandstone - medium grey, massive, medium grained with the	37	
							occasional pebble 7 mm		
							Conglomerate - poorly sorted, rounded to subrounded clasts,	26	
							fine medium grained, light-medium grey ground mass, clasts		
							size - 3 mm - 33 mm		
						328.96			
							Conglomerate - poorly sorted, medium grey, fine-medium grained	200	
							sandstone matrix, clasts from pebbles to cobbles, up to 7 cm		
							coarsening downwards (size of clasts increasing, core		
							clasts broken)		
							Top of Box 115		
							Conglomerate - same as above	35	
						331.40			
							Conglomerate - same as above, clasts size generally larger	233	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	73 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 116		
							Conglomerate - same as above clasts range from 5 mm to 80 mm	71	
							poorly sorted, subrounded to subangular, fine grained		
							sandstone, medium grey matrix minor calcite cementation		
						344.45			
							Conglomerate - same as above poorly sorted, subrounded to	194	
							sub angular clasts, fine grained, medium grey, sandstone		
							matrix, clasts range up to 5 cm		
							Top of Box 117		
							Conglomerate - same as above, core broken	105	
						337.50			
							Conglomerate - same as above with sandstone intervals, medium	84	
							grey, medium grained		
							Sandstone - medium grey, fine-medium grained massive, carbon-	66	
							aceous parting along fracture - BCA 75°		
							Top of Box 118		
							Sandstone - same as above, occasional large clasts - 4 cm,	98	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-4	74 OF 74

DATE BEGUN	March 1	DATE FINISHED	March 4	MINE GRID	N E	UTM	67,929 N 649,310 E
ELEV. COLLAR	1377	BEARING	232°	HOLE ANGLE	60°	TOTAL DEPTH	345.04
COAL LICENCE	3203	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke (W/E.S. W/W.N.)	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							- carbonaceous parting on fracture - BCA 75°		
							Conglomerate - poorly sorted, subrounded, fine clear grained	58	
							sandstone, medium grey, matrix, coarsening downwards clasts		
							range up to 4 cm		
						340.55			
							Conglomerate - poorly sorted, subangular to subrounded, medium	116	
							clear grained sandstone, matrix, medium grey matrix fining		
							downward - to fine grained		
							Top of Box 119		
							Conglomerate - poorly sorted, subrounded to subangular fine	183	
							grained sandstone matrix, medium grey, clasts up to 7 cm		
						343.59	Conglomerate - same as above		
							Top of Box 120		
							Conglomerate - same as above, clasts size increasing downwards,	95	
							poorly sorted		
						345.12			
							Conglomerate - same as above, poorly sorted, tightly packed	134	
						346.64	THE END		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/7/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-05	COATES	65	222	319	HQ		N23/10,500	3944	0	13

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1301.2	6,068,045.33 N 650,196.72 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		62.56 - 64.05	0	1.49	0.94/0.55	68			Kh	54.85	1251.5		
B11		71.58 - 72.17	0	0.59	0.59/0.00	95							
B10		97.55 - 98.08	0	0.53	0.53/0.00	92							
B9	1184.17	123.08-129.12	0	6.01	5.39/0.65	98							
B8		139.17-140.64	0	1.47	0.57/0.90	82							
B6(u)		165.68-166.40	0	0.72	0.69/0.03	100	1530						
B5(u)		184.45-186.63	0	2.18	1.62/0.56	54	1529						HOLE NUMBER MUD 81-05

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-05	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B5(1)	1126.03	189.08-193.27	0	4.19	3.51/0.68	38	1524/28						
B4(u)		231.26-237.88	15	6.38	4.91/1.47	85	1515/23						
B4(1)	1081.56	239.85-242.34	15	2.43	2.04/0.39	56	1514						
B3	1064.71	258.60-280.93	0	2.33	1.61/0.72	96	1509-13						
B2(u)		279.60-280.47	0	0.87	0.87/0.00	100	1508						
B2(m)		289.04-289.39	20°	0.33	0.33/0.00	100	1507						
B2(1)		291.13-293.23	20°	1.98	1.98/0.00	94	1506						
B1	1029.30	298.50-300.00	0	1.50	1.50/0.00	62	1501						
													HOLE NUBMER MUD 81-05

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	1 OF 83

DATE BEGUN	March 3/81	DATE FINISHED	March 7/81	MINE GRID	N E	UTM	68,025 N 50,200 E
ELEV. COLLAR	1303	BEARING	232	HOLE ANGLE	-60	TOTAL DEPTH	319.13
COAL LICENCE	3944	CONTRACTOR	Coates	LOGGED BY	D. Hope	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	0	12.80	12.8				Casing		
							TOP OF BOX		
	12.80	14.03	1.23				Core Loss - Overburden & underlying siltstone		
	14.03	14.43	040				Siltstone: Gray-Brown - soft crumbly, badly broken -	0.40	
							no apparent bedding		
	14.43	15.23	080				Siltstone: Gray-Brown - parallel laminations consolidated	0.80	
							rusty weathering on laminae surfaces.		
						14.33			
	15.23	15.54	31				Core Loss - Siltstone		
	15.54	16.54	100				Siltstone: as above; core badly broken in upper 025 cm		
							of unit	1.00	
							TOP OF BOX 2		
	16.54	54.71	38.17				Siltstone: Medium to dark gray contains occasional	1.28	
							laminae of v.f.g. light gray sandstone, fractures along		
							laminae (moderately broken core), X-laminations (low angle		
						17.32	and flaser bedding		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	2 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85							Siltstone: Same as above - 90% silstone - 10% sandstone	0.90	
							TOP OF BOX 3		
							Siltstone: Same as above - Sandstone increasing, 70% siltstone, 30% sandstone	2.09	
85						20.42			
							Siltstone: Same as above - with interbeds of sandstone ~ 15 fracts/meter along laminae	0.54	
							TOP OF BOX 4		
							Siltstone: As above	0.10	
						23.47			
							Siltstone: As above, 50/50 sandstone has increased. Still 15 fracts/meter along laminae planes	2.22	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	3 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 5		
90							Siltstone/Sandstone: Interbeds - medium to light grey -		
							thinly interbedded to laminated, flaser bedding and		
							soft sediment deformation, 50% silstone/50% sandstone	2.62	
							TOP OF BOX 6		
							Siltstone/Sandstone: As above	0.13	
						26.52			
90							Siltstone/Sandstone: As above	2.42	
							15 fracts/meter along laminae		
							TOP OF BOX 7		
							Siltstone/Sandstone: As above	0.54	
						29.57			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET 4 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
90							Siltstone: As above, siltstone 40%, sandstone 60%	2.02
							TOP OF BOX 8	
							Siltstone: As above	0.79
						32.61		
90							Siltstone: As above, siltstone 50%, sandstone 50%	1.91
							TOP OF BOX 9	
							Siltstone/Sandstone: As above, 50/50, 7 fracts/meter	1.14
						35.66		
							Siltstone/Sandstone: As above, 5 fracts/meter along laminae	1.60
							TOP OF BOX 10	
90							Siltstone/Sandstone: As above, 60% siltstone, 40% sandstone	1.26
						38.71		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	5 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone/Sandstone: As above, 60/40	1.56	
							TOP OF BOX 11		
90							Siltstone/Sandstone: As above, 50/50	1.48	
						41.76			
							Siltstone/Sandstone: As above, 60/40	1.23	
							TOP OF BOX 12		
							Siltstone/Sandstone: As above, 50/50	1.77	
						44.81			
							Siltstone/Sandstone: As above, 60/40	1.03	
							TOP OF BOX 13		
							Siltstone/Sandstone: As above	1.92	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	6 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
90							Siltstone/Sandstone: As above, 60/40	0.88	
							TOP OF BOX 14		
							Siltstone/Sandstone: As above 50/50	2.09	
						50.90			
90							Siltstone/Sandstone: As above, 50/50	0.76	
							TOP OF BOX 15		
							Siltstone/Sandstone: As above, 60/40	2.30	
						53.95			
90							Siltstone/Sandstone: As above, 60/40	0.33	
							TOP OF BOX 16		
							Siltstone/Sandstone: As above - sandstone increases basally to 30/70 siltstone/sandstone	1.26	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	7 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	54.71	54.85	014				Conglomerate - medium grey, small pebbles, sub-rounded to sub angular, moderately sorted, sediment clasts. Upper contact abrupt, at 90° to core axis lower contact irregular fine grain sandstone matrix Likely upper Gates contact.	0.14	
	54.85	54.92	007				Sandstone- light grey, fine grain grades basally to very fine grain and gradational with siltstone below.	0.07	
	54.92	56.06	1.14				Siltstone - medium grey hard, massive appearance	0.23	
							Siltstone - dark grey, medium soft and crumbly in part - Carbonaceous and coaly zones throughout.	0.70	
						57.00			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	8 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: Medium to light gray - grades basally to very	0.21	
							fine grain. Sandstone - rare plant fragments on fracture		
							surfaces.		
							TOP OF BOX 17		
90°	56.06	61.96	5.90				Sandstone/Siltstone interbeds: Light to medium gray, inter-	2.86	
							laminated siltstone and very fine grain sandstone. Soft		
							sediment deformation - flaser bedding and X-laminations		
							approximately 6 fracs/meter at 90° to core axis Very rare		
							coal splints.		
							TOP OF BOX 18		
							Sandstone/Siltstone interbeds: As above, Sandstone:siltstone	2.78	
							50/50		
							TOP OF BOX 19		
							Sandstone/Siltstone: As above	0.26	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	9 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	61.96	62.28	032				Siltstone: Medium to dark gray, interlaminated with fine		
							grain sandstone - light gray. Soft sediment deformation.	0.32	
	62.28	62.30	002				Claystone: Dark gray carbonaceous - badly broken core,	0.02	
	62.30	62.56	26				core loss - rock		
	62.56	62.76	020	0.20			Coal: dull, with occasional Vitneous bands - badly broken		
					1546		core.		
	62.76	62.97	021	0.21			Lost core coal		
	62.97	63.29	032	0.32			Claystone: Medium to dark gray laminations. Core is sound.		
	63.29	63.39	010	0.10			Stoney Coal: Crumbly Vitreous coal and moderately soft		
					1545		coaly siltstone.		
	63.39	63.43	004	0.04			Claystone: Carbonaceous, moderately soft - lost core claystone		
	63.43	63.45	002	0.02			Lost Core: siltstone		
	63.45	63.51	006	0.06			Coal: Boney, Vitneous		
	63.51	63.65	014	0.14			Lost core - boney, coal		
	63.65	63.72	007	0.07			Claystone: Carbonaceous to coaly		
	63.72	63.77	005	0.05	1544		Coal: boney		
	63.77	63.80	003	0.03			Coal: stoney, dull to Vitneous		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	10 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	63.80	63.84	004	0.04	1544		Coal: boney, dull		
	63.84	63.92	008	0.08			Coal: dull with Vitreous inclusions. Broken core.		
	63.92	64.05	013	0.13			Lost core (coal dull)		
	64.05	64.12	007				Claystone: carbonaceous to coaly, dark gray - if it was lighter it would be stoney coal.		
	64.12	65.26	1.14				Sandstone: medium to light gray - very fine grain at top grades to medium grain at base - rare coal splints throughout X-laminated at base. Top of box 20 is 55cm below top of upper unit	1.07	
							Rock loss	0.02	
						66.14			
							Sandstone: as above	0.05	
90°	65.26	67.42	2.16				Siltstone: medium to dark gray - parallel lamination of medium and dark gray and brown. Soft sediment deformation. Rare sandstone.	1.17	
							Siltstone: carbonaceous to coaly - moderately soft core is fairly broken.	0.25	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	11 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Rock Loss	20	
							Siltstone: medium gray grades basally to interlamination.	0.54	
							Sandstone and siltstone - sandstone is light gray, very fine		
							grain.		
							TOP OF BOX 21		
90°	67.42	70.90	3.48				Sandstone/Siltstone: interlamination (X-laminated), soft		
							sediment deformation, light to medium gray - 6 fract/meter		
							Sandstone 70%, Siltstone 30%	0.84	
						69.19	Sandstone/Siltstone: interlaminated, soft sediment deformation,		
							X-laminated, flaser bedding, sandstone 60%, siltstone 40%,		
							grades to more silty basally, 5 fract/meter	1.95	
							TOP OF BOX 22		
							Siltstone: medium to dark gray - laminated	0.69	
90°	70.90	71.00	010				Claystone: dark gray, carbonaceous to coaly	0.10	
	71.00	71.34	34				Coal loss - stoney		
						72.24			

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	12 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	71.34	71.58	024				Claystone: dark gray, soft, breaks along irregular		
							listric surfaces at 40° to core axis	0.24	
	71.58	71.60	002	0.02			Coal: stoney, dull		
	71.60	71.77	017	0.17			Coal: Vitreous with faint banding		
	71.77	71.94	017	0.17	1543		Coal: Vitreous with bright bands		
	71.94	71.94	020	0.20			Coal: badly broken in part pulverized, bright with bright		
							bands - listric surfaces on more complete pieces		
	72.14	72.17	003	0.03			Core loss - coal		
	72.17	72.92	075				Siltstone: dark gray, competent, contains coal splints		
							throughout	0.75	
	72.92	73.05	013				Sandstone: salt and pepper, laminated and X-laminated,		
							soft sediment deformation, fine grain	0.13	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	13 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 23		
	73.05	79.02	5.97				Sandstone/Siltstone: interbedded on the scale of ¼ to ½ meter	0.97	
							interbeds. Sandstone varies from very fine to medium grain.		
							Light gray to salt and pepper. Siltstone is medium to dark		
							gray - in places sandstone and siltstone is interlaminated.		
							Rare coaly splints.		
			0.37				Core loss (sandstone/siltstone)		
						75.29			
							Sandstone: very fine grain to medium grain. Color varies from	1.72	
							medium to light gray to salt and pepper. Gradational from above		
							unit - the siltstone has coarsened to very fine grain. Sandstone		
							X-laminated and flaser bedding.		
							TOP OF BOX 24		
							Sandstone: As above. Dominantly very fine to fine grain, cross		
							-bedded in part.	1.32	
						78.33			

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	14 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
			159				Sandstone: As above - color is now light to medium gray	1.59	
							TOP OF BOX 25		
	79.02	80.20	1.18				Sandstone: Very fine grain, light to medium gray, massive appearances, competent - 6-8 fract/meter at 90° to core axis	1.18	
	80.20	80.48	0.28				Siltstone: medium gray - core is badly broken and ground, calcite veins and blebs throughout core, rock fractures irregularly along listric surfaces.	0.28	
							Fault?		
						81.38			
	80.48	81.51	103				Siltstone: medium to light gray competent becomes laminated near base. At 30cm from top a 10cm zone of rubbly core similar to unit above.	1.03	
90									

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	15 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 26		
90	81.51	83.53	2.02				Siltstone: interbeds: interbedded and interlaminated unit of very fine grain sandstone - light gray and medium gray siltstone. Core is fractured along vertical planes 95cm to 150cm from top of unit	2.02	
						84.43			
	83.53	84.27	074				Sandstone: light to medium gray: very fine to fine grained flaser bedding, soft sediment deformation - 4 fract/meter at 90° to core axis	0.74	
							TOP OF BOX 27		
	84.27	84.38	011				Siltstone: medium gray, fractured along listric surfaces at 55° to core axis - poorly formed or weakly formed slickensides	0.11	
	84.38	84.53	15				Rock loss: siltstone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	16 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	84.53	88.54	4.01				Sandstone: light to medium gray, salt and pepper, very fine	1.92	
							to medium grained - coarsening basally. Soft sediment		
			13.				deformation. X-laminated. 5 fract/meter @ 90° to core axis		
							Rock loss: sandstone		
						87.48			
							Sandstone: light gray to salt and pepper, medium grained,	0.75	
							massive appearance		
							1 fract-.75 meter		
	.		11.				Rock loss: sandstone		
							TOP OF BOX 28		
							Sandstone: light gray, medium grained, discreet X-laminated	1.10	
							1-2 fract/meter at 75° to core axis		
	88.54	90.15	1.61				Siltstone: dark gray contains rare lamination of light gray		
							fine grained sandstone vertical fractures in basal 1/3 of unit.	0.73	
			0.11				Rock loss: siltstone		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	17 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: with interlamination fine grained sandstone	0.25	
							- siltstone, dark gray		
							- sandstone, light gray		
							- soft sediment deformation, X-laminated		
							- gradational from above unit		
						90.53	Sandstone: light gray, medium grained, laiminated in upper	0.52	
							10cm, massive below. Sound core		
							TOP OF BOX 29		
90	90.15	97.55	7.40				Sandstone/siltstone: interbed - interlaminated dark gray	2.50	
							siltstone and light gray fine to medium grained sandstone,		
							soft sediment deformation 70% sandstone/30% siltstone. Lower		
							0.25cm fractured at 15° to core axis. Rare 1cm coal splints.		
						93.57			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	18 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
90							Sandstone/siltstone: as above - 1 fracture at 90° to core axis.	0.15	
							TOP OF BOX 30		
							Sandstone/siltstone - as above	0.43	
							Siltstone: dark gray, massive appearance, hard - fractures at 90° to core angle - lower 10cm badly broken core	1.73	
							Siltstone: medium gray, laminated to low angle, cross lamination upper .25cm of core fractured at 0° to core axis. Basally has a small amount of fine grained sandstone laminated	0.51	
							TOP OF BOX 31		
							Sandstone/siltstone - interlaminated, sandstone light gray 40%, siltstone medium to dark gray 60%; soft sediment deformation	0.28	
						96.62			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	19 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
90							Sandstone/siltstone: interlaminated to interbedded; sandstone	1.80	
							light gray, fine grained, siltstone medium to dark gray -		
							darkening basally. Soft sediment deformation		
	97.55	98.06	051		↑		Coal: metallic lustre, discreet banding - lower 7cm was		
					1542		pulverized and now frozen		
	98.06	98.08	002		↓		Core loss-coal		
							TOP OF BOX 32		
	98.08	98.80	0.72				Siltstone: dark gray, grades basally to interlaminate siltstone	0.07	
							and very fine grained light gray sandstone. 1 fracture with		
							slickensided listric surfaces at 70 to 90° to core axis.		
			0.16				Core loss: siltstone		
							Siltstone: dark gray, grades basally to interlaminate siltstone	0.49	
							and very fine grained light gray sandstone. 1 fracture with		
							slickensides at 45° to core angle 10cm from top of unit		
						99.67			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	20 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
90	98.80	104.74	5.94				Sandstone/siltstone: interbed to interlaminate light gray	2.17	
							very fine grained to medium grained sandstone and dark grading		
							basally to medium gray siltstone. Rare coaly splints and part-		
							ings in upper 1.5m of unit. Moderately well developed		
							Slickensides on some fracture planes in upper 1.5m of unit at		
							70° to 90° to core axis		
							Rock loss - sandstone/siltstone		
							TOP OF BOX 33		
							Sandstone/siltstone: interlaminated with light gray very fine	0.88	
							to fine grained sandstone and medium gray siltstone. Soft		
							sediment deformations - 6 fract/meter at 80° to 90° core axis.		
						102.72			
							Sandstone/siltstone: as above	0.53	
			15				Rock loss -siltstone/sandstone		
							Siltstone: drk gray - carbanaceous to coaly at top of gradestone	1.35	
							non-carbonaceous basally fractures dominantly at 80° to 90°		
							to core axis.		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	21 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 34		
							Siltstone: dark gray - massive appearance - 6 frac/meter	0.86	
							at 90° to core axis.		
	104.74	104.89	15				Rock loss - siltstone		
						105.77			
90	104.89	107.94	3.05				Siltstone: as above - rare carbonized plant fragments and	1.86	
							coaly splints on fractured surface		
							TOP OF BOX 35		
							Siltstone: dark to medium gray gradational from above unit -	1.19	
							becomes lighter in color basally. 4 frac/meter at 90° to core		
							axis.		
						108.81			
	107.94	123.08	15.14				Sandstone: light grained to medium grained, contains thin	1.65	
							beds and laminations of medium to dark gray siltstone. Soft		
							sediment deformations. Cross-beds gradational from above unit.		
							80% sandstone-20% siltstone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	22 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 36		
							Sandstone: same as above 80% sandstone/20% siltstone	1.40	
							Rare carbonaceous surfaces.		
						111.86			
							Sandstone: same as above 90% sandstone/10% siltstone	1.40	
							TOP OF BOX 37		
							Sandstone: same as above. Siltstone content decreasing,	1.59	
							sandstone developing a more massive appearance		
						114.91			
							Sandstone: same as above. Upper 10cm of core badly ground.	1.10	
							Same massive appearance, fewer laminations. 6 fracs/meter		
							at 70° to 90° to core axis.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	23 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 38		
90							Sandstone: light gray to salt and pepper, medium grained, well sorted - rare dark gray laminations and partings. Sound core. 5 fracs/meter at 90° to core axis.	2.14	
						117.96			
							Sandstone: same as above	0.69	
							TOP OF BOX 39		
							Sandstone: same as above. Siltstone laminations increasing, carbonaceous surfaces on some fractures. Soft sediment deformations. Sandstone 80%/Siltstone 20%.	2.31	
						121.01			
							Sandstone: same as above. Siltstone laminations decreasing to 5%.	0.43	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	24 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 40		
90							Sandstone: light gray, medium to fine grain, fining basally,	2.43	
							contains medium to dark gray siltstone laminations increasing		
							to 30% basally. Soft sediment deformations abundant. Cross		
							laminations basally. At base a few coaly stringers.		
	123.08	123.10	0.02	0.02			Coal: broken core, metallic lustre.		
						124.00			
	123.10	123.16	006	0.06			Coal: metallic lustre		
	123.16	123.19	003	0.03			Coal: boney, dull		
					1541				
	123.19	123.25	006	0.06			Coal: dull with discreet metallic lustre bands.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	25 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 41		
	123.25	123.39	014	0.14	1541		Coal: metallic lustre, slightly soft		
	123.39	123.85	0.46	0.46			Lost core (coal)		
	123.85	124.05	0.20	0.20			Claystone: soft, medium gray-brown. Listric surface		
					1540		on basal contact.		
	124.05	124.12	0.07	0.07			Lost core (coal)		
	124.12	124.30	018	0.18			Coal: boney, dull		
	124.30	124.75	022	0.22			Coal: metallic lustre to bright (70-30) faint banding		
	124.75	125.09	034	0.34			Coal: dull to metallic lustre (30-70) weakly developed shear planes		
							End of row 2		
	125.09	125.35	026	0.26			Coal: dominantly metallic lustre, rare bright and dull coal		
	125.35	125.41	006	0.06			Coal: boney, dull		
					1539				
	125.41	125.77	036	0.36			Coal: metallic lustre, faint banding		
							End of row 3		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	26 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	125.77	125.96	019	0.19	1539		Coal: metallic lustre with 5% thin banded bright		
	125.96	126.03	007	0.07			Coal: stoney dull, cannot be split with chisel		
	126.03	126.29	026	0.26			Coal: metallic lustre		
						127.10			
	126.29	126.34	005	0.05			Coal: metallic lustre with bright bands, 10% bright		
							TOP OF BOX 42		
	126.34	126.59	025	0.25			Coal: boney dull to metallic lustre		
					1538				
	126.59	126.64	005	0.05			Coal: stony, dull with rare bright splints		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	27 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	126.64	126.96	032	0.32			Coal: dull to metallic lustre 40/60, rare bright bands		
	126.96	127.12	016	0.16			Coal: pulverized, dominantly metallic lustre, 1 piece of stony coal approximately 3cm, heavily slickensided. (core loss)		
	127.12	127.19	007	0.07			Lost core (coal)		
	127.19	127.25	006	0.06			Coal: boney, dull		
	127.25	127.29	004	0.04	1537		Coal: metallic lustre		
	127.29	127.35	006	0.06			Coal: boney, dull		
	127.35	127.61	026	0.26			Coal: metallic lustre		
	127.61	127.65	004	0.04			Coal: boney, dull to metallic lustre		
							TOP OF ROW 3		
	127.65	128.25	060	0.60			Coal: metallic lustre, rare poorly developed bright bands (10%)		
	128.25	128.41	016	0.16			Coal: stoney-dull, heavy poss. carbonaceous to coal claystone		
							Bottom of row 3		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	28 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF ROW 4		
	128.41	128.48	007	0.07	1536		Coal: stony - pulverized		
	128.48	128.51	0.03	0.03			Lost core (stoney coal)		
	128.51	128.76	025	0.25			Coal: metallic lustre with bright inclusions (5%)		
							moderately sheared		
	128.76	128.83	007	0.07			Coal: stoney, dull		
	128.83	128.98	015	0.15			Coal: metallic lustre with bright inclusions (10%)		
							moderately sheared		
	128.98	129.08	0.10	0.10			Core loss (coal-stoney)		
					1535				
						130.15			
							TOP OF BOX 43		
	129.08	129.12	004	0.04			Coal: boney, dull		
	129.12	129.21	009				Coal: stoney, dull - possibly coaly claystone		
	129.21	129.27	006				Core loss: stoney coal		
	129.27	131.44	217				Claystone: silty dark gray, contains coaly partings from		
							mm to 3cm in thickness		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	29 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	131.44	131.69	025				Coal: stoney at top grading basally to boney, mildly slickensided, becomes softer and more pulverized toward base. 50% stoney/50% boney	0.25	
	131.69	132.08	39				Rock loss: stoney		
						133.20			
	132.08	132.13	005				Coal: stoney, pulverized	0.05	
	132.13	139.17	7.04				Siltstone: medium gray, hard, massive appearance	0.13	
							TOP OF BOX 44		
							Siltstone: medium to dark gray, massive appearance 6 fracs/meter at 90° to core axis. Color becomes lighter basally and begins to get finer grained. Sandstone inter-laminated 50/50 sandstone/siltstone at base.	2.89	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	30 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 45		
							Siltstone: with inter-laminated sandstone. Same as above	0.07	
						136.25			
90							Sandstone/Siltstone: interlaminated light to dark gray, 50/50 at top of unit grades basally to 10% sandstone/90% siltstone at base, soft sediment deformation, cross laminated Rare coaly splints throughout unit.	2.82	
							TOP OF BOX 46		
							Siltstone: dark gray, massive appearance, faint slickenside on fractured surface gradational with above unit.	0.13	
			10				Lost core: siltstone		
						139.30			
						457			

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	31 of 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone: dark gray, massive appearance, coaly splints	0.90	
							throughout - increasing in content basal grading to coal		
							below. Shiney listric surface on fracture at top of unit.		
	139.17	139.32	015				Coal: boney - duel with occasional bright splints		
	139.32	139.44	012				Coal: metallic lustre with faintly banded bright (15%)		
	139.44	139.52	0.08		1532		Coal: stoney - dull with metallic lustre inclusions		
	139.52	139.66	0.14				Coal: metallic lustre with 35% bright cleats on fresh surface.		
	139.66	139.72	006				Coal: stoney - dull with 5% bright splints		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	32 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
90	139.72	140.09	037				Claystone: coaly, dark gray, laminated to bedded.		
	140.09	140.12	003				Coal: banded bright and metallic lustre 50/50.		
	140.12	140.25	013				Lost core: coal		
	140.25	140.40	015		1531		Claystone: dark gray silty, massive appearance		
	140.40	140.46	006				Lost core: claystone as above		
	140.46	140.56	010				Coal: stoney - black, listric shiny surfaces on fracture planes @ approximately 90° to core angle.		
	140.56	140.83	027				Lost core: coal - stoney to boney		
90	140.83	141.05	022				Claystone: dark gray, silty to coaly		
	141.05	141.57	52				Rock loss		
						142.34			
							TOP OF BOX 47		
	141.57	145.70	4.13				Siltstone: dark gray, grades from coaly at top to non-coaly at base. Slickenside at 55° to core angle of top of unit.	2.98	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	34 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 48		
							Siltstone: medium gray	0.04	
						145.39			
							Siltstone: dark gray, massive appearance, rare coal splints. 6 fracs/meter at 90° to core axis.	1.11	
	145.70	145.76	0.06				Coal: metallic lustre with thin rare bright bands (8%)		
	145.76	145.80	0.04				Coal loss		
	145.80	163.20	17.60				Siltstone: dark gray, massive, carbonized and coaly plant remains.	1.56	
							TOP OF BOX 49		
							Siltstone: same as above	0.24	
						148.44			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	33 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: dark gray contains approximately 20% inter-	2.43	
							laminated fine grained, light gray sandstone (in middle		
							of unit) soft sediment deformation - cross laminated at		
							30cm from top two fractures at 45° to core axis - rare coal		
							splints near base of unit. 6 frac/meter at 80° to 90° to		
							core angle.		
			11				Rock loss - siltstone.		
							TOP OF BOX 50		
							Siltstone: dark gray with 15% interlaminated light gray	0.51	
							sandstone.		
						151.49			
							Siltstone: dark gray, massive, carbonaceous to coaly plant	2.29	
							remains on fractured surfaces. Rare white lensitic structures,		
							appear to be calcite slickensides, very thin and discontinuous.		
			16				Rock loss - siltstone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	35 of 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 51		
							Siltstone: same as above	0.60	
						154.54			
							Silstone: as above, basal 0.7m contains 30% interlaminated fine grained sandstone.	2.12	
			17				Rock loss - siltstone		
							TOP OF BOX 52		
							Siltstone: dark gray, massive, carbonaceous plant fragments on some fractured surfaces.	0.71	
						157.58	Siltstone: dark gray, massive rare coaly plant fragments on fractured surfaces in basal 1.5m approximate 30% interlaminated fine grained light gray sandstone, soft sediment deformation. Cross laminated.	2.12	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	36 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 53		
							Siltstone: dark gray, massive, upper 50cm contains 20% light gray fine grained sandstone interlaminated, grades to 100% siltstone basally.	0.95	
						160.63			
							Siltstone: dark gray, massive, rare carbonaceous and coaly plant fragments. 10 fracs/meter at 65° to 90° to core axis.	1.80	
							TOP OF BOX 54		
							Siltstone: same as above with occassional fine to medium grained, light gray sandstone interlaminated. Rare coaly splints. 12 fracs/meter at 60° to 90° to core axis.	1.10	
			13				Rock loss - siltstone		
						163.68			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 37 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: same as above without sandstone	0.35	
	163.20	163.40	0.20				Coal: metallic lustre with rare thin bright bands.		
	163.40	163.42	0.02				Coal: boney, dull with thin bright bands.		
	163.42	163.60	0.18				Coal: boney, dull with thin birght bands, polished listric surfaces common.		
	163.60	163.70	0.10				Coal loss		
	163.70	163.85	0.15				Claystone: dark gray - carbonaceous at bas		
	163.85	163.90	0.05				Rock loss		
	163.90	163.96	0.06				Coal: boney, badly broken core (core loss?)		
	163.96	164.14	0.18				Lost core - boney coal		
	164.14	164.70	0.56				Siltstone: dark gray, massive		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	38 of 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 55		
	164.70	165.68	098				Siltstone: dark gray, massive, 10 fracs/meter at 90° to core axis.		
	165.68	165.88	020				Coal: bright, banded - core intact.		
						166.73			
	165.88	166.35	047				Coal: bright banded contains 25% metallic listric.		
					1530				
	166.35	166.38	003				Coal: stoney, dull with very thin bright inclusions		
	166.38	166.40	002				Coal: bright		
	166.40	166.50	010				Siltstone: dark gray, carbonaceous to coaly - thin coaly fragments.		
	166.50	166.56	6				Lost core (siltstone)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	39 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	166.56	166.66	010				Coal: metallic lustre with 40% bright bands		
	166.66	166.70	004				Coal: stoney, dull		
	166.70	166.90	010				Coal: metallic lustre with 40% bright bands		
	166.80	174.90	8.10				Siltstone: dark gray, carbonaceous, slickensides at base on listric fracture surface	0.13	
							Sandstone: light gray, fine to medium grained contains thin laminations of siltstone (20%). Soft sediment deformations.	0.49	
							TOP OF BOX 56		
90							Sandstone: same as above - thin discontinuous calcite laminae and rare coaly plant fragments. Siltstone 10%.	1.40	
						169.77			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	40 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
90							Sandstone: same as above, 30% siltstone laminae	1.45	
							TOP OF BOX 57		
							Silstone: dark gray, massive, rare carbonized and coaly plant remains, two calcite fill veins, slickensides on a fracture at 50° to core axis.	1.50	
			10				Core loss - siltstone		
						172.82			
							Siltstone: same as above and 15% fine grained sandstone inter-laminated. Zone of badly broken core 50cm from top.	1.25	
			28				Core loss - siltstone		
							TOP OF BOX 58		
							Siltstone: same as above with 15% sandstone grades basally to fine grained, light gray, sandstone with 5% siltstone laminae.	1.50	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	41 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	174.90	175.05	015				Sandstone: light gray, fine to medium gray thinly laminated with slickensides at 10° to core axis.	0.15	
						175.87			
90	175.05	176.33	1.28				Sandstone: light gray, fine to medium grained, contains 10% siltstone laminae. Heavily broken core - well developed slickensides at 10° to core angle at top 80° to core axis at base heavily veined with calcite	1.00	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	42 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 59		
							Sandstone: light gray, fine grained, contains laminations	0.28	
							of dark gray silstone, content increasing basally. Slicken-		
							sides on fractured surfaces, calcite veins.		
	176.33	177.06	0.73				Siltstone: dark gray, gradational from above. Slickensides	0.73	
							on fractured surfaces, abundant calcite veins at top of		
							unit. Becomes carbonaceous basally.		
	177.06	178.82	1.76				Claystone: dark gray, badly broken - almost pulverized core.	0.50	
							Carbonaceous contains about 10% coaly material.		
			33				Core loss - claystone		
							Claystone: dark gray, carbonaceous with 10% coaly material -	0.30	
							listric surface on fractured planes.		
						178.92			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	43 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone: as above - coaly material 20%.	63	
							TOP OF BOX 60		
	178.82	180.33	1.51				Siltstone-dark gray, carbonaceous with 10% coaly material, grades basally to medium gray, very fine grained sandstone. 2 fractures with slickensides at 35° to core axis.	1.51	
	180.33	181.76	1.48				Sandstone: medium gray, very fine grained, contains 20% siltstone laminae - coaly pods (possibly tree branches) throughout - occassional smooth shiny listric surfaces on fractures.	0.91	
						181.97			
90							Sandstone: medium gray, very fine grained, contains 15% siltstone laminae, rare coaly partings.	0.52	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	44 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 61		
	181.76	184.45	2.69				Siltstone: dark gray, massive, contains rare splints of coal. 5 fract/meter @ 90° to core axis.	1.13	
							Siltstone/sandstone: interlaminated, Cross laminated. Soft sediment deformation. 50/50 at top grades to siltstone basally. Basal 25cm, moderately broken core with moderately well developed slickensides. Sandstone - light gray, fine to medium grained. Siltstone - dark gray.		
						185.02			
							Siltstone: as above	0.09	
							TOP OF BOX 62		
							Siltstone: as above - dark gray, massive, coaly at base.	0.07	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
Mud 8105	45 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	184.45	184.55	010	0.10			Coal: metallic lustre with 10% faintly banded.		
	184.55	184.85	0.30	0.30			Coal: loss		
	184.85	185.00	0.15	0.15			Claystone: carbonaceous		
	185.00	185.05	0.05	0.05			Coal: loss		
	185.05	185.09	0.04	0.04			Coal: boney		
	185.09	185.19	10	0.10			Coal: loss		
	185.19	185.27	8	0.08			Coal: stoney		
	185.27	185.45	18	0.18			Coal: loss		
	185.45	185.59	14	0.14			Coal: metallic lustre - broken core, poorly developed		
					1529		slickensides		
	185.59	185.66	0.07	0.07			Coal: loss		
	185.66	185.79	013	0.13			Coal: stoney, heavy, dull, hard		
	185.79	185.90	0.11	0.11			Coal: loss		
	185.90	185.94	004	0.04			Coal: dull with 15% faintly banded metallic lustre		
	185.94	186.04	010	0.10			Coal: pulverized - mixture of chips of bright to dull		
							coal and soft shale		
	186.04	186.24	020	0.20			Claystone: carbonaceous badly broken dark gray		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	46 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	186.24	186.63	0.39	0.39	1529		Coal: dull, pulverized - mixture of dull coal to stoney coal chips.		
	186.63	188.51	1.88				Sandstone: light gray, fine to medium grained, soft sediment, turbated. Calcite infill and poorly developed slickensides on fracture surfaces. Laminated with 15% siltstone.	0.42	
						188.06	Sandstone/siltstone: interlaminated with 30% siltstone. Sandstone light gray, fine to medium grained. Siltstone dark gray. Soft sediment deformation. Cross laminated.	0.38	
							TOP OF BOX 63		
							Siltstone: dark gray with 5% sandstone laminae. 6-10 fracs/meter, mildly slickensided at top of unit - well developed slickensides at base - basal fractures at 50° to core axis. Lower 10cm coaly siltstone.	1.08	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	47 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B C A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	188.51	188.67	0.16	0.16			Rock loss		
	188.67	188.87	0.20	0.20			Coal loss - high ash		
	188.87	189.08	0.21	0.21			Coal: metallic lustre, core broken into 1-2cm plates -		
							listric surfaces		
					1528				
	189.18	189.28	10	0.10			Coal: boney, pulverized, dull		
	189.28	189.64	0.36	0.36			Lost core - coal - metallic lustre		
	189.64	189.69	0.05	0.05			Claystone: medium gray		
	189.69	189.84	0.15	0.15	1527		Lost core- claystone		
	189.84	190.08	0.24	0.24			Coal: metallic lustre - crushed and broken core		
	190.08	190.24	0.16	0.16	1526		Lost core (coal as above)		
	190.24	190.30	0.06	0.06	1525		Claystone: dark gray, carbonaceous to coaly		
	190.30	190.35	0.05	0.05			Lost core (claystone)		
	190.35	190.63	28	0.28			Core loss (coal)		
	190.63	191.00	0.37	0.37			Core loss (rock)		
	191.00	191.05	0.05	0.05			Core loss (coal)		
	191.05	191.17	12	0.12			Coal: metallic lustre, broken into large chips		
						191.11			
	191.17	191.47	30	0.30			Coal loss		
	191.47	191.66	019	0.19			Coal: boney, dull to metallic, rubbly - ground core		
	191.66	192.06	40	0.40			coal loss		
	192.06	192.17	011	0.11	1524		Coal: metallic lustre - core is broken into chips and 4cm blocks		
	192.17	192.47	30	0.30			Coal loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	48 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 64		
	192.47	193.27	080	1524			Coal: dull to metallic - core is broken into small chips almost pulverized		
	193.27	193.35	0.08				Core loss - claystone, carbonaceous to coaly		
						194.16			
	193.35	196.30	2.95				Siltstone: dark to medium gray, massive - coaly in top 15cm. 7 fracs/meter at 60° to 90° to core axis.	1.79	
							TOP OF BOX 65		
							Siltstone: medium gray, massive, occassional calcite infill - fractures between 35° and 60° to core angle - one well developed slickensides.	1.16	
						197.21			

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	49 of 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	196.30	211.99	15.69				Siltstone: medium to dark gray - massive, 4 fracs/meter dom. at 90° to core axis.	1.47	
							TOP OF BOX 66		
							Siltstone: same as above. 5 fracs/meter @ 70° to 80° to core axis.	1.58	
						200.26			
							Siltstone: same as above - 8 fracs/meter @ 70° to 90° to core axis.	1.21	
							TOP OF BOX 67		
							Siltstone: same as above. 5 to 10 fracs/meter at 90° to core axis.	1.84	
						203.30			
							Siltstone: same as above. 5 fracs/meter @ 90° to core axis.	0.82	

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	50 of 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 68		
							Siltstone: medium to dark gray, massive 3 to 6 frac/meter	2.23	
							at 60° to 90° to core axis.		
						206.35			
							Siltstone: as above	0.57	
							TOP OF BOX 69		
							Siltstone: same as above	2.48	
						209.40			
							Siltstone: same as above	0.30	
							TOP OF BOX 70		
							Siltstone: same as above. 1 coaly parting 1 cm thick.	2.75	
							3 to 5 frac/meter at 60° to 90° to core axis.		

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	51 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						212.45			
							Siltstone: same as above	0.22	
							TOP OF BOX 71		
							Siltstone: same as above with 10% light gray, fine grained sandstone interlaminated. Gradational from above unit.	0.22	
80° 50°	211.99	217.35	5.36				Sandstone/siltstone: interlaminated to interbed, cross laminated soft sediment deformation, turbated light gray fine grained sandstone with medium to dark gray siltstone. 50/50 at 1.7 m from top a thin fracture zone 20cm with slickensides well developed at 45° to core axis. Rare carbonaceous surfaces and plant fragments on fracture surfaces.	2.52	
							TOP OF BOX 72		
							Sandstone/siltstone: same as above	0.10	

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	52 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						215.50			
							Sandstone/siltstone: same as above. Slickensides at 190° from top at 60° to core axis. Grades to dark gray siltstone at basal 50cm.	2.74	
							TOP OF BOX 73		
	217.35	226.75	9.40				Siltstone: dark gray, dominantly massive - rare light gray thin sandstone laminae.	0.31	
						218.54			
							Siltstone: dark gray, massive - 3 to 5 frac/meter at 80° to 90° to core axis. Lower 50cm becomes more fractured at layers up to 50° to core axis.	2.64	
							TOP OF BOX 74		

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	53 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: same as above. Moderately broken core, rare carbonaceous to coaly fragments.	0.35	
						221.59			
							Siltstone: same as above. Rabbly, broken, ground core	0.30	
							Siltstone: dark gray, massive - 6 to 8 frac/meter at 70° to 90° to core axis.	2.17	
							TOP OF BOX 75		
							Siltstone: same as above	0.58	
						224.64			
							Siltstone: same as above - rare coaly partings	2.17	

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	54 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 76		
							Siltstone: same as above. Occassional carbonaceous to coaly plant fragments.	0.88	
						227.69			
	226.75	231.26	4.51				Siltstone: dark gray, massive - coaly splints and carbonaceous parting becoming relatively abundant. Fractures at 50° to core axis. 8 to 10 frac/meter.	1.88	
							TOP OF BOX 77		
							Siltstone: same as above. 10 frac/meter at 90° to core axis.	1.17	
						230.74			
							Siltstone: dark gray, massive, coaly fragments and carbonaceous partings.	1.46	

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	55 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	231.26	231.42	016	0.15			Coal: dull to metallic lustre, soft sheared appearance.		
					1534		TOP OF BOX 78		
	231.42	231.52	010	0.10			Coal: boney, dull to metallic lustre slightly heavy broken		
	231.52	231.53	006	0.06			Core loss (coal)		
	231.58	231.62	004	0.04			Coal: stoney, dull		
					1533				
	231.62	232.00	038	0.37			Claystone: dark gray, carbonaceous - rare coaly splints upper contact at 80° to core angle, lower at 70° to core axis.		
	232.00	232.05	005	0.05			Core loss (coal)		
	232.05	232.17	012	0.12			Coal: boney, dull with 15% metallic lustre. Appears to be angle unknown.		
	232.17	232.47	030	0.29			Coal: dominantly metallic lustre - faiable		
	232.47	232.67	020	0.19			Coal: dull, crumbles to a powder.		
	232.67	232.72	005	0.05	1532		Coal: stoney dull		

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	56 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.G.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	232.72	232.84	012	0.12	1523		Coal: dull to metallic lustre, friable to powdery		
						233.78			
		233.12	0.28	0.27			Core loss (coal)		
		233.90	078	0.75			Coal: pulverized, dominantly metallic lustre with approximately		
							20% dull - powder or chips		
		233.94	004	0.04			Coal: boney, represented by ⅓ of a core piece.		
		234.02	008	0.08			Coal: metallic lustre - plates of core.		
		234.10	008	0.08			Coal: boney, dull with polished surfaces.		
	234.10	234.32	0.22	0.21	1522		Claystone: carbonaceous to coaly.		
	234.32	234.42	0.10	0.10			Core loss (coal)		

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	57 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION TOP OF BOX 79	RECOVERY m	RECOVERY %
	234.42	234.50	008	0.08			Coal: dull, broken plate		
	234.50	234.65	015	0.14			Coal: bright - broken blocks of core		
	234.65	234.85	020	0.19	1521		Coal: dull, blocky broken core		
	234.85	235.05	020	0.19			Coal: dull, pulverized, 20% metallic lustre, may be slightly boney		
	235.05	235.60	0.55	0.53			Loss core: Coal		
						236.83			
75	235. 0	235.88	0.28	0.27	1520		Siltstone; medium to dark gray, poorly developed slickensides on basal contact.		
	235.88	236.42	054	0.52	1519		Coal: dominantly metallic lustre - rare (10%) dull coal - occassional lands		
	236.42	236.54	012	0.12			Lost core (coal as above)		
	236.54	236.63	009	0.09	1518		Coal: stoney, hard, slickensides on fractured surfaces, poorly developed.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	58 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	236.63	236.80	017	0.16	1518		Lost core (stoney coal)		
	236.80	236.97	017	0.16	1517		Coal: metallic lustre with occassional dull coal.		
	236.97	237.10	013	0.12	1516		Coal (stoney)		
	237.10	237.27	017	0.16			Lost core (stoney coal)		
	237.27	237.42	015	0.14			Coal: dull, pulverized to badly broken.		
					1515		TOP OF BOX 80		
	237.42	237.69	027	0.26			Coal: dull to metallic lustre - pulverized		
	237.69	237.88	019	0.18			Lost core (coal as above)		
	237.88	238.34	046	0.44			Claystone: carbonaceous - broken core.		
						239.88			
	238.34	239.25	0.91	0.88			Rock loss		
	239.25	239.85	060	0.58			Claystone: carbonaceous to coaly.		
	239.85	239.88	003	0.03			Coal: flaky - metallic lustre to dull.		
	239.88	240.16	0.28	0.27			Coal loss		
	240.16	240.32	017	0.16			Claystone: carbonaceous		
	246.32	240.39	0.07	0.07			Coal loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 59 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	240.39	240.72	0.33	0.32			Coal: dull with occasional metallic lustre		
	240.72	240.77	005	0.05			Coal: boney, fractures at 75° to core axis.		
	240.77	240.82	005	0.05			Coal: stoney, dull		
	240.82	240.93	011	0.11			Lost Core (coal , stoney to boney)		
	240.93	241.03	010	0.10			Coal: dull, slightly boney, badly broken		
							TOP OF BOX 81		
	241.03	241.16	013	0.13			Coal: boney, dull, blocky broken core.		
	241.16	241.23	007	0.07	1514		Coal: stoney, dull		
	241.23	241.41	018	0.17			Coal: boney, powered, very dull, soft - shaley.		
						242.93			
	241.41	242.05	0.64	0.62			Lost core (coal)		
	242.05	242.34	029	0.28			Coal: bright with 5% dull bands.		
	242.34	242.36	002	0.02			Coal: stoney		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	60 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	242.36	242.96	060	0.58			Siltstone: medimum to dark gray, with very fine grained,	0.60	
							light gray sandstone 10% interlaminated. Soft sediment		
							deformation - occassional carbonaceous surfaces and coal		
							splints.		
	242.96	243.46	50				Core loss (claystone)		
	243.46	244.41	095	0.94			Sandstone/siltstone: interlaminated	0.95	
70°							- sandstone light gray very fine to fine grained 60%		
to							- siltstone medium to dark gray 40%		
90°							- top 25cm of unit contains fracture at 0° to core axis		
							heavily slickensided and veined with calcite		
	244.41	244.81	40				Core loss (silty claystone)		
						245.98			
							TOP OF BOX 82		
	244.81	245.41	060	0.60			Sandstone/siltstone: interlaminated, sandstone light gray,	0.60	
							very fine grained, siltstone dark gray, X-laminated,		
							soft sediment deformation, rare coal splints		

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	61 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	245.41	252.98	7.57				Sandstone: light gray, very fine to medium grained,	1.48	
							approximately 10% dark gray siltstone laminae, coal		
							splints, very thin, rare.		
							Basal 25cm, fractured at 25° to core axis heavy calcite infill.		
			0.49				Core loss (sandstone)		
							TOP OF BOX 83		
90°							Sandstone: light gray, fine grained, contains silty partings	0.85	
							approximately 5%, 6 frac/meter at 90° core axis calcite		
							infill at 90° to core angle 1cm thick, poorly developed		
							slickensides.		
						249.20			
							Sandstone: as above, X-laminated, 1 calcite infill at 90°	2.00	
							to core axis on fractured surfaces, slickensides and pyrite		
							crystals in calcite.		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	62 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 84		
90°							Sandstone: same as above. Calcite veins - rare.	1.04	
						252.07			
							Sandstone: same as above. Siltstone content increasing basally to 50%, interlaminated, X-laminated, soft sediment deformation, no more calcite.	1.71	
							TOP OF BOX 85		
	252.98	257.37	4.39				Sandstone/siltstone: light gray, very fine to fine grained sandstone interlaminated with dark gray siltstone. X-laminated, soft sediment deformation. 8 frac/meter at 80 - 90° to core axis. Rare carbonaceous to coaly splints.	1.34	
						255.12	In this interval between two coal seams, approximate 1.3m difference between drillers and Roke - we believe Roke.		
							Siltstone/sandstone: as above 50/50.	1.55	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	63 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 86		
							Siltstone/sandstone: same as above. Grades basally to 80% siltstone, 20% sandstone, coaly splints in basal 5cm.	1.50	
	257.37	258.60	123	1.23			Siltstone: dark gray, massive contains approximately 10% coaly splints.	1.23	
	258.60	258.62	002	0.02			Coal: boney		
							TOP OF BOX 87		
	258.62	258.78	016	0.16			Coal: metallic lustre with bright bands 30%. 2 frac at 70° to core axis.		
					1513				
	258.78	258.81	003	0.03			Claystone: carbonaceous to stoney coal (coal actually)		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	64 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID ' N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

R.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	258.81	258.84	003	0.03			Coal: boney, dull.		
	258.84	259.17	033	0.33	1513		Coal: boney, dull - core is badly broken to pulverized.		
	259.17	259.35	018	0.18			Coal: dull with 30% metallic lustre, banded, core is badly broken		
	259.35	259.60	025	0.25	1512		Claystone: carbonaceous with coaly laminaes, broken core.		
	259.60	259.85	025	0.25	1511		Coal: boney, badly broken core.		
	259.85	259.95	0.10	0.10			Core loss (coal)		
	259.95	260.31	036	0.36	1510		Claystone: medium to dark gray, slightly sheared coaly laminations carbonaceous in part.		
						261.21			
	260.31	260.55	024	0.24			Coal: dull with bright band, core is good.		
	260.55	260.63	008	0.08			Coal: stoney, dull, sound core.		
	260.63	260.87	024	0.24	1509		Coal: metallic, lustre to bright, sound core.		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	65 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	260.87	260.93	006	0.06	1509		Coal: dull, slightly boney		
	260.93	262.12	1.19				Sandstone: light to medium gray, very fine to fine grained, faintly X-laminated, contains coal splints and root bits.	0.46	
							TOP OF BOX 88		
							Sandstone: same as above, fines basally to dark gray siltstone, coaly splints more abundent basally.	0.73	
65°	262.12	262.60	.48				Claystone: coaly, dark gray, core is broken - blocky to thick plates	0.20	
			.28				Core loss (claystone)		
	262.60	265.15	2.55				Siltstone/sandstone: interlaminated dark gray siltstone with fine to medium grained light gray sandstone. 80/20 at top, coarsens to 40/60 at base, 10 frac/meter at 70 to 90° to core axis.	0.83	

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	66 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						264.26			
							Sandstone/siltstone: same as above, sandstone 85%, X-laminated, soft sediment deformation. Coaly partings, 6 frac/meter at 80 to 90° to core axis.	1.00	
							TOP OF BOX 89		
							Sandstone: same as above	0.72	
	265.15	267.14	1.99				Siltstone: dark gray, sandy at top, becomes fine basally with increasing coaly content up to 10%, moderately well developed, slickenside on fracture at top of unit are coaly splints.	1.29	
						267.31			

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	67 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65-90?							Siltstone: same as above, dark gray, massive. Coal from 11 to 26 and 39 to 43cm from top.	0.70	
							TOP OF BOX 90		
	267.14	267.86	072				Siltstone: dark gray, massive at top, laminated with sandstone at base, carbonaceous to coaly grading to non-carbonaceous and non-coaly basally.	0.72	
	267.86	269.14	128				Sandstone/siltstone: interlaminated to interbedded, soft sediment deformation, X-laminated, light gray, very fine to medium grained sandstone with dark gray siltstone. Rare calcite veins and infill along fractures @ 90° to core axis. Poorly developed slickensides. 70% sandstone/30% siltstone.	1.28	
	269.14	269.49	35				Core loss (sandstone/siltstone)		
						270.36			

174-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 68 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY in	RECOVERY %
	269.49	273.06	3.57				Siltstone: dark gray, massive - 8 frac/meter at 70 to 80° to core axis.	0.82	
							TOP OF BOX 91		
							Siltstone: dark gray, dominantly massive, contains zones of sandstone laminae 15%, soft sediment deformation, X-laminated. 6 frac/meter at 50 to 90° to core axis.	2.23	
						273.41			
							Siltstone: same as above	0.52	
							TOP OF BOX 92		
75	273.06	278.64	5.58				Siltstone: dark gray, massive, grades through siltstone/sandstone interlaminated to light gray, medium grained sandstone with 15% siltstone laminate at base. 5 frac/meter at 70 to 90° to core axis.	2.53	
						276.46			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	69 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone: same as above, upper contact of core has slickensides on calcite at 65° to core axis.	0.20	
							TOP OF BOX 93		
							Sandstone: same as above, grades basally to dark gray, massive, siltstone. Rare coaly splints.	2.85	
							TOP OF BOX 94		
						279.51			
70	278.64	279.32	068				Siltstone: dark gray, massive, contains 10% light gray sandstone as laminae. Rare coal splints basally contact has thin lensitic calcite infills at 70° to core axis. Feathery looking.	0.68	
	279.32	279.46	014				Claystone: coaly, lower contact slickensided at 70° to core axis sound core.	0.14	

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	70 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	279.46	279.50	004				Claystone: medium gray	0.04	
90	279.50	279.60	010				Claystone: carbonaceous with plant fragments	0.10	
	279.60	279.74	014				Coal: dull to metallic lustre - core is crumbly and platy, soft slightly boney (core loss)		
	279.74	279.90	016				Coal: metallic lustre with 10% bright bands. Core is moderately sound.		
	279.90	280.35	045		1508		Coal: metallic lustre with 20% bright, faintly banded, sound core fractures at 75° to core axis.		
	280.35	280.47	012				Coal: soft, pulverized, powdery dull to metallic lustre		
	280.47	280.55	008				Coal: stoney, dull, heavy		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	71 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	280.55	283.74	3.19				Siltstone: dark gray, carbonaceous with occassional coal splints and partings. Fractures at 60 to 90° to core axis.	0.68	
							TOP OF BOX 95		
							Siltstone: dark gray, massive, plant fragments on fractured surfaces.	0.41	
						282.55			
							Siltstone: dark gray, massive, rare coaly splints and carbonized plant fragments near top, becomes slightly sandy in lower 25cm, 5 frac/meter at 65 to 90° to core axis.	2.10	
	283.74	288.94	5.70				Sandstone: light to medium gray, laminae to X-laminae, occassional carbonaceous surfaces. Soft sediment deformation, flaser bedding 6 to 8 frac/meter along laminae.	0.20	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	72 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 96		
							Sandstone: same as above. 5% siltstone laminae.	0.55	
			20				Rock loss		
						285.60			
							Sandstone: same as above, occassional calcite veins and rare poorly developed slickensides on fractures.	2.25	
							TOP OF BOX 97		
							Sandstone: same as above	0.85	
						288.95			
70°							Sandstone: same as above, moderately developed slickensides on calcite infilled fracture.	0.15	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	73 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: dark gray laminae at top grades to massive, carbonaceous with coal splints at base.	1.00	
	288.94	289.29	035	1507			Coal: dull with 5% bright bands - core is sound, fractures at 65° to core axis.		
65°	289.29	289.42	013				Stoney Coal: dull, sound core. Polished fracture surfaces at 65° to core axis.	0.13	
	289.42	289.59	0.17				Rock loss		
	289.59	291.13	1.54				Siltstone: dark gray, carbonaceous to coaly at top. Upper portion is broken.	0.31	
							TOP OF BOX 98		
							Siltstone: dark gray, massive at top, grades to sandy and coaly at base. Sound core.	0.93	
						291.70			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	74 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: medium to dark gray, sandy, coaly and carbonaceous, 12 frac/meter at 90° to core axis. Some broken core above wal seam	0.30	
	291.13	292.34	121	1.14			Coal: dull with 15% bright banding, banding up to 25° to core axis (possibly cleats). Core is solid and sound.		
							TOP OF BOX 99		
					1506				
	292.34	292.60	026	0.25			Coal: dull with 15% bright banded - sound core.		
	292.60	292.74	0.14	0.13			Coal: boney, dull		
	292.74	292.93	019	0.18			Coal: dull, slightly boney, sound core.		
	292.93	293.07	014	0.13			Coal loss		
	293.07	293.23	016	0.15			Coal: dull to metallic lustre - pulverized, soft.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	75 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

BCA	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	293.23	293.33	010	0.10			Claystone: dark gray, carbonaceous		
	293.33	293.38	005	0.05			Coal: stoney, dull.		
					1505				
	293.38	293.46	008	0.08			Coal: dull to bright, pulverized core.		
	293.46	293.50	004	0.04			Coal: stoney dull		
	293.50	293.78	028				Claystone: silty, medium to dark gray, sound core, massive.	0.28	
						294.75			
	293.78	294.27	049				Claystone: medium to dark gray, grades basally to carbonaceous and coaly, 12 frac/meter at 70 to 90° to core axis.	0.49	
	294.27	294.35	8				Core loss, stoney coal		
	294.35	294.54	019				Coal: stoney - black.	0.19	

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	76 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	294.54	295.42	088				Siltstone: dark gray, massive, 10 frac/meter at 70 to 90° to core axis. Poorly developed slickensides on top fractured surface.	0.88	
							TOP OF BOX 100		
	295.42	295.67	025				Siltstone: dark gray, massive	0.25	
	295.67	295.79	012				Coal: boney, dull to metallic lustre - sound core.		
	295.79	296.09	030				Claystone: coaly, claystone with thin bands and splints of metallic lustre coal. Sound core.		
					1504				
	296.09	296.23	014				Coal: boney, dull with bands of metallic lustre		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	77 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

BCA	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	296.23	296.40	017		1504		Claystone: dark gray, massive, carbonaceous to coaly, sound core.		
	296.40	296.49	009				Coal: stoney, dull, sound core		
	296.49	296.76	027		1503		Claystone: medium to dark gray, carbonaceous to coaly, some soft friable core.		
	296.96	296.88	012				Coal: boney, dull to metallic lustre.		
						297.79			
		297.25	037		1502		Coal: metallic lustre to bright 50/50, sound core, fractures at 45° to core axis.		
		297.31	006				Coal: stoney, dull, sound core.		
		297.32	0.01				Core loss coal		
	297.32	297.38	006				Coal: dull to metallic lustre - pulverized core.		

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	78 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	297.38	298.16	0.79				Siltstone: dark gray, massive - contact with overlying coal at 90° to core axis, base of unit slickensided at 50° to core axis.	0.60	
							TOP OF BOX 101		
	298.16	298.37	0.18						
							Siltstone: same as above, 5% coaly splints	0.18	
	298.37	298.50	0.13				Claystone: carbonaceous, sound core.	0.13	
	298.50	298.55	005				Coal: dull, pulverized		
	298.55	298.94	0.39				Coal loss		
	298.94	299.05	011				Coal: metallic lustre, sound core.		
	299.05	299.17	012		1501		Coal: boney, metallic lustre with 5% bright. Reasonably sound core.		
	299.17	299.31	014				Coal: dull to bright, sound core.		

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	79 of 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B C A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	299.31	299.66	035		1501		Coal: dull to metallic lustre - core is pulverized to powder.		
	299.66	299.90	0.24				Coal loss		
						300.84			
	299.90	300.00	010				Coal: bright, cleats at 0° to core angle.		
	300.00	300.09	009				Siltstone: medium gray, laminated with sandstone. Coaly at base.	0.09	
	300.09	300.14	005				Claystone: dark gray, coaly, sound core.	0.05	
	300.17	300.29	012				Siltstone: medium gray, sandy with coal splints, sound core.	0.12	
	300.29	300.33	004				Coal: stoney		

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	80 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	300.33	301.00	067				Siltstone: medium gray, sandy with 10% coal splints, X-laminated, soft sediment deformation, polished fracture surfaces, vary from 90° to 45° to core axis. Core is fairly sound but badly broken.	0.67	
							TOP OF BOX 102		
	301.00	303.81	2.81				Siltstone/sandstone: 50/50 interlaminated, dark gray siltstone interlaminated with light gray, very fine to fine grained sandstone, soft sediment deformation, X-laminated, rare coaly splints near top. 6 frac/meter up to 45° to core axis. Rare poorly developed slickensides.	1.58	
						303.89			
							Siltstone/sandstone: same as above, grades basally to 80 siltstone/20 sandstone. Coal splints at base.		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	81 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 103		
065	303.81	304.81	100				Siltstone: dark gray, massive, rare coaly splints near base	1.00	
	304.81	305.58	077				Claystone: dark gray coaly, badly broken to pulverized core	0.27	
			0.50				Core loss (claystone)		
	305.58	318.01	12.43				Sandstone: salt and pepper, medium gray with sorted laminated to X-laminated, rare thin carbonaceous to coaly partings. Calcite infill along fractures at 0° to core axis. Torrens sandstone	0.46	
						306.93			
075							Sandstone: same as above, not fractured	0.95	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	82 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 104		
							Sandstone: same as above, calcite infill on fracture at 0° to core axis.	2.00	
						309.78			
							Sandstone: same as above with fracture.	0.65	
							TOP OF BOX 105		
070							Sandstone: same as above, fractures in top 70cm.	2.40	
						313.03			
							Sandstone: same as above	0.34	

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	83 OF 83

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 106		
70							Sandstone: same as above, rare calcite infill at 5 to 10°	2.71	
							to core angle. Rare poorly developed slickensides on		
							fractured plane, 4/meter at 70° to core axis.		
						316.08			
							Sandstone: same as above	0.05	
							TOP OF BOX 107		
075							Sandstone: same as above	2.87	
						319.13			
							END OF HOLE		

174-8010

HOLE NUMBER

PR-MONKMAN 81(3)A

Copy All of This
Appendix E
Part 2 of
G. Lawrence

PETRO-CANADA

OLOGICAL BRANCH
ASSESSMENT REPORT

00 547

Monkman Coal Project

Appendix E

1981 Diamond Hole Core Logs

Part 2 of 3

OPEN FILE
CONFIDENTIAL

Appendix E

Part 2

Holes MUD81-06 to MUD81-13

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/9/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-06	COATES	79	225	257	HQ		N23/9000N	3203	27	4.37

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1536.8	6,067,387.03 N 649,572.42 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B10		6.29 - 6.79	10	0.50	0.50/0.00	100	--						
B9	1503.54	27.92 -33.88	10	5.92	5.57/0.35	99	2401-03		Kg	207.1	1333.51		
B8		43.10 - 43.55	10	0.45	0.45/0.00	100	2405						
B7(u)		54.55 -55.29	5	0.74	0.67/0.07	96	2406						
B7(l)	1480.84	56.59- 57.00	5	0.41	0.41/0.00	78							
B6(u)		64.64- 66.02	5	1.37	1.25/0.12	83	2407-8						
B5	1452.8	81.55-85.60	10	3.94	2.67/1.27	97	2409-10						

HOLE NUMBER MUD 81-06

473-8010

PETRO-CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-06	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV. BASE	TRUE THICKNESS	
B4		116.77-118.76	10	1.86	1.86/0.00	90	2411						
B4		119.67-123.37	10	3.51	2.95/0.56	100	2413-17						
B4(1)	1411.48	125.15-127.66	20	2.41	2.21/0.20	95	2419						
B3		141.95-142.90	24	0.87	0.87/0.00	63	2420						
B3	1395.16	143.46-144.29	24	0.75	0.75/0.00	90	2422						
B2(u)		165.63-166.15	10	0.51	0.51/0.00	57	2424						
B2(m)		170.01-170.58	10	0.57	0.57/0.00	74	2425						
B2(1)		176.05-178.41	10	2.36	2.36/0.10	100	2426						
B1(u)		180.16-181.57	10	1.39	0.88/0.51	95	2429-30						
B1(1)	1356.55	182.09-183.62	10	1.53	1.53/0.00	100	2432						
													HOLE NUBMER MUD 81-06

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	1 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 1		
							Overburden - weathered, pulverized to marker		
	4.37	6.07	170			5.18	Sandstone - light-medium grey, with dark grey interbeds and interlaminated siltstone, iron stainings, soft sedimentary def, odd load casts, fine-medium grained, minor turbidities, badly broken at base	170	
							TOP OF BOX 2		
	6.07	6.29	22				Siltstone/Claystone - pulverized, carbonaceous, dark grey, very soft, abrupt contact	22	
	6.29	6.37	8				Coal - heavily broken to pulverized dull lustre, iron staining	8	
	6.37	6.54	17				Coal - dull bright, heavily broken, iron staining	17	
	6.54	6.68	14				Coal - dull bright, heavily broken to pulverized, iron staining	14	
	6.68	6.79	11				Coal - dull with bright bands, pulverized at base, 10% bright		

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	2 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	6.68	6.79	11				Coal - dull with bright bands, pulverized at base, 10% bright		
	6.79	6.86	7				Claystone - very carbonaceous, dark grey, heavily broken, pulverized, minor coaly bases		
	6.86	8.27	141				Siltstone - dark grey, clayie, iron staining, carbonaceous heavily broken to pulverized, 1 cm. clay band at base	141	
						8.23			
							Siltstone - iron staining, broken to pulverized, soft, dark grey, few discontinuous coaly laminations and coal bands, claystone band with coal bands and stringers 72 cm. from top, band 1 cm. wide, clayie throughout		
	8.27	8.47	20				Core Loss - Siltstone		
							TOP OF BOX 3		
	8.47	8.65	18				Siltstone/Claystone - dark grey, soft, iron staining, heavily broken, carbonaceous plant remains, coaly bands	18	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	3 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	8.65	8.86	21				Core Loss - (Siltstone/Claystone)		
	8.86	9.53	67				Siltstone - iron staining, core broken, medium grey with fine grained, light grey siltstone interbedded and interlaminated. Thin coaly laminations carbonaceous parting, carbonacous plant remains, soft sediment deformation	67	
	9.53	9.64	11				Claystone - very soft, dark grey, becoming very carbonated and coaly towards base, iron staining, core heavily broken	11	
	9.64	9.71	7				Coal - claystone band (5 cm.) 1 cm. down from top, interbedded dull and bright, 60% bright	7	
	9.71	9.78	7				Coal - pulverized and bright	7	
	9.78	9.84	6				Core Loss - (Coal)		
						11.28			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	4 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	984	1213	229				Siltstone - with clay, core broken, iron stainings, core	107	
							soft, few coaly laminations, carbonaceous,		
							coarsening towards base, medium-dark grey		
							Siltstone - sandy, medium grey, thin silty clay, hard, 2 cm.	20	
							wide, 4 cm. from base, discontinuous coaly		
							laminations, broken to pulverized, soft sediment		
							deformation, iron staining		
							TOP OF BOX 4		
							Siltstone - slightly sandy, iron staining, at top 3 cm. intervals	102	
							pulverized carbonaceous clay, medium-dark grey,		
							becoming sandier towards base, soft sediment		
							deformation, carbonaceous plant remains, core		
							broken near base		
	1213	1323	110				Sandstone - light grey, fine grained, silty at top, iron	82	
							staining, carbonaceous partings, soft sediment		
							deformation, cross bedding, massive		
						1433			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	5 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above	28	
	13.23	13.63	040				Siltstone/Sandstone - medium grey, fine grained, sandstone	18	
							interbedding with dark sandstone		
							Siltstone - medium-dark grey, iron staining, core broken	22	
	13.63	13.83	20				Core Loss - (Siltstone)		
							TOP OF BOX 5		
	13.83	14.36	53				Siltstone - medium-grey, slightly sandy, iron staining, massive		
	14.36	17.26	290				Sandstone - fine grained, medium grey, with silty interbeds	174	
							and interlaminations, soft and sediment deformation,		
							carbonaceous laminations, 8 cm. silty interval,		
							35 cm. from top, minor load casting		
						17.37			
							Sandstone - light grey, 5 cm. siltstone interval at top - dark	34	
							grey, fine grained, thin carbonaceous laminations		
							at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	6 of 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 6		
80°							Sandstone - light grey, fine grained carbonated laminations, massive	82	
80	17.26	18.07	81				Siltstone - medium grey, with light grey, fine grained sandstone laminations, load casts, occasional dark grey claystone intervals, soft sediment deformations, carbonaceous laminations	81	
	18.07	19.45	138				Sandstone - light to medium grey, fine grained, few discontinuous carbonated laminations, few minor siltstone interbeds, load casts, soft sediment deformations, bottom 4 cm. very silty	109	
						2042	TOP OF BOX 7		
							Sandstone - fine grained, light grey, 3 cm. siltstone band on top, few discontinuous carbonated laminations, few siltstone rip-up clasts at base, massive	29	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	7 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	1945	2042	97				Siltstone - medium-dark grey with interbedded light grey, fine	97	
							grained sandstone and minor amounts of claystone		
							rip-up clasts, soft sediment deformations, few		
							carbonaceous partings, carbonate plant remains,		
							sandy towards base		
	2042	2145	373				Sandstone - fine grained, light-medium grey with siltstone	151	
							bads and occasional siltstone beds towards base,		
							fining downwards, discontinuous carbonaated lamina-		
							tions siltstone rip-up clasts, load casts massive		
							TOP OF BOX 8		
							Sandstone - same as above		
						2347			
							Sandstone - fine grained, light-medium grey, with discontinuous	68	
							carbonated laminations and interbedded and inter-		
							laminated dark grey siltstone, soft sediment		
							deformations, load casts, iron staining		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	8 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - fine grained, light-medium grey, occasional discon-	137	
							tinuous carbonaceous laminations 5 cm. siltstone		
							band 78 cm. from top, iron staining, discontinuous		
							calcite laminations, slight bioturbation, slightly		
							broken		
	24.15	24.56	41				Siltstone - dark grey with fine grained, medium grey sandstone	041	
							interbeds, worm burrows, rip-up clasts, soft		
							sediment deformations, load castings, carbonated		
							plant remains, core broken at base		
	24.56	24.86	30				Core Loss - (Siltstone)		
							TOP OF BOX 9		
	24.86	26.71	185				Siltstone - medium grey, with fine grained medium grey sandstone	054	
							interbeds and inter laminations, iron staining		
							on fracture, FCA 20°, load casts, rip-up clasts,		
							soft sediment deformations, bioturbation, core		
							broken at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	9 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						26.52			
							Siltstone - same as above, sand content increasing downwards, and partially filled worm burrows, disseminated pyrite	82	
							Siltstone - very sandy, heavily broken to pulverized, iron staining, fining downwards dark grey	049	
	26.71	27.43	72				Sandstone - fine grained, medium grey, top and base heavily broken, carbonated laminations, some soft sediment deformations at base	072	
							TOP OF BOX 10		
	27.43	27.54	11				Siltstone/Sandstone - light-medium grey, core is crushed and mixed with soft clay, iron staining, coaly specks, core crushed and pulverized	11	
	27.54	27.85	31				Core Loss - (Siltstone/Sandstone)		
	27.85	27.92	7				Sandstone - light-medium grey, with minor siltstone, discontinuous carbonated and coaly laminations, core heavily broken	07	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	10 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	27.92	28.28	036	036			Core Loss - Coal		
	28.28	28.54	026	026	2401		Coal - Coal, mainly dull with 20% bright, core is crushed to pulverized and very soft		
	28.54	28.61	7	007			Core Loss - (Claystone)		
	28.61	28.82	21	021	2402		Claystone - carbonaceous, dark grey-brown, very soft, top 1 cm. is mixed pulverized coal and clay, thin discontinuous coaly stringers	021	
	28.82	28.94	12	012			Coal - coal, dull		
	28.94	28.97	3	003			Coal - coal, dull with 40% bright bands, slightly broken		
	28.97	29.13	016	016	2403		Coal - coal, dull with 10% bright bands, core broken slightly		
	29.13	29.21	008	008			Coal - coal, dull, broken		
	29.21	29.27	006	006			Coal - coal, dull with 10% bright bands, core slightly broken		
	29.27	29.33	006	006			Coal - coal, dull		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	11 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	29.33	29.38	005	005			Coal - coal, dull with 15% bright bands		
	29.38	29.45	007	007			Coal - coal, dull		
	29.45	29.56	011	011			Coal - coal, dull with 20% bright bands, slightly broken		
	29.56	29.89	033	032			Coal - coal, dull with less than 10% bright bands		
	29.89	30.04	015	015			Coal - coal, dull with less than 5% bright bands		
	30.04	30.13	009	009			Coal - coal, dull		
	30.13	30.24	011	011			Coal - coal, dull with 10% bright bands		
					2403				
	30.24	30.57	033	032			Coal - coal, dull with less than 5% bright bands		
	30.57	30.67	010	010			Coal - coal, dull with 15% bright bands, core slightly broken		
	30.67	30.75	008	008			Coal - coal, dull with 5% bright bands		
							TOP OF BOX 11		
	30.75	31.10	035	034			Coal - coal, dull with 10% bright bands		
	31.10	31.54	044	043			Coal - coal, dull with 5% bright bands, slightly broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	12 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	3154	3159	005	005			Claystone - coal, dull with less than 5% bright bands, pyrite		
							film on upper surface		
					2403				
	3159	3188	025	025			Coal - coal, dull with less than 5% bright bands, minor		
							iron staining, slightly broken		
	3188	3201	013	013			Coal - coal, dull with 30% bright bands		
	3201	3206	005	005			Coal - coal, dull with 10% bright bands		
	3206	3212	006	006			Coal - coal, dull with 15% bright bands		
	3212	3215	003	003			Coal - coal, dull		
	3215	3219	004	004			Coal - coal, bright		
	3219	3222	003	003			Coal - boney, dull with 20% bright bands		
	3222	3225	003	003			Coal - coal, dull with 20% bright bands		
	3225	3231	006	006			Coal - coal, bright with 20% dull bands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	13 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	32.31	32.58	027	027			Coal - coal, dull with 10% bright bands		
	32.58	32.70	012	012			Coal - coal, dull with less than 5% bright bands		
	32.70	32.78	008	008			Coal - coal, dull with 10% bright bands		
	32.78	32.98	020	020			Coal - coal, dull with 30% bright bands		
	32.98	33.03	005	005			Coal - coal, bright with 15% dull bands		
	33.03	33.08	005	005			Coal - coal, dull with 20% bright bands		
	33.08	33.10	002	002	2403		Claystone - carbonaceous, dark grey, pyrite film, iron staining discontinuous coaly stringers	002	
	33.10	33.15	005	005			Coal - boney, dull, pyrite films, slightly broken		
	33.15	33.27	012	012			Coal - coal, dull with 30% bright bands		
	33.27	33.41	014	014			Coal - coal, bright with 25% dull bands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	14 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 12		
	3341	3368	027	027			Coal - coal, bright with 20% dull bands		
	3368	3372	004	004			Coal - coal, dull with minor bright, pulverized		
	3372	3380	008	008			Coal - boney, dull with 10% bright bands		
	3380	3388	008	008			Coal - coal, dull with 40% bright bands		
	3388	3396	008	008	2403		Claystone - carbonaceous, dark grey-brown, with high amount of broken to pulverized coal, core is heavily broken	008	
	3396	3403	007	007			Coal - coal, dull with 20% bright bands, core heavily broken to pulverized for lower 4 cm.		
	3403	3413	010	010			Coal - stoney, dull with 10% bright bands		
	3413	3416	003	003			Claystone - carbonaceous, dark grey-brown, coaly laminations and stringers	003	
	3416	3420	004	004			Coal - coal, bright with 20% dull bands, calcite filling, core heavily broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	15 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	34.20	34.26	006	006			Claystone - carbonaceous, dark grey-brown, coaly laminations	006	
							and stringers, 1 cm. coal bed at base, listic		
							surfaces, slightly broken		
	34.26	34.68	042				Siltstone - medium grey, clayey near top of interval, carbonaceous	042	
							and coaly laminations, carbonaceous plant debris,		
							pyrite films, listic surfaces, core broken in		
							middle and at base		
	34.68	34.71	003				Core Loss - (Siltstone)		
						35.66			
	34.71	35.42	071				Siltstone - same as above, with interbedded claystone and 1 cm.	071	
							clay bed 6 cm. from top, 2 cm. of dull coal 7 cm.		
							from top and 41 cm. from top, core moderately to		
							heavily broken		
78°	35.42	36.06	064				Sandstone - light-medium grey, with minor interbedding and	064	
							interlaminations, medium-grey siltstone, load		
							casts, minor discontinuous coaly stringers,		
							soft sediment deformations, carbonaceous laminations,		
							carbonaceous and slightly coaly plant debris		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	16 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 13		
	36.06	37.36	130				Siltstone - light-medium grey, with interlaminations and inter-	130	
							bedding of dark grey claystone, discontinuous		
							calcite laminations, occasional coaly laminations		
							and stringers, carbonaceous and coaly plant debris,		
							pyrite films, soft sediment deformations, 3 cm.		
							pulverized bright coal bed 52 cm. from top, slight		
							listic surfaces, core slightly broken		
	37.36	37.39	003	003			Coal - boney, dull with 10% bright bands, broken		
	37.39	37.45	006	006			Claystone - carbonaceous, dark grey-bronw, thin coaly beds	006	
							on bands, pyrite films, minor carbonaceous plant		
							debris, slight listic surfaces		
	37.45	37.48	003	003			Coal - boney, dull with 40% bright bands		
					2404				
	37.48	37.51	003	003			Coal - coal, dull		
	37.51	37.71	020	020			Coal - coal, 20% dull with 80% bright iridescent bright		
							bands, core broken		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	17 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	37.71	27.73	002	002	↓		Coal - with 20% dull, 80% bright iridescent bands		
	37.73	37.84	011				Core - loss (coal)		
					127/38.71				
	37.84	38.38	054				Claystone - carbonaceous, dark brown-grey, listic surfaces,	025	
							with calcite filling, coaly laminations and beds,		
							carbonaceous plant fragments, pyrite films, 15 mm.		
							bed of soft coal (fusmite) which is dull with		
							bright band 11 cm. from top, core soft, core heavily		
							broken and sheared		
							Clay - carbonaceous, very soft, dark brown with minor coaly	017	
							laminations and beds		
							Claystone - carbonaceous, dark bronw-grey, carbonaceous and	012	
							coaly plant fragments, pyrite films		
	38.38	39.40	102				Siltstone - clayey, medium-dark grey, with interbedded claystone	036	
							discontinuous coaly stringers, carbonaceous and		
							coaly plant fragments, core slightly broken		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	18 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 14		
							Siltstone - light-medium grey with interbedded fine grained	066	
							light grey sandstone and minor dark claystone,		
							turbidities, minor carbonaceous laminations,		
							core broken at top		
	39.40	40.07	67				Sandstone - light grey, fine grained minor carbonaceous	067	
							bands, bio-turbation, soft sediment deformations,		
							few load casts, becoming silty towards base		
	40.07	42.65	258				Siltstone - medium grey with interbedded and interlaminated	068	
							light grey, fine grained sandstone, discontinuous		
							coaly laminations, few discontinuous calcite		
							laminations, soft sediment deformations, rip-up		
							clasts		
						41.76			
							Siltstone - same as above	068	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	19 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 15		
							Siltstone - medium grey with interlaminated and interbedded	122	
							claystone, dark brown-grey sandstone, discontinuous		
							calcite laminations, carbonaceous and coaly plant		
							remains, slight listic surfaces		
	4265	4310	45				Claystone - dark grey-brown, carbonaceous coal bands, core	045	
							broken, listic surfaces, pyrite films, coaly near		
							base		
	4310	4315	005	005			Coal - dull and bright interbanded, 50% each		
	4315	4323	008	008			Coal - dull with 20% bright		
	4323	4329	006	006			Coal - bright and dull, 60% bright		
	4329	4334	005	005			Coal - dull with 30% bright, core broken at base		
	43.39	43.34	005	005	2405		Coal - dull with 10% bright		
	4339	4348	009	009			Coal - bright and dull, 70% bright, core broken		
	4348	4353	005	005			Coal - dull with 10% bright		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	20 of 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	43.53	43.55	002	002	↓		Coal - boney, dull		
	43.55	43.70	015				Claystone - carbonaceous, dark bronw-grey, listic surfaces, coaly at base	015	
	43.70	43.73	003				Coal - dull with 20% bright bands		
	43.73	43.75	002				Claystone - dark brown-grey, with bright coal bands, carbonaceous	002	
	43.75	43.78	003				Coal - boney, dull with 30% bright bands		
	43.78	43.87	009				Claystone - dark brown-grey, bright coal bands, listic surfaces calcite stringers, coaly plant remains, core broken	009	
	43.87	44.03	016				Coal - boney, dull with 5% bright bands		
	44.03	44.14	011				Coal - boney, dull		
							TOP OF BOX 16		
	44.14	44.17	003				Coal - dull		
	44.17	44.20	003				Coal - boney, dull		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	21 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	44.20	44.24	004				Coal - dull with 20% bright bands		
	44.24	44.28	004				Claystone - carbonaceous with coal bright bands, dark brown-grey	004	
	44.28	44.31	003				Coal - bright, pulverized		
	44.31	44.39	008				Core Loss - (Coal)		
	44.39	44.46	007				Claystone - carbonaceous, dark brown-grey, coal laminations, listic surfaces	007	
	44.46	44.74	028				Core Loss - (Coal)		
	44.74	44.77	003				Coal - boney, dull with 30% bright bands, core broken		
	44.77	44.86	009				Coal - boney, dull, 10% bright bands		
	44.86	44.88	002				Claystone - carbonaceous with bright coal bands, dark brown-grey	002	
	44.88	45.00	012				Coal - boney, dull with 30% bright bands and minor carbonaceous claystone bands		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	22 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	45.00	45.44	044				Claystone - carbonaceous, dark brown-grey, with coal bands	044	
							carbonaceous fragments, coal stringers, 2 cm.		
							coal bands 8 cm. from base, listic surfaces		
	45.44	45.47	003				Coal - bright with dull, 80% bright, core broken		
	45.47	45.54	007				Claystone - carbonaceous, with bright coal bands, core	007	
							pulverized at top, core soft		
	45.54	45.56	002				Coal - bright		
	45.56	45.59	003				Claystone - dark brown with coal laminations, carbonaceous	003	
	45.59	45.60	001				Coal - dull bright, pulverized		
	45.60	45.72	012				Core Loss - (Coal)		
	45.72	45.91	019				Claystone - carbonaceous, minor coaly bands and laminations,	019	
							carbonaceous and coaly plant remains		
	45.91	45.96	005				Coal - dull and bright, pulverized		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	23 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	45.96	46.53	057				Claystone - carbonaceous, dark grey-brown, carbonaceous plant	057	
							remains, coal laminations and beds, 2 cm. bright		
							coal bed, 42 cm. from top very soft near base		
	46.53	46.60	007				Coal - dull with 10% bright bands, 7 mm. claystone within		
							broken		
	46.60	46.73	013				Claystone - dark brown-grey, carbonaceous and broken coaly	013	
							bands, pyrite films, carbonaceous plant remains		
	46.73	46.77	004				Coal - dull with 10% bright bands		
						47.85			
	46.77	48.60	183				Siltstone - mediume grey with interbedded dark grey claystone,	054	
							some calcite and coaly laminations, carbonaceous		
							plant remains, minor discontinuous coaly laminations		
							near top, core broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	24 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 17		
							Siltstone/Claystone - 60-40% dark grey, few discontinuous	015	
							calcite laminations, discontinuous coaly laminations		
							and partings, silty towards base		
							Siltstone - medium grey with minor interbedded dark grey clay-	114	
							stone, and minor interbedded light grey, fine		
							grained sandstone, minor discontinuous calcite		
							bands, soft sediment deformations, minor dis-		
							continuous coaly laminations and partings, few		
							carbonaceous plant remains, core broken, minor		
							listic surfaces		
80°	48.60	49.78	118				Siltstone/Sandstone - 60-70% medium grey siltstone with inter-	118	
							bedded light grey, fine grained sandstone, rip-up		
							clasts, turbidities, soft sediment deformations,		
							minor carbonaceous plant remains, becoming sandier		
							towards base		
						50.90			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	25 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	4978	5241	263				Siltstone - medium grey, massive	015	
							TOP OF BOX 18		
							Siltstone - medium grey with interbedded & interlaminated fine	248	
							grianed light grey sandstone, discontinuous coaly		
							laminations, soft sediment deformations, load casts		
							and rip-up clasts, few discontinuous calcite		
							stringers, carbonaceous plant remains towards base,		
							becoming sandier towards base, core slightly broken		
	5241	5273	032				Core Loss - (Siltstone)		
						5395			
	5273	5436					Siltstone - same as above	028	
							TOP OF BOX 19		
							Siltstone - light-medium grey, discontinued thin calcite	135	
							laminations, broken at top, soft sediment deform-		
							ations, clayie towards base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	26 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	54.36	54.55	019				Claystone - dark brown-grey, carbonaceous, very carbonaceous	019	
							and soft at base, pyrite films, coaly plant		
							fragments		
	54.55	54.59	004	004			Coal - coal, dull with 10% bright bands, core broken		
	54.59	54.66	007	007			Coal - dull with 10% bright, pulverized		
	54.66	54.72	006	006			Coal - dull and bright interbanded, 40% bright broken		
	54.72	54.76	004	004			Coal - boney, dull with 20% bright bands		
	54.76	54.83	007	007			Claystone - carbonaceous, dark brown-grey, coaly laminations	007	
							andplant fragments, slight listic surfaces		
					2406				
	54.83	54.92	009	009			Coal - dull with 30% bright bands, heavily broken to		
							pulverized		
	54.92	54.97	005	005			Coal - bright, pulverized		
	54.97	55.02	005	005			Coal - dull with 30% bright, heavily broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	27 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	55.02	55.11	009	009			Coal - dull, 20% bright, broken		
	55.11	55.16	005	005			Coal - dull and bright, pulverized		
	55.16	55.19	003	003			Coal Loss - (Coal)		
	55.19	55.29	010	010			Coal and Claystone - carbonaceous, dull, crushed to pulverized		
	55.29	55.43	014				Siltstone - light grey, thin coaly laminations, carbonaceous plant remains, pyrite films, carbonaceous	014	
						57.00			
							TOP OF BOX 20		
						60604	NOTE IN BOX 19 MARKER: (187) 57.00 M marker is at the end of the box and the (197) 60.04 marker is right at the beginning at Box 20; therefore either wrong marker or lost one full run(?)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	28 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	55.43	56.59	116				Siltstone/Claystone - 60-40%, dark grey, interbedded with	116	
							claystone, core very soft, very soft claystone		
							intervals, coaly and carbonaceous partings,		
							soft sediment deformations, minor carbonaceous		
							plant remains, core broken towards base, very		
							clayie at base		
	56.59	56.68	009				Core Loss - (Coal)		
	56.68	56.80	012				Coal - heavily broken to pulverized, dull with bright		
							bands, 15% bright		
	56.80	57.00	020				Coal - dull with bright bands, 15% bright		
	57.00	57.31	031				Siltstone/*Claystone - dark grey, soft, siltier towards base,	031	
							coaly partings throughout, rip-up clasts, occasional		
							carbonaceous plant remains -- *50-50% broken at base		
	57.31	60.16	285				Siltstone - medium dark grey, minor amount of interbedded	087	
							claystone, carbonaceous and coaly partings, core		
							broken, calcite stringers in a very fine grained		
							sandstone cast near base, core soft and broken		
							occasional carbonaceous plant remains		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	29 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 21		
							Siltstone - light-medium grey, core broken, listic surfaces,	054	
							coaly stringers, minor amount of clast, sheared,		
							minor bioturbation at base		
						6309			
90°							Siltstone - with sandy phases throughout, with fine grained	144	
							sandstone interbeds throughout, rip-up clasts and		
							load casts, core sheared and broken towards base,		
							bioturbation, occasional carbonaceous plant		
							remains, soft sediment deformations		
	6016	6022	006				Core Loss - (Siltstone)		
	6022	6053	031				Sandstone - very fine grained- fine grained with minor silt-	031	
							stone interbeds and interlaminations, soft sediment		
							deformations, occasional rip-up clasts, siltier		
							towards base		
	6053	6194	141				Siltstone - medium grey, coaly partings, sandy at base	021	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	30 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 22		
							Siltstone - medium grey, with minor interbedding and inter-	120	
							laminations of light grey, fine grained sandstone,		
							soft sediment deformation, rip-up clasts, load		
							casts, turbidities, core slightly broken towards		
							middle		
	61.94	61.97	003				Core Loss - (Siltstone)		
						6614			
	61.97	63.80	183				Siltstone - same as above, becoming more homogenously silty	152	
							towards base, occasional coaly and carbonaceous		
							plant fragments		
							TOP OF BOX 23		
							Siltstone - light-medium grey, occasional carbonaceous plant	031	
							remains, clayie downwards, pyrite films, slightly		
							broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	31 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	6380	6386	006				Claystone - carbonaceous, dark brown-grey, coaly laminations	006	
							core broken		
	6386	6389	003				Core Loss - (Claystone)		
	6389	6393	004				Coal - boney, dull and bright, pulverized		
	6393	6398	005				Core Loss - (Coal)		
	6398	6437	028				Siltstone - medium grey, carbonaceous plant remains, clayie	028	
							at base, slightly broken		
	6465	6466	001	001			Coal - dull, bright, pulverized		
	6466	6476	010	010			Coal - dull, heavily broken		
	6476	6482	006	006	2407		Coal - dull with 10% bright bands		
	6482	6484	002	002			Coal - pulverized, bright		
	6484	6489	005	005			Coal - bright with 20% bright bands		
	6489	6494	005	005			Coal - dull with 20% bright bands		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	32 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	64.94	65.02	008	008			Coal - bright with 30% dull bands		
					2407				
	65.02	65.08	006	006			Coal - dull with 20% bright bands, broken, pulverized		
	65.08	65.17	009	009			Core Loss - (Coal)		
	65.17	65.22	005	005			Coal - dull with pyrite specks		
	65.22	65.42	020	020			Coal - dull with 20% bright bands		
	65.42	65.47	005	005			Coal - dull, very soft, core broken		
	65.47	65.51	004	004			Coal - bright with 15% dull bands		
	65.51	65.55	004	004			Coal - bright, pulverized		
	65.55	65.60	005	005			Coal - pulverized, bright bands		
	65.60	65.72	012	012			Claystone - dark brown-grey, carbonaceous, coaly laminations	012	
					2408		pyrite film		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	33 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	65.72	65.81	009	009	2408		Coal - dull with 10% bright bands, broken		
	65.81	65.88	007	007			Coal - dull with 20% bright bands, broken		
	65.88	66.02	014	014			Core Loss - (Coal)		
	66.02	66.07	005				Claystone - carbonaceous, dark brown-grey with coaly stringers	005	
	66.07	66.08	001				Coal - boney		
	66.08	66.12	004				Claystone - carbonaceous, dark brown-grey	004	
	66.12	66.13	001				Coal - boney		
	66.13	66.24	011				Claystone - dark grey-brown, soft, pyrite film, carbonaceous plant remains, coaly stringers, core slightly broken	011	
	66.24	66.39	015				Siltstone - medium grey, slightly borken, carbonaceous plant fragments, pyrite film	015	
	66.39	66.43	004				Coal - pulverized, bright		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	34 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 24		
80°	66.43	67.61	118				Sandstone - light grey, fine grained, with minor interbedding	118	
							and interlamination, medium grey siltstone at top		
							8 cm., load casts, flazer bedding, 5 mm. calcite		
							filling in fracture at 104 cm. from top, minor		
							carbonaceous laminations, discontinuous coaly		
							laminations near base, core broken and sheared in		
							places		
	67.61	68.01	040				Sandstone/Siltstone - about 60/40, light-medium grey, very	040	
							fine grained, load casts, soft sediment deformation		
							turbidities, slight carbonaceous laminations,		
							pyrite film along breakage in core		
75°	68.01	72.81	480				Siltstone - medium grey, with minor interbedding and inter-	035	
							lamination, light grey, very fine grained sandstone		
							discontinuous coaly and carbonaceous laminations,		
							load casts, rip-up clasts, minor soft sediment		
							deformations, pyrite film along bedding, carbonaceous		
							plant debris		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	35 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						227/ 6919			
							Siltstone - medium grey, coaly and carbonaceous laminations,	079	
							with pyrite films, slight calcite film on fracture		
							35 cm. long running sub-parallel to core axis,		
							carbonaceous plant fragments		
							TOP OF BOX 25		
							Siltstone/Sandstone - light grey, very fine grained, few	032	
							thin discontinuous carbonaceous lamiantions, slight		
							calcite film on bedding or laminated planes		
							Siltstone - medium-dark grey, fining downwards to contain	098	
							minor amount of clay at base, minor turbidities,		
							minor coaly fragments near base		
							Siltstone - same as above, clay content increasing downwards,	050	
							minor soft sediment deformation		
							Siltstone - dark grey, with interbedding of dark grey claystone	046	
							(about 30%), discontinuous coaly laminationa, clay-		
							stone phases throughout, core heavily broken,		
							carbonaceous plant remains		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	36 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - medium-dark grey, with minor interbedding of dark	037	
							grey claystone, soft sediment deformations, minor		
							load casts, minor carbonaceous plant fragments,		
							minor iron staining along fracture subparallel		
							to core axis, core broken		
							TOP OF BOX 26		
75°							Siltstone - medium grey, with minor interbedding and inter-	103	
							laminations of light grey, very fine grained, sand-		
							stone and minor interbedding of dark grey claystone		
							towards middle, load casts, rip-up clasts, soft		
							sediment deformations, minor crossbedding, minor		
							discontinuous coaly laminations		
	72.81	73.15	34				Claystone - carbonaceous, dark grey, with coaly laminations	034	
							and intervals, top 6 cm. very coaly with bright		
							bands, remaining claystone has about 5% bright		
							coaly laminations, claystone becomes less		
							carbonaceous towards base of interval, core heavily		
							broken in middle and at/near base		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	37 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	73.15	73.24	009				Core Loss - (Claystone)		
	73.24	73.30	006				Coal - coal, dull-bright		
	73.30	73.48	18				Claystone - carbonaceous, dark grey, with minor thin bright coaly stringers, listic surfaces, core broken	018	
	73.48	73.77	029				Siltstone - medium grey with minor claystone at top discontinuous coaly stringers, coarsening downwards, carbonaceous plant fragments	029	
70°	73.77	75.46	169				Sandstone - light-medium grey, very fine grained-fine grained, with minor interbedding and interlamination of medium grey siltstone, coarsening downwards, load casts, soft sediment deformations, minor discontinuous carbonaceous laminations, turbidities	056	
						2477/ 7529			
							Sandstone - same as above	022	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	38 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 27		
80°							Sandstone - light-medium grey, very fine grained-fine grained with interbedding and interlaminated medium grey siltstone, load casts, rip-up clasts, bioturbation soft sediment deformation, listic surfaces with minor calcite filling, very minor carbonaceous laminations	091	
	7546	7639	093				Siltstone - medium grey with about 30% interbedded light grey fine grained sandstone, load casts, sandier interval at base, turbidation, minor carbonaceous plant fragments	039	
							Siltstone - medium grey, becoming slightly sandy downwards, minor possible bioturbation, mainly featureless	054	
	7639	7685	46				Sandstone - light grey, fine grained with very minor siltstone interbeds, calcite filled fractures on top and at 30 cm. from top, soft sediment deformation, load casts, possible bioturbation, listic surfaces on lower fracture.	046	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	39 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	7685	7734	49				Sandstone/Siltstone - light-medium grey, minor interbedding	049	
							and interlamination, medium grey siltstone, load		
							casts, soft sediment deformation, rip-up clasts,		
							minor flazer bedding, coarsening downwards		
						257/ 7833			
							TOP OF BOX 28		
75°	7734	7904	170				Sandstone - light-medium grey, very fine grained, with about	170	
							30% interbedding and interlaminated medium-dark		
							grey siltstone, minor crossbedding, minor load		
							casts and rip-up clasts, soft sediment deformation,		
							high amount of turbidation near base		
	7904	7917	13				Siltstone/Claystone - dark grey with minor light grey fine	013	
							grained sandstone clast, area of obvious turbid		
							activity		
	7917	8111	194				Siltstone - medium grey with about 30% interbedded light grey	069	
							fine grained sandstone, very minor discontinuous		
							calcite laminations, rip-up clasts, turbites,		
							carbonated plant fragments		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	40 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - medium grey, carbonated plant fragments, soft	034	
							sediment deformation, minor load casts		
							TOP OF BOX 29		
							Siltstone - light-medium grey with light grey very fine grained	019	
							sandstone interlaminations, thin discontinuous		
							coaly laminations, carbonated plant remains, some		
							soft sediment deformation		
						26// 81.38			
							Siltstone - same as above, with occasional thin claystone beds	072	
							load casts, carbonated plant remains		
	81.11	81.23	12				Sandstone - light grey, very fine grained soft sediment	012	
							deformation, slightly silty		
	81.23	81.41	18				Siltstone - light-medium grey interbedded with very fine	018	
							grained, light grey sandstone, clayie at base,		
							carbonated plant remains, fining downwards, rip-up		
							clasts and occasional load casts		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	41 of 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	81.41	81.55	14				Claystone - dark grey-brown, carbonaceous, coaly plant remains, thin coal beds, slight listic surfaces	014	
	81.55	81.62	007	007			Coal - coal, dull with 30% bright bands		
	81.62	81.72	010	010			Coal - coal, dull		
	81.72	81.76	004	004			Coal - coal, bright with 10% dull bands		
	81.76	81.85	009	009	2409		Coal - coal, dull with 10% bright bands		
	81.85	81.92	007	007			Coal - coal, dull with 20% bright bands		
	81.92	81.94	002	002			Coal - coal, bright, pulverized		
	81.94	82.05	011	011			Coal - coal, dull with 10% bright bands, core broken		
	82.05	82.52	047	046			Claystone - carbonated, dark grey-brown, coaly laminations, carbonaceous and coaly plant fragments, core slightly broken, some interbedded coal, variably soft	046	
	82.52	82.58	006	006			Coal - coal, dull with 10% bright bands, slightly broken		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	42 of 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	8258	8259	001	001			Core Loss - (Coal)		
	8259	8276	017	017			Claystone - carbonaceous, dark brown-grey, slight listic surfaces, occasional coal stringer, coaly plant fragments, pyrite films	017	
	8276	8280	004	004			Coal - coal, dull with 20% bright bands		
	8280	8283	003	003			Coal - coal, bright with 15% dull bands, slightly broken		
							TOP OF BOX 30		
	8283	8292	009	009			Coal - coal, dull with 15% bright bands, core broken		
	8292	8316	024	024			Claystone - carbonaceous, dark grey-brown, carbonaceous and coaly plant fragments, pyrite films, listic surfaces, discontinuous coaly bands or stringers, slight calcite filling on listic surfaces, core broken at base	024	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	43 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	83.16	83.19	003	003			Coal - coal, dull with 5% bright bands		
	83.19	83.29	010	010			Coal - coal, bright with 30% dull bands		
						2777 8445			
	83.29	83.41	012	012			Coal - boney, dull with about 10% bright bands		
	83.41	83.47	006	006			Coal - boney, dull and bright interbanded, 60% dull		
	83.47	83.54	007	007			Coal - dull with 30% bright bands, core broken		
	83.54	83.69	015	015			Claystone - dark brown-grey, carbonaceous, coaly laminations, carbonated plant remains	015	
	83.69	83.81	012	012			Coal - dull, 10% bright, minor pyrite film		
	83.81	83.84	003	003			Claystone - dark bronw-grey, carbonaceous, bright coal laminations	003	
	83.84	83.94	010	010			Coal - stoney with claystone and bright coal bands, 40% bright		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	44 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	8394	8404	010	010			Core Loss - (Coal)		
	8404	8407	003	003			Claystone - dark brown-grey, carbonaceous	003	
	8407	8409	002	002			Coal - boney, dull, 10% bright bands		
	8409	8414	005	005			Claystone - dark brown-grey, carbonaceous	005	
	8414	8421	007	007			Coal - dull		
	8421	8439	018	018			Coal - dull		
	8439	8445	006	006			Coal - dull and bright, 20% bright bands, core broken		
	8445	8466	021	021			Coal - dull with 10% bright bands		
	8466	8471	005	005	2410		Coal - dull		
	8471	8486	015	015			Coal - dull, with 10% bright bands, broken at base		
	8486	8489	003	003			Coal - pulverized and bright		
	8489	8491	002	002			Claystone - carbonaceous, dark brown-grey	002	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	45 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	8491	8500	009	009			Coal - dull with 30% bright bands, broken at top		
	8500	8512	012	012			Coal - dull		
	8512	8517	005	005			Coal - dull with 10% bright bands		
	8517	8521	004	004			Coal - dull with 5% bright, core broken		
	8521	8525	004	004			Coal - dull, 10% bright bands		
	8525	8527	002	002	2410		Coal - dull		
	8527	8529	002	002			Coal - dull with 20% bright		
	8529	8538	009	009			Coal - heavily broken, dull with 10% bright		
	8538	8547	009	009			Coal - dull with 10% bright		
	8547	8550	003	003			Coal - dull and bright, interbanded 30% bright		
	8550	8556	006	006			Coal - dull and bright, pulverized		
	8556	8560	004	004			Core Loss - (Coal)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	46 of 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	8560	8563	003				Claystone - carbonaceous with minor bright coal bands	003	
							TOP OF BOX 31		
	8563	8734	171				Siltstone - medium-dark grey, with thick interbeds of dark	083	
							grey claystone, minor discontinuous coaly		
							lamintions, claystone is soft, carbonaceous plant		
							fragments		
						287/ 8748			
							Siltstone - same as above, listic surfaces, core slightly	088	
							broken		
	8734	8746	12				Sandstone/Siltstone - medium grey, very fine grained sandstone	012	
							silty, hard, discontinuous calcite stringers, iron		
							stain on fracture sub-parallel to axis, carbonated		
							plant fragments, slight listics		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	47 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	8746	9682	936				Siltstone - medium grey, slightly sandy, with minro amount of	112	
							dark grey claystone, turbidation possibly		
							biologically induced but more likely from just		
							local short time span turbid environment, discon-		
							tinuous calcite laminations, few coaly laminations,		
							core slightly broken in middle		
							TOP OF BOX 32		
							Siltstone - medium-dark grey, clayey, carbonaceous plant	095	
							fragments, fairly featureless		
						297/ 9053			
							Siltstone - same as above, core broken at top	175	
							TOP OF BOX 33		
							Siltstone - same as above, core broken and sheared in middle	131	
						307/ 9357			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	48 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, core slightly broken, listic		
							surfaces		
							TOP OF BOX 34		
							Siltstone - same as above, becoming slightly less clayey and	167	
							lighter grey downwards, odd thin discontinuous		
							calcite stringer		
						317/ 9662			
							Siltstone - medium-dark grey, odd discontinuous calcite	111	
							laminations or stringers, minor carbonaceous		
							plant remains, minor amount of clay size particles		
							within siltstone, core slightly broken		
	96.82	97.13	31				Core Loss - (Siltstone)		
							TOP OF BOX 35		
	97.13	109.11	1198				Siltstone - same as above		
						327/ 9967			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	49 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, thin discontinuous calcite stringer	131	
							core slightly broken		
							TOP OF BOX 36		
							Siltstone - same as above, thin carbonaceous-coaly discontinuous	092	
							laminations		
						338/ 10150			
							Siltstone - medium-dark grey, slightly clayey throughout, odd	177	
							discontinuous clacite laminations or stringers,		
							occasional very thin coaly laminations (discontinuous)		
							minor coaly and carbonaceous plant debris, generally		
							structureless		
							TOP OF BOX 37		
							Siltstone - same as above, core sheared and broken near base	133	
						343/ 10455			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	50 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, minor small clayey phases throughout,	131	
							few coaly laminations and partings, very minor		
							carbonaceous plant debris, discontinuous calcite		
							stringers near base		
							TOP OF BOX 38		
						3477/ 10577			
70°							Siltstone - medium grey, very slightly sandy, very minor inter	264	
							bedded claystone, minor load casts, soft sediment		
							deformation, minor discontinuous calcite laminations		
							and stringers, occasional thin coaly laminations		
							and thin discontinuous coaly laminations, stringers		
							and partings, core broken and slightly crushed in		
							areas (possible small core loss), carbonaceous		
							plant debris		
							TOP OF BOX 39		
							Siltstone - dark grey, becoming clayey downwards, minor dis-	033	
							continuous coaly laminations, carbonaceous plant		
							fragments, core slightly broken		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	51 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						357/ 10881			
							Siltstone - same as above, increasingly clayey downwards,	100	
							coaly laminations, core heavily broken near		
							base (15 cm.)		
	10911	10926	15				Core Loss - (Siltstone-Siltstone/Claystone)		
	10926	11042	116				Siltstone/Claystone - About 50/50, dark grey, coaly laminations	065	
							and splits and strings, major carbonaceous clay-		
							stone bnads with coaly interbeds, listic surfaces,		
							carbonaceous plant debris, core sheared and crushed		
							especially along coaly splits		
							Claystone/Siltstone - about 70/30, dark grey, coaly laminations	051	
							and splits, carbonated, coaly intervals at 0-3 cm.,		
							6-13 cm. from top are pulverized, coaly interval		
							at 34 to 51 cm. from top is pulverized and mixed		
							with crushed claystone/siltstone core, (about 40%		
							core intact), listic surfaces, carbonated plant		
							debris		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	52 of 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 40		
	11042	11379	337				Siltstone - medium-dark grey, clayey, with minor claystone interbeds, occasional minor discontinuous laminations, carbonaceous-coaly plant debris, generally structureless, core highly broken at middle	075	
						367/ 11186			
							Siltstone - medium-dark grey, slightly clayey, with minor claystone interbeds, same as above, listic surfaces slight coarsening downwards	196	
							TOP OF BOX 41		
							Siltstone - medium-dark grey, about 30% clayey, discontinuous thin coaly bands, carbonaceous plant fragments, core heavily broken near top	066	
	11379	11426	047				Claystone/Siltstone - dark grey, with about 20% silty, dis-continuous thin coaly bands and stringers, core sheared and broken near top, slightly carbonaceous	032	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	53 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						377/ 11491			
							Claystone/Siltstone - dark grey, discontinuous coaly bands	015	
							and stringers, about 20% silty, listic surfaces		
							slightly carbonaceous		
	114.26	116.77	251				Siltstone - medium dark grey, clayey, thin discontinuous coaly	146	
							bands and partings, carbonaceous and coaly plant		
							debris, generally structureless, core slightly		
							broken		
							TOP OF BOX 42		
							Siltstone - light-medium grey, clayie, massive, carbonaceous	105	
							plant remains at base, few coaly laminations		
	116.77	116.86	009	008			Coal - dull with bright bands, 30% bright		
	116.86	116.88	002	002			Coal - pulverized, dull & bright		
	116.88	116.97	009	008			Coal - dull, about 10% bright bands		
						117.96			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	54 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	116.97	117.13	16	015			Coal - dull, 10% bright bands, slightly broken		
	117.3	117.33	020	019			Coal - dull, heavily broken		
	117.33	117.43	010	009			Core Loss - (Coal)		
	117.43	117.63	020	019			Coal - dull with bright bands, 15% bright heavily broken		
	117.63	117.72	009	009			Coal - mainly dull, with bright bands, 20% bright, broken at base		
					2411				
	117.72	117.82	010	009			Core Loss - (Coal)		
	117.82	117.86	004	004			Coal - dull, heavily broken		
	117.86	117.95	009	008			Coal - dull		
	117.95	117.99	004	004			Coal - dull, bright - 50-50%		
	117.99	118.08	009	008			Coal - dull		
	118.08	118.21	013	012			Coal - bright with dull bands, 40% dull		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	55 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	118.21	118.32	011	010			Coal - interbanded dull and bright, 50% each		
	118.32	118.43	011	010	2411		Coal - dull, 10% bright		
	118.43	118.47	004	004			Coal - interbanded dull and bright, 50% each		
	118.47	118.54	007	007			Coal - dull with 10% bright bands		
	118.54	118.58	004	004			Coal - dull		
	118.58	118.68	010	009			Coal - bright		
							TOP OF BOX 43		
	118.68	118.76	008	008			Coal - bright with dull bands, 40% dull		
	118.76	119.67	091	086	2412		Claystone - dark grey, carbonaceous, slightly silty, coal laminations and bands throughout, slight listic surfaces, carbonaceous and coaly plant remains, 2 cm. bright coal band 35 cm. from top	086	
	119.67	119.70	003	003			Coal - boney		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	56 of 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	119.70	119.75	005	005			Coal - interbanded bright and dull, 60% bright		
	119.75	119.85	010	009			Coal - dull with 10% bright		
	119.85	120.01	016	015			Coal - dull with 10% bright		
	120.01	120.05	004	004			Claystone - very carbonaceous coal bands		
	120.05	120.15	010	090			Coal - interbanded dull and bright, 50% each		
	120.15	120.29	014	013			Coal - dull with bright bands		
					2413				
	120.29	120.37	008	008			Coal - dull		
	120.37	120.39	002	002			Coal - bright		
	120.39	120.55	016	015			Coal - dull, broken		
	120.55	120.69	014	013			Coal - boney with occasional bright bands		
	120.69	120.81	012	011			Coal - bright		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	57 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	120.81	120.88	007	007			Coal - bright, pulverized		
	120.88	120.92	004	004			Core Loss - (Coal)		
	120.92	121.08	016	015			Claystone - medium-dark grey, grading to siltstone at base,	015	
					2414		carbonaceous, minor coaly laminations, coaly		
							plant fragments		
	121.08	121.12	004	004			Coal - bright and dull interbanded, 40% dull, very minor		
							claystone laminations		
	121.12	121.23	011	010			Coal - dull		
	121.23	121.3	009	008			Coal - dull with bright bands, 30% bright		
							TOP OF BOX 44		
	121.32	121.42	010	009	2415		Coal - bright and dull interbanded, 80% bright		
	121.42	121.51	009	008			Coal - dull with bright bands, 20% bright		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	58 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	121.51	121.63	012	011			Coal - bright		
					2415				
	121.63	121.74	011	010			Coal - pulverized, bright		
	121.74	121.75	001	001			Core Loss - (Coal)		
	121.75	121.77	002	002			Coal - bright		
	121.77	121.80	003	003			Claystone - carbonaceous, dark grey, brown	003	
	121.80	121.90	010	009			Coal - bright, pulverized		
	121.90	122.02	012	011			Claystone - dark grey-brown with coaly bands and laminations throughout, carbonaceous listic surfaces and broken	011	
	122.02	122.05	003	003	2416		Coal - stoney, with about 10% bright bands		
	122.05	122.10	005	005			Coal - dull		
	122.10	122.12	002	002			Coal - bright, slightly broken		
	122.12	122.20	008	008			Coal - dull with 10% bright		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	59 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	12.20	12.22	002	002			Coal - stoney, bright stringers		
	12.22	12.25	003	003			Coal - boney, bright coal laminations		
	12.25	12.32	007	007			Coal - bright and dull interbanded, 60% bright		
	12.32	12.49	011	010	2416		Claystone - carbonaceous with coaly laminations, dark brown-grey	010	
			003	003			Claystone - dark grey, very carbonaceous	003	
			003	003			Claystone - carbonaceous with coaly laminations, dark brown-grey		
	12.49	12.57	008	008			Coal - dull, 5% bright bands		
	12.57	12.68	011	010			Coal - bright, pulverized		
	12.68	12.70	002	002	2417		Coal - dull		
	12.70	12.73	003	003			Coal - bright		
	12.73	12.76	003	003			Coal - dull		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	60 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	122.76	122.83	007	007			Coal - dull and bright banded, 30% bright		
	122.83	122.90	007	007			Coal - pulverized, bright		
	122.90	122.98	008	008			Coal - dull, pulverized		
	122.98	123.06	008	008			Coal - bright, pulverized		
	123.06	123.10	004	004	2417		Coal - bright		
	123.10	123.12	002	002			Coal - dull, 5% bright		
						12405			
	123.12	123.17	005	005			Coal - dull with 10% bright bands, pulverized		
	123.17	123.28	011	010			Coal - bright, pulverized		
	123.28	123.32	004	004			Claystone - very carbonaceous, listic surfaces, dark brown-grey, coal laminations	004	
	123.32	123.37	005	005			Coal - dull with 10% bright bands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	61 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	123.37	123.41	004	004			Coal - stoney		
	123.41	123.48	007	007			Claystone - carbonaceous, coaly laminations throughout, dark brown, gray slight listic surfaces	007	
	123.48	123.68	020	019			Siltstone/Claystone - medium grey siltstone with interbedded and laminated claystone, discontinuous coaly laminations	)@)	
	123.68	123.71	003	003	2418		Claystone - pulverized, pulverized carbon	003	
	123.71	123.96	025	023			Claystone - dark brown-grey, very soft, few minor coaly stringers	025	
							TOP OF BOX 45		
	123.96	124.00	004	004			Coal - dull, broken		
	124.00	124.02	002	002			Claystone - dark brown-grey, broken, coaly laminations	002	
	124.02	124.03	001	001			Coal - bright		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	62 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	124.03	124.16	013	012			Claystone - dark brown-grey, listic surfaces, carbonaceous,	013	
							coaly plant remains and laminations		
	124.16	124.18	002	002			Coal - bright		
	124.18	124.65	047	044			Claystone - dark brown-grey, carbonaceous, coaly laminations	047	
							and bands, carbonaceous plant remains, listic		
							surfaces, slightly broken		
	124.65	124.69	004	004			Coal - dull with bright bands, 50% each		
	124.69	124.78	009	008			Claystone - dark brown-grey, carbonaceous, minor coaly bands	009	
					2418				
	124.78	124.82	004	004			Coal - bright and dull interbanded, 15% dull		
	124.82	124.89	007	007			Claystone - dark brown-grey, carbonaceous, carbonated plant	007	
							plant remains, coaly stringers		
	124.89	124.93	004	004			Coal - bright and dull interbanded, 60% bright		
	124.93	125.15	022	021			Claystone - dark brown-grey, carbonaceous, coaly laminations	022	
							listic surfaces, slight calcite infilling		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	64 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	126.09	126.15	006	006			Coal - bright and dull interbanded, 60% bright		
	126.15	126.22	007	007			Coal - dull with 10% bright		
					2419				
	126.22	126.37	015	014			Coal - bright and dull interbanded, 70% bright		
	126.37	126.43	006	006			Coal - dull		
	126.43	126.57	014	013			Coal - bright		
	126.57	126.63	006	006			Coal - heavily broken to pulverized, bright		
	126.63	126.67	004	004			Coal - bright and dull interbanded, 20% dull		
	126.67	126.71	004	004			Coal - pulverized, bright		
							TOP OF BOX 46		
	126.71	126.80	009	008			Claystone - dark brown-grey, listic surfaces, discontinuous coaly laminations	009	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	65 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	12680	12692	012	011			Coal - dull with 10% bright bands		
	12692	12697	005	005			Coal - bright		
	12697	12701	004	004			Coal - pulverized, bright		
	12701	12707	006	006			Core Loss - (Coal)		
	12707	12717	010	009			Coal - pulverized, bright		
	12721	12726	005	005	2419		Coal - dull and bright interbanded, 30% bright		
	12726	12729	003	003			Coal - bright		
	12729	12734	005	005			Coal - dull and bright banded, 20% bright, broken		
	12734	12740	006	006			Core Loss - (Coal)		
	12740	12746	006	006			Coal - bright and dull interbanded, 80% bright, core highly broken		
	12746	12751	005	005			Coal - dull with 10% bright bands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	66 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	127.51	127.60	009	008			Coal - bright and dull interbanded, 80% bright		
	127.60	127.66	006	006			Coal - bright and dull interbanded, 80% bright, core broken at base		
	127.66	128.19	53				Siltstone - medium grey, top 6 cm. dark brown-grey claystone, coaly laminations, listric surfaces, carbonaceous, carbonated plant remains, slight soft sediment deformation	053	
	128.19	128.48	29				Sandstone - light grey, very fine grained with minor inter-bedded medium grey sandstone, listric surface at top, discontinuous coaly stringers, soft sediment deformation	029	
	128.48	128.80	32				Siltstone - medium grey interlaminated with light grey very fine grained sandstone and dark grey claystone, soft sediment deformation, minor coaly laminations, carbonated plant remains, fining downwards	032	
	128.80	128.93	13				Claystone - carbonaceous with coaly bands, dark grey, listric surfaces, coal bands throughout, sheared, carbonaceous, heavily broken	013	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	67 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	128.93	129.02	009				Core Loss - (Coal)		
	129.02	129.16	14				Coal - pulverized, bright		
						427 13015			
	129.16	129.20	4				Coal - boney, dull with 15% bright bands		
	129.20	130.29	109				Siltstone - medium grey with 3 cm. claystone at top with	026	
							coaly beds, slight listric surfaces, coaly and		
							carbonaceous plant remains, core heavily broken		
							at top		
							TOP OF BOX 47		
75°							Siltstone - light-medium grey with minor interbedded and inter	083	
							laminated fine grained, light grey, sandstone,		
							carbonated and coaly laminations and partings,		
							listric surfaces, minor discontinuous calcite		
							bands, carbonated plant remains, soft sediment		
							deformation, load casts, sandier at base		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	68 OF 110

DATE BEGUN: March 5, 1981	DATE FINISHED: March 9, 1981	MINE GRID: N E	UTM: 6,067,410 N 649,465 E
ELEV. COLLAR: 1530	BEARING: 225	HOLE ANGLE: 80°	TOTAL DEPTH: 258.17
COAL LICENCE: 3200	CONTRACTOR: Coates	LOGGED BY: Soprovich/Nyysola	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	13029	13866	837				Sandstone - light-medium grey, fine grained sandstone with	025	
							minor interlaminations of siltstone, load casts,		
							soft sediment deformation, listric surfaces		
							Sandstone - light-medium grey, fine grained, 20% siltstone	157	
							interbeds, load casts, cross bedding, discontinuous		
							carbonated laminations, coaly plant fragments		
						437 13320			
							Sandstone - same as above		
							TOP OF BOX 48		
83°							Sandstone - same as above, coarsening downwards	283	
							TOP OF BOX 49		
							Sandstone - fine grained, light grey, minor carbonaceous	019	
							laminations, cross bedding		
						447 13625			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	69 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, massive	246	
							TOP OF BOX 50		
66°							Sandstone - same as above		
						437 13929			
							Sandstone - light-medium grey, fine grained, same as above, fining downward	043	
	13866	14121	255				Siltstone/Sandstone - 60-40%, light grey siltstone with interbeds and interlaminations, fine grained, light grey sandstone load casts, soft sediment deformations, minor rip-up clasts, carbonaceous laminations	058	
							Siltstone - medium-grey siltstone with interbeds and interlaminations light grey, fine grained sandstone, load casts, rip-up clasts, soft sediment deformation, discontinuous coaly and calcite stringers, carbonaceous plant fragments	122	

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	70 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 51		
							Siltstone - light-medium grey with interlaminations fine grained	075	
							light grey sandstone and interbeds of claystone,		
							rip-up clasts, minor soft sediment deformation,		
							minor coal laminations at base, fining downwards,		
							carbonaceous plant remains, core broken at base		
	141.21	141.31	10				Core Loss - (Siltstone)		
						467 14234			
	141.31	141.43	12				Claystone/Siltstone - dark grey, minor coaly laminations,	012	
							carbonaceous plant remains		
	141.43	141.50	7				Claystone - carbonaceous, with interbedded and interlaminated	007	
							coal, increasing coaly at base, slightly broken		
	141.50	141.58	8				Core Loss - (Coal)		
	141.58	141.69	11				Coal - interbanded dull and bright, 50/50%, slightly broken		
	141.69	141.73	4				Coal - stoney with 10% bright bands, slightly broken		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	71 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	141.73	141.77	4				Core Loss - (Claystone)		
	141.77	141.95	18				Claystone - carbonaceous, dark grey-brown, occasional minor discontinuous coaly bands, coaly plant remains, pyrite films, slightly coalier at base	018	
	141.95	142.09	14	13			Coal - dull, 10% bright bands		
	142.09	142.20	11	010			Coal - bright		
					2420				
	142.20	142.30	10	009			Coal - dull with 10% bright bands, heavily broken		
	142.30	142.45	15	014			Core Loss - (Coal)		
	142.45	142.58	13	012			Coal - dull with bright bands, 20% bright		
	142.58	142.70	12	011			Coal - interbanded dull and bright, 50% heavily broken		
	142.70	142.90	20	018			Core Loss - (Coal)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	72 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	14290	14346	56	051			Siltstone - light-medium grey, carbonaceous plant remains, coaly	056	
							laminations, carbonated claystone bands (1 cm.) at		
							top and base		
					2421				
	14346	14357	11	010			Coal - mainly dull with bright bands, 10% bright		
							TOP OF BOX 52		
	14357	14363	6	005			Core Loss - (Coal)		
	14363	14378	15	014			Coal - dull, 5% bright with minor discontinuous claystone		
							bands		
	14378	14391	13	012			Coal - dull		
	14391	14397	6	005			Coal - dull with 30% bright bands		
	14397	14409	12	011			Coal - dull, 10% bright bands		
					2422				

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	73 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	144.09	144.20	11	010			Coal - interbanded dull and bright, 60% bright		
	144.20	144.23	3	003			Coal - dull with bright bands, 15% bright		
	144.23	144.29	6	005			Coal - boney, dull		
	144.29	144.42	13	012			Sandstone - light-medium grey, very fine grained, carbonaceous plant remains, few carbonated stringers, massive	013	
	144.42	144.82	040				Siltstone - light grey, carbonaceous plant remains, with inter-laminated fine grained light grey sandstone	010	
						427 14539			
							Siltstone - same as above, sandier at base	030	
	144.82	145.73	91				Sandstone - light grey, very fine grained, with minor inter-bedded medium grey sandstone, slight listric surfaces, discontinuous clacite stringers, fining slightly downwards, coaly laminations, core broken in middle	091	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	74 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	14.73	14.84	11				Siltstone - medium grey with interbeds of dark grey carbonaceous	011	
							claystone, slight listric surfaces, coaly laminations		
							core soft, slickensides		
	14.84	14.10	26				Claystone - dark grey with coaly bands, carbonaceous, soft,	026	
							listric surfaces, core heavily broken		
	14.10	14.30	20				Core Loss - (Claystone)		
	14.30	14.34	4				Coal - pulverized, bright		
	14.34	14.38	4				Claystone - dark grey, carbonaceous with coaly bands, broken,	004	
							listric surfaces, carbonated plant remains		
							TOP OF BOX 53		
	14.38	147.10	72				Siltstone - light-medium grey with interbeds and interlaminations	072	
							of fine grained light grey sandstone, -20%, thin		
							discontinuous laminations of calcite and coal, soft		
							sediment deformations, load casts, carbonated plant		
							remains		

474-0010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	75 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	147.10	147.38	28				Sandstone - fine grained, light grey, with minor siltstone on	028	
							top, siltstone clasts at base, carbonaceous stringers		
							soft sediment deformations, massive		
	147.38	147.84	046				Siltstone - medium-dark grey, listric surfaces, discontinuous	019	
							carbonated laminations, slightly clayie, minor		
							carbonaceous plant remains, sandstone clasts at top		
						487 14844			
							Siltstone - same as above, with thin discontinuous clacite	027	
							laminations		
66°	147.84	148.45	061				Sandstone - light-medium grey, very fine grained-fine grained	061	
							sandstone with very minor medium grey siltstone		
							laminations, discontinuous clacite laminations,		
							minor flazar bedding and load casts, minor carbonaceous		
							laminations near top, coarsens downwards, minor		
							listric surfaces		
	148.45	151.07	262				Siltstone - medium-dark grey siltstone with interbeds, light	069	
							fine grained sandstone and dark grey claystone, soft		
							sediment deformations, minor load casts and rip-up		
							clasts, discontinuous clacite and coaly		
							beds (coal bed 4 mm.) carbonated plant remains		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	76 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 54		
75°							Siltstone - light-medium grey, soft sediment deformation,	144	
							minor load casts, very minor light grey, fine		
							grained snadstone interbeds, discontinuous carbonaceous		
							stringers, carbonated plant remains		
						497 15115			
							Siltstone - medium-dark grey, with minor percentage claystone	049	
							at top, thin discontinuous calcite laminations, load		
							casts, soft sediment deformations, coaly laminations		
							near base, carbonated plant remains		
	15107	15147	40				Siltstone/Claystone - 10-30%, dark grey, carbonaceous 0-6 cm.	040	
							stoney coal, dull bright, 10% bands, at 14-22 cm. coal		
							dull bright, 40% bright bands, 2cm. pulverized coal		
							at base, dull coaly plant remains		
	15147	15150	3				Core Loss - (Coal)		
	15150	15446	296				Siltstone - medium-dark grey, with dark grey claystone inter-	030	
							beds, thin coaly laminations, carbonaceous plant		
							remains		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	77 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 55		
							Siltstone - light-medium grey with interbedded dark grey	174	
							claystone and light grey fine grained sandstone,		
							discontinuous clacite laminations and coaly		
							stringers, soft sediment deformations, minor		
							flaz r bedding, minor carbonated fragments near		
							base		
						507 15453			
							Siltstone - same as above, core not broken	092	
	15446	15471	25				Core Loss - (Siltstone)		
							TOP OF BOX 56		
81°	15471	16075	604				Siltstone - light-medium grey with claystone interbeds, dark	209	
							grey, and minor light grey, fine grained sandstone		
							slight coarsening downwards, load casts and rip-up		
							clasts, listric surfaces, soft sediment deformation,		
							crossbedding		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	78 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						157.58			
82°							Siltstone - same as above, becoming slightly finer, discontinuous calcite stringers	071	
							TOP OF BOX 57		
							Siltstone - same as above, becoming slightly sandier towards base	234	
						160.63			
							Siltstone - medium grey with fine grained light grey sandstone interbeds (30%) soft sediment deformations, minor rip-up clasts, minor load casts, carbonaceous plant remains, coarsening downwards	041	
							TOP OF BOX 58		
							Siltstone - light grey with light grey very fine grained sandstone interbeds, soft sediment deformation, calcite parting at base, minor rip-up clasts	049	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	79 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	160.75	162.01	126				Sandstone - light grey, fine grained with very minor medium	126	
							grey siltstone interbeds, crossbedding, soft sediment		
							deformation, calcite partings, minor listric surfaces,		
							core broken in middle at 21 cm. from top		
	162.01	162.26	025				Core Loss - (Sandstone)		
	162.26	163.17	091				Sandstone/Siltstone - 60-40%, light grey, fine grained sandstone	075	
							interbedded with medium grey siltstone, rip-up		
							clasts, soft sediment deformation, minor load casts,		
							slight fining downwards		
						163.68			
							Siltstone/Sandstone - 60-40%, medium grey, minor crossbedding	016	
							massive		
							TOP OF BOX 59		
82°	163.17	165.44	227				Siltstone - light-medium grey with dark grey claystone bands,		
							discontinuous calcite lamiantions, coal stringers,		
							soft sediment deformation, minor rip-up clasts, thin		
							coaly laminations at top and base, carbonaceous plant		
							remains near base, core slightly broken		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	80 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	165.44	165.49	5	005			Coal - light banded		
	165.49	165.50	1	001			Claystone - very carbonaceous	001	
					2423				
	165.50	165.54	4	004			Coal - boney, with bright bands, 40% bright		
	165.54	165.63	9	009			Claystone - very carbonaceous, broken up, pulverized coal	009	
	165.63	165.67	4	004			Coal - dull		
	165.67	165.72	5	005	2424		Coal - dull with bright bands, 10% bright		
	165.72	165.78	006	006			Coal - dull and bright bands, 30% bright		
	165.78	165.81	003	003			Coal - pulverized, broken and dull		
	165.81	166.04	23	022			Core Loss - (Coal)		
						547 166.73			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	81 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 60		
	166.04	166.15	11	011			Coal - boney		
	166.15	166.16	1				Claystone - very carbonaceous	001	
	166.16	166.73	57				Siltstone/Claystone - 70-30%, medium-dark grey, thin coal beds	057	
							coaly plant remains, slickensides		
78°	166.73	168.22	149				Siltstone - light-medium grey, minor fine grained light grey	149	
							sandstone interlaminations, soft sediment deformation		
							minor bioturbation, discontinuous coal and calcite		
							stringers, load casts, carbonaceous plant remains		
							near top, minor listric surfaces, coarsening		
							downwards, minor crossbedding		
	168.22	168.87	062				Sandstone - light grey, fine grained with minor interlaminations	056	
							and interbeds of siltstone, calcite bands 9 cm.		
							from top, minor crossbedding, minor carbonaceous		
							laminations, minor soft sediment deformation		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	82 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 61		
							Sandstone - same as above, core broken	006	
						557 16978			
	16884	17001	117				Siltstone - medium grey, sandy at top with minor interbedded	117	
							dark grey claystone at base, fining downwards,		
							discontinuous calcite laminations and coaly		
							laminations near base, core broken, carbonaceous		
							plant remains, carbon at base		
	17001	17013	12	012			Coal - interbanded dull and bright, 40% bright, slightly	59	
							broken		
	17113	17018	5	005			Coal - dull		
	17018	17020	2	002			Coal - bright		
	17020	17030	010	010			Coal - dull		
					2425				

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	83 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	170,30	170,43	013	013			Coal - bright		
	170,43	170,58	015	015			Core Loss - (Coal)		
	170,58	170,64	006	006			Claystone - very carbonaceous with coaly lenses	006	
	170,64	170,75	011	011			Coal - stoney, interbedded bright with very carbonaceous claystone		
	170,75	174,99	4,24				Sandstone - light grey, very fine grained, with minor interbedded dark grey siltstone, top 9 cm. silty, coal laminations and bands, soft sediment deformation, rip-up clasts, minor load casts, calcite stringers, core broken, carbonaceous plant remains, coarsening downwards	104	
							TOP OF BOX 62		
80°							Sandstone - light grey, fine grained very minor siltstone interlaminations, soft sediment deformation, massive	020	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	84 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						172.82			
							Sandstone - same as above, coarsening downwards, massive	261	
							grading to medium grey at middle, poorly cemented		
							with limestone, minor carbonaceous plant remains		
							fining downwards		
							TOP OF BOX 63		
							Sandstone - light grey, fine grained with 3 cm. dark grey	039	
							siltstone bed at base, minor coaly-carbonaceous		
							parting near base, generally massive		
						175.87			
	174.99	175.68	069				Siltstone - light-medium grey with interlaminated light grey	069	
							very fine grained sandstone, load casts, soft		
							sediment deformation, minor carbonaceous plant		
							debris		
	175.68	176.05	037				Siltstone/Claystone - medium dark grey with about 30% claystone,	037	
							2-3 cm. claystone beds at 24 and 30 cm. from top,		
							thin discontinuous coaly partings, 2 cm. Bentonitic		
							bed 26 cm. from top, fining generally		
							downwards, coaly plant debris near base, soft near base		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	85 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	176.05	176.08	3	003			Coal - boney, dull		
	176.08	176.24	16	016			Coal - coal, dull with 15% bright bands		
	176.24	176.33	9	009			Coal - coal, dull with 40% bright bands		
	176.33	176.49	16	016			Coal - coal, dull with 5% bright bands		
	176.49	176.52	3	003			Coal - coal, bright		
	176.52	176.58	6	006			Coal - coal, dull with 30% bright bands		
					2426				
	176.58	176.70	12	012			Coal - coal, dull with 10% bright bands		
	176.70	176.73	3	003			Coal - coal, bright, pulverized		
	176.73	176.79	6	006			Coal - coal, bright with 20% dull bands		
	176.79	176.85	6	006			Coal - coal, dull with 5% bright bands		
	176.85	177.00	15	015			Coal - coal, dull with 5% bright bands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	86 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	177.00	177.01	1	001			Coal - coal, bright		
	177.01	177.06	5	005			Coal - coal, dull		
	177.06	177.13	7	007			Coal - coal, dull with 20% bright bands		
	177.13	177.17	4	004			Coal - coal, dull		
	177.17	177.21	4	004			Coal - coal, dull/bright, 50/50, core partially pulverized		
	177.21	177.29	8	008	2426		Coal - coal, dull with 10% bright bands		
	177.29	177.35	6	006			Coal - coal, dull with 20% bright bands, core slightly broken		
	177.35	177.46	11	011			Coal - coal, dull with 5% bright bands		
							TOP OF BOX 64		
	177.46	177.73	27	027			Coal - coal, dull with 5% bright bands		
	177.73	177.78	5	005			Coal - coal, dull/bright, 50/50		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	87 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	177.78	177.89	11	011			Coal - coal, dull		
	177.89	177.94	5	005	2426		Coal - coal, dull/bright, 50/50		
	177.94	177.95	1	001			Coal - coal, bright, pulverized		
	177.95	177.97	2	002			Claystone - dark grey, carbonaceous	002	
	177.97	178.07	10	010			Coal - coal, dull with 10% bright bands		
						587 178.92			
	178.07	178.15	8	008			Claystone - dark grey, carbonaceous, with thin coaly laminations and beds, core broken	008	
	178.15	178.21	6	006			Coal - coal, dull with 40% bright bands		
	178.21	178.25	4	004			Coal - coal, dull with 30% bright bands		
	178.25	178.41	16	016			Coal - coal, brightwith about 20% dull bands		
	178.41	178.67	26	026	2427		Claystone - carbonaceous, dark grey, with 5% bright coal bands, near top, listric surfaces, core heavily broken at bottom 3 cms.	026	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	88 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	178.67	178.74	7	007			Core Loss - (Coal)		
	178.74	178.78	4	004			Coal - pulverized coal, bright		
	178.78				2428				
		178.87	9	009			Coal - boney, dull, with 30% bright bands		
	178.87	178.95	8	008			Claystone - carbonaceous, dark grey, occasional discontinuous coaly strinter, calcite filled parting	008	
	178.95	180.16	121	119			Siltstone - medium grey, slightly clay , with minor interbeds of dark grey claystone near base, occasional discontinuous calcite laminations, carbonaceous plant remains, listric surfaces near base	119	
	180.16	180.21	5	005			Coal - coal, dull with 20% bright bands, slightly broken		
							TOP OF BOX 65		
	180.21	180.22	1	001			Core Loss - (Coal)		
					2429				
	180.22	180.33	11	011			Coal - coal, dull with 10% bright bands		
	180.33	180.39	6	006			Coal - coal, boney, dull		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	89 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	180.39	180.63	24	024			Claystone - carbonaceous, dark grey with minor bright bands of coal, slight listric surfaces	024	
					2429				
	180.63	180.70	7	007			Coal - coal, dull with 10% bright bands, core slightly broken		
	180.70	180.78	8	008			Coal - boney, dull		
	180.78	180.98	20	020			Claystone - carbonaceous, dark grey with minor bright bands of coal	020	
	180.98	181.05	7	007			Core Loss - (Rock)		
						597 18197			
	181.05	181.40	35	034			Coal - coal, dull with 5% bright bands, slightly broken		
					2430				
	181.40	181.57	17	017			Coal - coal, dull with 20% bright bands		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	90 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	18157	18162	5	005			Core Loss - (Claystone)		
	18162	18209	47	046			Claystone - carbonaceous, dark grey, with minor bright coal bands especially near top and base of interval, slight listic surfaces, soft, slightly broken at top	047	
					2431				
	182.09	182.12	3	003			Coal - coal, bright and pulverized		
	182.12	182.15	3	003			Claystone - carbonaceous, dark grey, with bright coal bands near base	003	
	182.15	182.19	4	004			Coal - coal, bright		
	182.19	182.27	8	008			Coal - boney, dull		
	182.27	182.43	16	016			Coal - coal, dull with 10% bright bands		
					2432				
	182.43	182.56	13	013			Coal - coal, dull with 40% bright bands		
	182.56	18.75	19	019			Coal - coal, dull with 30% bright bands, core heavily broken and pulverized		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	91 of 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	182.75	182.86	11	0.11			Coal - coal, dull with 40% bright bands		
	182.86	182.91	5	0.05			Coal - coal, bright with 30% dull bands		
	182.91	183.00	9	0.09			Coal - coal, dull with 10% bright bands, slightly broken		
	183.00	183.05	5	0.05			Coal - coal, dull with minor bright bands, core pulverized		
							TOP OF BOX 66		
	183.05	183.20	15	0.15			Coal - coal, dull with 5% bright bands		
					2432				
	183.20	183.26	6	0.06			Coal - coal, dull with 15% bright bands		
	183.26	183.39	13	0.13			Coal - coal, bright with 20% dull bands		
	183.39	183.44	5	0.05			Coal - coal, dull with 10% bright bands		
	183.44	183.54	10	0.10			Coal - coal, bright with 5% dull bands, core heavily broken at top		
	183.54	183.62	8	0.08			Coal - coal, bright, pulverized		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	92 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	183.62	185.82	2.20				Claystone - carbonaceous, dark grey with minor thin coaly bands, soft, slight listric surfaces, core broken	0.19	
						185.01			
	185.82	187.75	1.93				Siltstone/Claystone - 50/50, medium-dark grey, coaly, plant fragments, slight carbonation near top, soft at top, core broken on top	0.21	
							TOP OF BOX 67		
							Siltstone - medium-dark grey, slightly clayie, 6 cm. of light grey fine grained sandstone 13 cm. from top, discontinuous coal stringer, very minor carbonated plant remains, slight coarsening downwards	1.06	
						188.06			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	93 OF 110

DATE BEGUN: March 5, 1981	DATE FINISHED: March 9, 1981	MINE GRID: N E	UTM: 6,067,410 N 649,465 E
ELEV. COLLAR: 1530	BEARING: 225	HOLE ANGLE: 80°	TOTAL DEPTH: 258.17
COAL LICENCE: 3200	CONTRACTOR: Coates	LOGGED BY: Soprovich/Nyysola	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, soft sediment deformation near top,	0.66	
							clayie near base, core broken		
83°	187.75	205.81	18.06				Sandstone - light grey, fine grained, massive	1.08	
							TOP OF BOX 68		
83°							Sandstone - same as above, minor carbonated partings throughout	1.31	
						191.11			
83°							Sandstone - same as above, slight coarsening downwards	1.41	
							TOP OF BOX 69		
							Sandstone - light grey, fine grained occasional crossbeddings,	1.64	
							minor carbonacious lamination, massive		
						194.16			
							Sandstone - same as above		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	94 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 71		
							Sandstone - same as above, massive		
						200.25			
							Sandstone - same as above, massive		
							TOP OF BOX 72		
							Sandstone - light grey, fine grained, massive with minro calcite	2.21	
							band		
						203.30			
							Sandstone - same as above, light grey fine grained, massive	0.78	
							TOP OF BOX 73		
							Sandstone - same as above, few calcite stringers, core slightly	2.27	
							broken, slickensides		
						206.35			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	95 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above	0.33	
83°	205.81	207.04	1.23				Sandstone - interbedded with dark siltstone, minor crossbedding,	0.24	
							minor rip-up clasts		
							TOP OF BOX 74		
							Sandstone - light grey, fine grained-very fine grained sandstone	0.99	
							silty rip-up clasts, core heavily broken in middle,		
							massive		
	207.04	207.11	0.07				Rock loss		
	207.11	207.50	0.39				Siltstone - medium grey with interbedded light grey, fine	0.44	
							grained sandstone, discontinuous calcite laminations		
							minor soft claystone band near top, minor rip-up		
							clasts, core broken		
	207.50	218.40	10.90				Sandstone - light grey, fine grained, massive, minor siltstone	0.49	
							clasts		
86°							Sandstone - very fine grained, light-medium grey, with minor	0.56	
							interbedded medium grey siltstone, rip-up clasts,		
							minor load casts		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	96 OF 110

DATE BEGUN: March 5, 1981	DATE FINISHED: March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR: 1530	BEARING: 225	HOLE ANGLE: 80°	TOTAL DEPTH: 258.17
COAL LICENCE: 3200	CONTRACTOR: Coates	LOGGED BY: Soprovich/Nyysola	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						209.40			
							Sandstone - same as above	0.18	
81°							Sandstone - light grey, fine grained, massive	0.13	
							TOP OF BOX 75		
							Sandstone - light grey, fine grained with minor dark grey siltstone clasts throughout, at 135 cm. a 5 cm. dark grey siltstone bed from top	2.77	
						212.45			
							Sandstone - light grey, fine grained, massive	0.13	
							TOP OF BOX 76		
76°							Sandstone - same as above, dark grey siltstone intervals at 173-176 cm. and 211-216 cm. from top	2.90	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	97 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						215.49			
							TOP OF BOX 77		
76°							Sandstone - light grey, fine grained,massive, with interbedded	2.86	
							dark grey siltstone/claystone from 53-61 cm. from		
							top, minor soft sediment deformation at this interval		
							slight fining downwards, small pyrite nodule near		
							base		
							TOP OF BOX 78		
							Sandstone - same as above	0.10	
						218.52			
							Sandstone - medium grey, very fine-fine grained, (core slightly	0.78	
							broken) with minor dark grey siltstone interbeds from		
							18-34 cm. from top, soft sediment deformation in this		
							same interval, rip-up clasts, minor crossbedding		
							carbonated laminations		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	98 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	218.40	221.33	2.93				Siltstone - core slightly broken, medium-dark grey with inter-	1.75	
							beds of light grey, fine grained sandstone and		
							minor claystone intervals, load casts, rip-up clasts		
							soft sediment deformation, flaz r bedding		
							Sandstone - very fine grained, light grey, slightly silty and	0.14	
							slightly crossbedded		
							Siltstone - medium grey with minor amount of very fine grained	0.17	
							light grey sandstone, few rip-up clasts, soft		
							sediment deformation		
							TOP OF BOX 79		
78°							Sandstone - light grey, very fine grained, flazer bedding, dark	0.25	
							grey siltstone clasts, minor siltstone at top, soft		
							sediment deformation		
						221.59			
							Siltstone - medium-dark grey with minor interbedded light grey	0.24	
							siltstone near top, massive near bottom		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	99 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - very fine grained, light grey with minor interbedded	0.38	
							medium grey siltstone near top, massive near bottom		
78	221.33	223.20	1.87				Sandstone/Siltstone - 50-50% light grey fine grained sandstone	1.87	
							interbedded with dark grey siltstone, rip-up clasts,		
							load casts, soft sediment deformation, minor cross-		
							bedding carbonaceous laminations		
							TOP OF BOX 80		
	223.20	226.59	3.39				Sandstone - light grey, fine grained with interbedded dark grey	0.47	
							siltstone at top and base, rip-up clasts, minor		
							load casts.		
							Siltstone - medium grey, clayie, massive, slight listric surfaces	0.13	
						224.64			
							Sandstone - light grey, very fine grained, massive, minor calcite	0.77	
							lamiantions, slightly silty on top for 5 cm.		
78							Siltstone - dark grey, interbedded with very fine grained light	0.24	
							grey sandstone, minor rip-up clasts and load casts		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8106	100 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, fine grained, massive	0.22	
							Sandstone - light grey, fine grained with minor medium grey	1.07	
							siltstone interbeds, soft sediment deformation,		
							load casts and rip-up clasts, minor crossbedding		
							TOP OF BOX 81		
							Sandstone/Siltstone - 50/50, light grey very fine grained with	0.22	
							interbeds of dark grey siltstone, rip-up clasts,		
							flazer bedding		
							Sandstone - light grey, fine grained, slight crossbedding, few	0.27	
							minor carbonated laminations near top		
	226.59	227.23	0.64				Siltstone - medium-dark grey with minor interbeds of light grey	0.20	
							fine grained sandstone, rip-up clasts, load casts,		
							soft sediment deformation		
						227.69			
							Siltstone - same as above, amount of interbedded sandstone	0.44	
							increasing downwards		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	101 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	227.23	229.01	1.78				Sandstone - light grey, fine grained, few minor dark grey siltstone interbeds in top 7 cm. of unit, massive downwards, minor carbonaceous laminations	0.45	
							Sandstone - light-medium grey, fine grained with interbeds of dark grey siltstone (about 20%), rip-up clasts, load casts, soft sediment deformation, minor cross-bedding, minor carbonated laminations	0.38	
							Sandstone - light grey, fine grained with minor interlaminated dark grey siltstone on top 12 cm., siltstone rip-up clasts near top, fairly massive downwards, carbonated laminations near top	0.44	
							Sandstone/Siltstone - 60/40, light grey, very fine grained sandstone with interbedded dark grey siltstone, rip-up clasts, minor load casts, slight listric surfaces	0.51	
							TOP OF BOX 82		
	229.01	229.40	0.39				Siltstone - dark grey siltstone with interbedded light grey fine grained sandstone, rip-up clasts, load casts	0.39	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	102 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	229.40	232.58	3.18				Sandstone - light grey, fine grained, massive	0.44	
						230.75			
80°							Sandstone - light grey, fine grained 3 cm. siltstone/claystone	1.92	
							beds at 8 cm. from 81 cm. from top, minor carbonated		
							laminations, massive		
							TOP OF BOX 83		
							Sandstone - same as above	0.06	
							Siltstone - dark grey siltstone interbedded with light grey	0.30	
							fine grained sandstone, rip-up clasts, load casts,		
							soft sediment deformations		
80°							Sandstone - light grey, fine grained massive, crossbedding	0.46	
	232.58	234.05	1.47				Sandstone/Siltstone - 60-40% light grey, fine grained sandstone	0.31	
							interbedded with dakr grey siltstone, load casts,		
							minor rip-up clasts		
						233.78			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	103 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone/Siltstone - 60-40%, light grey fine grained interbed	0.72	
							of dark grey siltstone, load casts, rip-up clasts,		
							soft sediment deformation		
80°	234.05	237.63	3.58				Sandstone - light grey, fine grained minor crossbedding at top	0.41	
							TOP OF BOX 84		
							Sandstone - light grey, fine grained, massive, listric surface	1.46	
							at base		
						236.83			
							Sandstone - same as above, 7 cm. interbedded with dark grey	1.27	
							siltstone, 8 cm. from base		
							TOP OF BOX 85		
							Sandstone - light grey, fine grained, massive	0.44	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	104 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	237.63	238.65	1.02				Siltstone - dark grey siltstone with interbeds of light grey,	0.33	
							fine grained sandstone, load casts, rip-up clasts		
							Sandstone - light grey, fine grained, massive, minor cross-	0.13	
							bedding near top		
							Sandstone/Siltstone - 50-50%, light grey fine grained sandstone	0.18	
							with interbedded dark siltstone soft sediment		
							deformation, rip-up clasts, load casts		
							Sandstone - light grey, fine grained massive	0.19	
							Siltstone/Sandstone - 10-30% dark grey siltstone with interbed	0.21	
							of light grey fine grained sandstone, rip-up clasts,		
							minor load casts		
	238.65	239.78	1.13				Sandstone - fine grained light grey, massive	0.26	
						239.88			
80°							Sandstone - same as above, massive, core broken at top	0.87	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	105 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	239.78	239.96	0.18				Siltstone - dark grey, interbedded with light grey, fine grained	0.18	
							sandstone at base, load casts, minor rip-up clasts,		
							3 cm. pyrite nodule at top		
							TOP OF BOX 86		
	239.96	239.59	3.63				Sandstone - light grey, fine grained with minor interbedded dark	0.25	
							grey siltstone, minor load casts		
							Sandstone - light grey, fine grained massive, minor crossbedding	0.40	
							Sandstone/Siltstone - 60-40%, light grey, fine grained sandstone	0.27	
							with interbeds of dark grey siltstone, load casts,		
							rip-up clasts, soft sediment deformation, minor		
							flazer bedding nearbase		
							Sandstone - light grey, fine grained, massive, minor crossbedding	0.25	
							at top, minor siltstone clast near base		
							Siltstone - dark grey with minor interbeds of light gray, fine	0.15	
							grained sandstone, rip-up clasts, minor soft sediment		
							deformation		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	106 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, fine grained, dark grey siltstone	0.31	
							interbeds near middle		
							Sandstone - light grey very fine grained with minor interbeds of	.19	
							dark grey siltstone, soft sediment deformation, minor		
							load casts, rip-up clasts		
						242.95			
							Sandstone - light grey, fine grained with interbedded dark grey	.47	
							siltstone, minor rip-up clasts and load casts,		
							flazar bedding		
							Sandstone - light grey, fine grained, massive		
							TOP OF BOX 87		
							Sandstone - same as above	.07	
							Siltstone - dark grey siltstone with interbedded light grey	.26	
							fine grained sandstone, slightly clayie near top,		
							rip-up clasts, load casts, minor soft sediment		
							deformation		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	107 OF 110

DATE BEGUN March 5, 1981	DATE FINISHED March 9, 1981	MINE GRID N E	UTM 6,067,410 N 649,465 E
ELEV. COLLAR 1530	BEARING 225	HOLE ANGLE 80°	TOTAL DEPTH 258.17
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Soprovich/Nyysola	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°							Sandstone - light grey, fine grained crossbedded, minor siltstone	.54	
							clasts at top and base		
	243.59	244.92	1.33				Sandstone/Siltstone - 60/40%, light grey, very fine grained	1.33	
							sandstone interbedded with dark grey siltstone, rip-		
							up clasts, load casts, soft sediment deformation,		
							minor crossbedding within sandstone phases, minor		
							listric surfaces		
	244.92	247.24	2.32				Siltstone - medium-dark grey siltstone with interbedded light	0.47	
							grey, very fine grained sandstone, rip-up clasts, minor		
							load casts, core ground at top		
							TOP OF BOX 88		
							Siltstone - medium-dark grey with minor interbeds of light grey	1.85	
							fine grained sandstone, load casts, rip-up clasts, soft		
							sediment deformation, minor carbonated plant remains		
	247.24	248.14	0.90				Sandstone - light grey, fine grained snadstone with interbeds	0.56	
							of dark grey siltstone, load casts, rip-up clasts,		
							soft sediment deformation, minor discontinuous clacite		
							laminations near base		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	108 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						249.02			
							Sandstone - light grey, fine grained minor crossbedding, fining	0.13	
							downwards, 1 cm. pyrite nodule 8 cm. from top		
	248.14	255.65	7.51				Siltstone - dark grey siltstone with minor interbeds of light	1.69	
							grey very fine grained soft sediment deformation,		
							rip-up clasts and minor load casts		
							Sandstone - very fine-fine grained, light grey, minor flazar	0.16	
							bedding at topk coarsening downwards		
							Sandstone/Siltstone - 60-40%, light grey, fine grained sandstone	0.41	
							thickly interbedded with dark siltstone, minor cross-		
							bedding in sandstone, load casts and rip-up clasts		
							Sandstone - light grey, fine grained, massive	0.25	
							Siltstone - dark grey, interbedded with light grey, fine grained	0.12	
							sandstone, rip-up clasts and load casts		
							Siltstone - same as above	0.06	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	109 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, 9 cm. fine grained, light grey, sand-	2.56	
							stone interval 240 cm. from top		
							TOP OF BOX 91		
							Siltstone - same as above	0.33	
						255.12			
							Siltstone - same as above	0.39	
80°							Sandstone - light grey, fine grained, minor crossbedding	0.13	
							Siltstone - dark grey siltstone interbedded with light grey,	1.41	
							fine grained sandstone, rip-up clasts, minor load		
							casts, soft sediment deformation		
	255.65	256.15	0.50				Sandstone - light grey, fine grained, massive	.22	
							Sandstone - light grey, very fine grained, with 20% interbedded	.28	
							medium dark grey siltstone, rip-up clasts, minor		
							load casts, soft sediment deformation, minor cross-		
							bedding		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
8106	110 OF 110

DATE BEGUN	March 5, 1981	DATE FINISHED	March 9, 1981	MINE GRID	N E	UTM	6,067,410 N 649,465 E
ELEV. COLLAR	1530	BEARING	225	HOLE ANGLE	80°	TOTAL DEPTH	258.17
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	Soprovich/Nyysola	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 92		
	256.15	256.63	0.48				Siltstone/Sandstone - 50/50%, medium grey siltstone interbedded	.48	
							with very fine grained, light grey sandstone, rip-		
							up clasts, minor load casts, minor soft sediment		
							deformation		
						258.17	E.O.H.		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/10/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-07	COATES	90	--	147	HQ	2 @ T.D.	N22/9000N	3200	4	9

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1520.2	6,066,885.46 N	648,857.59 E	N	E	

GENERAL COMMENTS

Moosebar/Gething

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY:

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
		77.18 - 77.51	10	0.33	0.33/0.00	100			Kmb	58.75	1461.95		
									Kbs	70.59	1449.61	13.06	
		112.85-114.14	10	1.28	1.00/0.28	83	2460-62						
		116.92-117.22	10	0.30	0.30/0.00	0							
		120.30-120.63	13	0.38	0.38/0.00	100							
		137.12-139.53	10	2.35	1.66/0.69	95	2463-67						
		141.06-141.87	10	0.80	0.71/0.09	100	2468						
		145.11-145.76	10	0.63	0.63/0.00	100	2471						HOLE NUMBER MUD 81-07

473-8010

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
8107	1 OF

DATE BEGUN March 8, 1981	DATE FINISHED March 10, 1981	MINE GRID N E	UTM 6066900 N 648,850 E
ELEV. COLLAR N1225	BEARING	HOLE ANGLE Vertical	TOTAL DEPTH 147.15m
COAL LICENCE 3200	CONTRACTOR Coates	LOGGED BY Tom Covert	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							0-30' overburden (driller)		
							Top of Box 1		
						30/9.15			
75°	9.06	21.00	11.94				Siltstone - dark grey, with minimum interbeds of dark grey deposits and light grey fine grained sandstone. Scattered very thin calcite filled fractures parallell to bedding. Sandstone has small scale load costs and rip up casts. Minor shearing perpendicular to bedding with iron staining.	1.58	
						37/11.28			
							Siltstone - S.A.A.core somewhat broken fracture filled in soft grey clay (1cm thick) 58-72 cm from top of interval	1.11	
							Top of Box 2		
80°							Siltstone - medium to dark grey with interbeds of light grey fine grained sandstone. Much soft sedimentary deformation. Rip up clasts, load costs and turbadites.	.72	
							Siltstone - medium grey brown, very soft and pulverized	.11	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 2 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
74°							Siltstone - dark grey with interbeds of light grey fragmented	.96	
							sandstone, basically same as above, with very thin calcite filled		
							stringers along bedding		
						47/14.33			
79°							Siltstone - S.A.A. Small bioturbs. (Worm burrows as well)	1.03	
							Top of Box 3		
70°							Siltstone - medium to dark grey with interbeds of light grey fine	.16	
							grained sandstone. Small scale turbs, rip up clasts and load costs.		
							Minor fractures with calcite filling and iron staining.		
							Siltstone - same as above	.13	
							Siltstone - same as above	.47	
							Siltstone - same as above (are broken with iron staining)	.07	
							Siltstone - same as above		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 3 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						57/17.37			
73°							Siltstone - S.A.A. with bioturbs as well. Fragments of dark grey	1.00	
							claystone, sub rounded to rounded larger percent rounder shaped,		
							average length 3-5 mm, average width 1-2 mm		
							Top of Box 4		
73°							Siltstone - medium to dark grey with interveds of light grey fine	2.12	
							grained sandstone, showing small scale cross bedding, loads casting		
							bioturbations (worm burrows). Pinch and swell, and minor rip up		
							clasts . This interval also has a high percent of incorporated sub		
							rounded to rounded dark grey claystone fragments. Minor fractures		
							with calcite filling and iron stains. Two small broken zones, one at		
							16 cm from top (7cm wide) and other 186 cm from top(6 cm wide)		
						67/20.42			
77°							Siltstone - same as above still with claystone fragments	.69	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 4 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 5		
76°							Siltstone - medium to dark grey with interbeds of light	.84	
							grey fine grained sandstone to dark grey claystone. Also		
							dark grey claystone fragments throughout. Slight		
							shearing towards base		
	21.00	21.04	.04				Bentonite - cream colored, soft, with minor iron staining	.04	
	21.04	21.07	.03				Core loss - bentonite		
	21.07	30.54	9.47				Siltstone - nedium to dark grey with interbeds of light	.57	
							grey fine grained sandstone. Basically same as above		
							Siltstone - same as above core badly broken		
							Siltstone - S.A.A. slightly broken. Fractures 60° to core axis	.26	
							Siltstone - same as above, core badly broken	.28	
							Siltstone - same as above, core slightly broken	.23	
72°							Siltstone - S.A.A. core badly broken, some iron staining	.32	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 5 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 6		
						77/23.47			
							Siltstone - medium to dark gray with interbeds of light	1.13	
							fragmented sandstone and dark grey claystone fragments. Core		
							badly broken and fractured with some shearing. Iron staining		
							and calcite staining along fractures.		
76°							Siltstone - medium to dark grey with interbeds of light	1.73	
							grey fine grained sandstone. Fragments of dark grey claystone		
							throughout. Sandstone has small scale turbations and load costs.		
							Top of Box 7		
76°							Siltstone - same as above	.46	
						87/26.52			
70°							Siltstone - same slight shearing and calcite filled fractures	2.34	
							vertical to bedding, same as above		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 6 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 8		
							Siltstone - medium to dark grey with interbeds of light grey fine	.50	
							grained sandstone and fragments of dark grey claystone. Minor		
							turbations . 2 cm clay band at base along shear		
						97/29.57			
77°							Siltstone - S.A.A. only minor interbeds of light grey fragmented	.83	
							sandstone. Slight shearing		
							Siltstone - S.A.A. very badly broken and fractured	.72	
	30.54	30.81	.27				Core loss (siltstone)		
77°	39.81	49.91	19.10				Siltstone - S.A.A. core only slightly broken with small calcite	.70	
							filled fractures and slight shearing. Fractures vertical		
							to bedding		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET 7 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 9		
78°							Siltstone - medium to dark grey with minor interbeds of light grey	.77	
							fragmented sandstone. Light shearing with calcite filling.		
							Scattered fragments of dark grey claystone.		
						107/32	.61		
							Siltstone - S.A.A. slight shearing with calcite filling. Core	2.02	
							slightly broken, 3 cm clay band 136 cm from top		
							Top of Box 10		
							Siltstone - same as above, core broken	.48	
						115/35	.05		
							Siltstone - core slightly broken in places. Few very thin calcite	2.36	
							filled fractures, minor interbeds of dark grey claystone.		
							Same as above		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 8 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 11		
							Siltstone _dark grey with minor interbeds of dark claystone	.88	
							Same as above, no visible BCA's		
						125/38	.10		
							Siltstone - same as above, minor shearing 45° to core axis		
							Core slightly broken		
							Top of Box 12		
82°									
							Siltstone - S.A.A. medium to dark grey with minor interbeds of light	.88	
							grey fine grained sandstone Fragments of dark grey claystone. Minor		
							fractures. Botton 18 cm of broken core		
						135/41	.15		
78°							Siltstone - same as above	1.91	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 10 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 13		
							Siltstone - meduim to dark grey with minor interbeds of light grey	1.23	
							fine grained sandstone. SLightly broken. Bo ttom 12 cm badly broken		
							Minor fragments of dark grey claystone		
						145/44.20			
75°							Siltstone- same as above, slight shearing	1.43	
							Top of Box 14		
							Siltstone - S.A.A. when dry after wetting down core. Breakage	1.70	
							is in a honey comb pattern		
						157/47.85			
							Siltstone - same as above		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 12 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 15		
76°						-	Siltstone - medium to dark grey as above. Minor interbeds	1.61	
							of light grey fragmented sandstone. Core slightly broken with		
							shearing		
						165/50.29			
							Siltstone - S.A.A. sheared with listic surfaces	.12	
							50° to core axis		
	49.91	49.95	.04			Bentonite - white to very light grey very soft (putty like)		.04	
84°	49.95	52.78	2.83				Siltstone - medium to dark grey with minor interbeds of light grey	.89	
							fragmented sandstone which has small scale load costs and rip up		
							clasts. Slight shearing		
83°							Siltstone - S.A.A. Core slightly broken	1.94	
	52.78	52.81	.93				Core loss (siltstone)		
						175/53.34			
	52.81	58.15	5.34				Siltstone - same as above	.82	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 13 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 17		
							Siltstone - dark grey with minor interbeds of dark grey claystone	2.16	
							and minor iron staining nodules		
						185/56	39		
							Siltstone - same as above		
							Top of Box 17		
85°							Siltstone - S.A.A. with 7 cm iron staining band starting at 6 cm	1.62	
							from top		
	58.15	58.23	.08				Core loss (Conglomerate)		
	58.23	70.59	12.36				Conglomerate - top 20 cms badly broken, contact is very sharp.	.85	
							Compostition is mainly quartz and chert pebbles in a coarse		
							grained medium grey sandstone groundmass (cement). Overall color		
							is light to medium grey. Mainly pebble sized clasts but range is		
							0.5 cm to 2 cms.		
						195.59	44		
							Conglomerate - S.A.A. with an increase in clast size up to 3.5 cm		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 14 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 19		
							Conglomerate -same as above	.27	
						197/60.06			
							Conglomerate -same as above	1.10	
							Conglomerate - S.A.A. much coarser pebbles, more a cobble size conglomerate. Clasts as large as 6 cm. Still subrounded to rounded quartz and chert for most part with minor siltstone. Matrix or cement still medium to coarse grey sandstone		
							Conglomerate - S.A.A. with clasts of 1-2 cms. Large number of calcite filled towards bottom	.70	
							Sandstone - medium grey, with thin discontinuous coal laminae. Numerous with thin calcite filled fractures. Minor shearing along coaly laminae	.39	
							Conglomerate - same as above	.05	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 15 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 20		
							Conglomerate - medium grey clasts of quartz and chert for most part. Subrounded to rounded. Matrix and cement of medium grey, medium frained sandstone. Average clast size 1-2 cm.	.38	
						207/63.09			
							Conglomerate - S.A.A. with minor dark grey siltstone clasts and one possible huicross. Clast 6 X 4cm. well rounded. Fine grained light grey sandstone with dark grey laminae of siltstone. Minor calcite filled thin fractures towards bottom	2.52	
							Top of box 21		
							Conglomerate - S.A.A. Minor coarse grained medium grey sandstone at base	.60	
						217/66.14			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 16 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of box 22		
85°							Conglomerate - same as above. Clasts still mainly quartz	.74	
							and well rounded. Medium grey in color overall. Inter-		
							beds of medium grey coarse grained sandstone. Percent		
							of same increasing going down hole		
						227/69	.19		
							Conglomerate - same as above with minor discontinuous	1.68	
							coaly laminaes and thin calcite filled fractures. Average		
							clasts size 1 cm. Some shearing (listrics) along coaly		
							laminations.		
							GETHING FORMATION		
87°	70.59	73.57	2.98				Sandstone - medium grey, fine grained with interbeds of	.44	
							dark grey siltstone. Sharp contact with overlying conglomerate.		
							Sandstone has small scale cross bedding and load casts		
							Top of box 23		
74°							Sandstone - same as above with interbeds of dark grey siltstone.	.90	
							Core broken in places. Minor coaly laminae with slight shearing		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 17 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						237/72.24			
75°							Sandstone - same as above. Percent of siltstone increasing down	.26	
							hole. Slight bioturbation (worm burrows-2)		
80°							Siltstone - dark grey with interbeds of medium grey fine grained	.84	
							sandstone which show small scale cross bedding and load casts.		
							Slight shearing along thin coaly 1-2 cm band 54 cm from top		
							Sandstone - medium grey, fine grained with minor dark grey siltstone	.54	
							interbeds. Sandstone shows small scale cross bedding and turbidity.		
							Slight shearing along bedding. Scattered discontinuous coaly		
							laminations		
	73.57	77.18	3.61				Claystone - dark grey with interbeds of dark grey siltstone.	.09	
							Coaly laminations with minor shearing		
							Top of Box 24		
							Claystone - dark grey with coaly laminae. Slight shearing, core	.26	
							broken at bottom		
80°							Siltstone - dark grey with interbeds of medium grey fine grained	.84	
							sandstone. Minor thin coaly laminaes with slight shearing, core		
							broken at bottom		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 18 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
						247/75.29		
82°							Siltstone - same as above. Sandstone interbeds show small scale	1.48
							cross bedding load casts and other turbidites	
							Top of Box 25	
							Siltstone - dark grey with minor interbeds of dark grey clatstone	.94
	77.18	77.21	.03	.03			Coals - dull with bright bands	.03
	77.21	77.31	.10	.10			Coal - core broken	.10
	77.31	77.51	.20	.20			Coal bright	.20
	77.51	77.84	.33	.32			Claystone - carbonaceous (core loss)	.16
						257/78.33		
							Claystone - dark grey, soft core broken, with coaly laminae	.12
							laminae and listric surfaces	
	77.84	77.93	.09				Core broken (claystone)	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 19 OF

DATE BEGUN	DATE FINISHED	MINE GRID N . E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY in
77°	77.93	79.49	1.56				Sandstone - medium grey fine grained with interbeds of dark grey	1.04
							siltstone. Sandstone has small scale cross bedding, minor	
							turbidites. Slight shearing along bedding with calcite filling	
							Top of Box 26	
85°							Sandstone - light to medium grey fragmentation with interbeds of	.52
							dark grey siltstone has small scale cross beds	
	79.49	81.17	1.58				Siltstone - medium to dark grey with interbeds of light grey	1.15
							fine grained sandstone (minor)	
						267/81	.33	
							Siltstone - same as above, top 5 cm badly broken	.53
86°	81.17	100.96	19.79				Snadstone - light to medium grey fragmentation. Carbonaceous	.31
							laminations. Small scale cross bedding and small load costs	
							Top of Box 27	
82°							Sandstone - light to medium grey, fine grained, thin carbonaceous	1.38
							laminations. Minor interbeds of dark grey siltstone. Sandstone	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET 20 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							has small scale cross beds. Load casts and rip up clasts as	
							well as turbidites	
							Sandstone - light to medium grey fine grained, with interbeds of	.84
							dark grey siltstone. Percent of siltstone increasing down hole	
						277/84	.43	
86°							Siltstone - dark grey with interbeds of medium grey fine grained	.44
							sandstone. Listrics to minor carbonaceous debris along bedding	
						287/87	.48	
							Sandstone - same as above	.15
							Top of Box 29	
84°							Sandstone - light to medium grey fine grained with interbeds of	.74
							dark grey siltstone. Also scattered thin carbonaceous lanimations.	
							Bioturbations, worm burrows, load casts, rip up clasts starting	
							to coarsen downward.	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 21 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
86°							Sandstone - light to medium grey. Medium grained with minor	1.29	
							interbeds of dark grey siltstone. Small scale cross bedding		
							and load casts basically same as above but coarser grained.		
84°							Sandstone - medium grey coarse grained minor carbonaceous laminations.	.77	
							(thin) discontinuous coaly laminations. Slight shearing.		
							Top of Box 30		
							Sandstone - medium grey, coarse grained, same as above	.07	
						297/90.42			
87°							Sandstone - same as above with scattered discontinuous coaly	2.67	
							laminations and quartz and chert pebbles. Thin carbonaceous laminations		
							throughout.		
							Top of Box 31		
88°							Sandstone - same as above	.35	
						307/93.57			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 22 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above		
							Conglomerate- clasts of subrounded to rounded quartz and chert	.67	
							for most part (average size 1 cm) also frequent discontinuous coaly		
							inclusions		
87°									
87°							Sandstone - medium grey coarse grained, scattered conglomerate	1.41	
							bands (2-3 cm wide). Also scattered discontinuous coaly		
							laminations and inclusions		
							Top of Box 32		
70°							Sandstone - medium grey, medium to coarse grained, coarsening	.52	
							downward with scattered quartz and chert pebbles and minor		
							coaly inclusions. Slight shearing		
						317/96.62			
75°							Sandstone - same as above with conglomerate bands and discontinuous	.92	
							coaly laminations, minor shearing along bedding		
							Canglomerate - medium grey clasts mainly pebbles, subrounded	.62	
							to rounded quartz, chert and minor dark grey siltstone.		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 23 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - medium grey, medium to coarse grained with scattered	..62	
							pebbles of chert and quartz. Minor carbonaceous laminations with		
						322/98.15			
							Sandstone - medium grey, coarse grained with 7 cm. of conglomerate	.46	
							bottom. Minor coaly inclusions and discontinuous calcite stringers		
							Top of Box 33		
							Sandstone - medium grey, coarse grained with bands of conglomerate	.71	
							composed mainly of quartz and chert pebbles ranging in size up to		
							3 cm. with average about 1 cm. Sandstone also has discontinuous		
							coaly laminations with minor shearing		
						327/99.67			
83°							Sandstone - medium grey coarse grained with bands of conglomerate	2.12	
							and conglomeratic sandstone throughout. Scattered discontinuous		
							coaly laminations and a few hair like calcite filled fractures.		
							Sub rounded to rounded calsts of quartz and chert still predominate		
							the conglomerates with minor dark grey siltstone as well.		
							Conglomerate is unsorted for most part but has an overall coarsening		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 24 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							downwards. Number of conglomeratic bands increases downhole	
							as well.	
							Top of Box 34	
84	100.96	109.64	8.68				Conglomerate - medium grey, composed of subrounded to rounded	.98
							quartz, chert pebbles for most part, average clast size 1 cm.	
							(unsorted). Minor bands of medium grey coarse grained sandstone	
							with thin carbonaceous laminations. Two large 6X4 cm. clasts	
							of dark grey siltstone. Sub rounded some pebbles fractured with	
							calcite filling	
						337/102.72		
							Conglomerate - same as above basically with some minor coaly debris	1.85
							in coarse sandstone bands. Slight fining downwards in pebble	
							sizes.	
							Top of Box 35	
							Conglomerate - same as above. Composed of subrounded to rounded	1.33
							pebbles of quartz and chert. Bands of medium grey coarse grained	
							sandstone. Average clast size in conglomerate still about 1 cm.	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 25 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							cont'd ...		
							Largest clast in this interval measures 3 x 2 cm.		
							Sandstone has thin colay laminations (discontinuous).		
						347/105.77			
							Conglomerate - same as above. With both conglomerate and sandstone	1.33	
							fining downhole.Clasts in conglomerate mainly subrounded 75% with	25%	
							being rounded. Average clast size is 0.5 cm.		
87°							Sandstone - medium grey fine grained with carbonaceous laminations	.30	
							which are slightly sheared. Chert pebbles predominate.		
							Top of Box 36		
							Conglomerate - Basically same as above but clasts of chert and	1.54	
							quartz are larger and percent of rounded fractures is now 60% versus		
							40% for subrounded. Average clast size is 1 cm. Minor interbeds		
							of fine grained medium grey sandstone with discontinuous coaly		
							laminations with minor shearing		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET 26 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						357/108.81			
							Conglomerate - same as above. Core somewhat broken. Average	1.26	
							calcite filled fractures throughout, varying from hair like to		
							a width of 0.5 cm. Clasts subrounded to rounded, again mainly		
							chert with quartz. Average size 1 cm. Minor coarse grained		
							medium grey sandstone. Clacite stringers throughout. Also		
							scattered pebbles. Cement is coarse grained medium grey sandstone.		
							Top of Box 37		
							Conglomerate - same as above	.24	
	109.64	112.23	2.59				Siltstone - medium to dark grey. Abrupt contact with overlying	1.41	
							conglomerates. Thin coaly laminateions with listric surfaces.		
							Minor pyrite blebs throughout		
						367/11.86			
85°							Siltstone - same as above with minor interbeds of medium,	1.18	
							fine grained small scale cross bedding with sandstone.		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 27 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 38		
	112.23	112.51	.28				Core loss (Claystone)		
80°	112.51	112.85	.34				Claystone - dark grey soft with interbeds of dark grey siltstone.	.34	
							Carbonaceous plant remains and discontinuous coaly laminae.		
	112.85	112.96	.11	0.11			Coal - dull with vitrain bands (boney)	.11	
	112.96	113.14	.18	0.18	2460		Core Loss - coal		
	113.14	113.30	.16	0.16			Coal - sheared to pulverized	.16	
	113.30	113.32	.02	0.02			Clay - dark grey, soft (putty like)	.02	
					2461				
	113.32	113.58	.26	0.26			Claystone - dark grey, soft minor interbeds of dark grey siltstone.	.26	
	113.58	114.14	.56	0.55	2462		Coal - dull with thin vitrain bands (boney in parts)	0.56	
	114.14	115.93	1.79				Claystone - dark grey carbonaceous with thin coaly laminations		
							Sandstone - medium gray with interbedds of medium gray siltstone,		
							turbidities		
78						377/ 114.91			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 28 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
78°							Sandstone - medium grey fine to medium grey slight coarsening	1.05	
							downward slight turbation at top. Scattered discontinuous		
							coaly laminae. Slight shearing 45° to core axis		
							Top of Box 39		
							Sandstone - medium grey fine to medium grained fining downward	.34	
							Siltstone - medium grey with minor medium grey fine grained	.06	
							sandstone		
							Claystone - dark gray with thin colay lenses	.07	
	115.93	116.08	015	.15			Coal - boney	.15	
	116.08	116.11	003	.03			Coal - brihgt, fractured (cleated)	.03	
	116.11	116.19	008	.08			Claystone - dark gray, carbonaceous with thin coaly lamanitions.	.08	
	116.19	116.75	056				Siltstone - dark grey with interbeds of medium grey fine grained	.56	
							sandstone. Scattered thin discontinuous coaly laminae		
	116.75	116.80	005				Rock loss, clyst		
	116.80	116.96	016				Coal loss		
	116.96	117.10	014				Claystone - dark grey with coaly laminations. Carbonaceous,	.14	
							slight shearing. Core borken		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 29 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						387/117	96		
	117.10	120.30	3.20				Siltstone - same as above	.31	
86°							Sandstone - medium grey fine grained. Thin discontinuous coaly laminae to scattered coaly fragmentation	.39	
76°							Siltstone - dark grey with slight shearing along bedding	.68	
							Top of Box 40		
							Siltstone - medium to dark grey. Minor interbeds of dark grey claystone. Carbonaceous plant debris	1.82	
						397/121	01		
	120.30	120.58	.28	.27			Coal - boney with some thin vitrain bands, core (loss)	.28	
	120.58	120.63	.05	.05			COre loss - coal		
	120.63	121.02	.39	.38			Siltstone - dark grey with interbeds of dark grey claystone. Minor carbonaceous plant debris. 8 cm of claystone at bottom	.38	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 30 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	121.02	123.41	2.39				Sandstone - light to medium grey, medium grained with minor	.26	
							interbeds of dark grey siltstone at top, broken core		
							Top of Box 41		
77							Sandstone - light to meduim grey, medium grained with minor	2.13	
							carbonaceous laminations and odd scattered small pebbles		
	123.41	123.45	.04			407/124.06	Rock loss		
78	123.45	137.12					Sandstone - same as above, broken core at top.	.69	
							Top of Box 42		
							Sandstone - same as above. Minor small scale cross bedding, slight	2.25	
							fining downwards.		
						417/127.13			
78							Sandstone - same as above, still fining downwards	.47	
							Top of Box 43		
78							Sandstone - light grey, fine to medium grained. Minor cross	251	
							beddings scattered thin carbonaceous laminations, almost a massive		
							sandstone.		
						427/130.15			
81							Sandstone - same as above. Slgihtly darker grey than above	.26	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 31 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 44		
76°							Sandstone - same as above. Minor small scale cross bedding	2.40	
			13				measurement error, undermeasured, see photo of boxes 43/44.	0.13	
						347/133	.20		
							Sandstone - same as above. Minor layering caused by inclusion	.43	
							of chert grains (barley size)		
							Top of Box 45		
81°							Sandstone - same as above. Medium grey, fine to medium grained	2.69	
							slight fining downward. Also slight color change to lighter		
							grey scattered crbonaceous laminations. Small scale cross		
							bedding.		
						447/136	.25		
							Sandstone - same as above. Core broken	.11	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 32 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 46		
75°							Sandstone - same as above. Medium grey, fine grained, minor	1.73	
							small scale cross bedding. Few thin carbonaceous laminations.		
	137.12	137.82	.70	.68	2463		Coal - dull and bright fractured. Slight shearing 45° to core axis. Core broken	.70	
	137.82	137.86	.04	.04			Coal - boney	.04	
	137.86	138.19	.33	.32	2464		Claystone - dark grey, carbonaceous with thin coaly laminations	.33	
	138.19	138.30	.11	.11	2465		Coal - dull and bright banded, badly fractured and squeezed	.11	
							Top of Box 47		
						457/139.30			
	138.30	138.43	.13	.13	2466		Claystone - dark grey, with thin coaly laminations which are sheared. Core broken.	.13	
	138.43	138.55	.12	.12			Core loss - claystone		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 33 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	138.55	138.62	.07	.07			Coal - bright	.07	
	138.62	138.71	.09	.09			Coal - boney	.09	
	138.71	138.83	.12	.12			Claystone - dark grey carbonaceous, with thin coaly laminations	.12	
	138.83	139.53	.70	.67			Coal - bright, somewhat sheared	.70	
	139.53	139.91	0.38	.37			Claystone - dark grey, carbonaceous with thin coaly laminations	.02	
80°	139.91	141.06	1.15	1.13			Claystone - dark grey with interbeds of dark grey siltstone.	.36	
							Minor coaly laminations with listric surfaces		
	141.06	141.11	0.05	.05			Coal - boney(40 - 45%ash)	.05	
	141.11	141.18	0.07	.07			Coal - fractured. Dull with bright bands	.07	
	141.18	141.48	0.30	.29			Coal dull with minor bright bands, sheared, crumbly	.30	
						467/142.34			
					2468				
	141.48	141.70	0.22	.22			Coal - dull to bright banded, sheared	.22	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 34 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
..	141.70	141.79	0.09	.09			Ironstone - hard, grey brown. Coaly laminations and calcite	0.09	
							filled fractures		
	141.79	141.87	0.08	0.08			Coal - dull and bright sheared	.08	
	141.87	142.35	0.48	.47			Siltstone - medium to dark grey. 3 cm. of claystone at top.	0.48	
							Carbonaceous debris. Contact with fine grained sandstone below		
							is gradational		
80°	142.35	144.09	1.74	1.71			Sandstone - light to bedium grey fine to medium grained. Minor	1.58	
							carbonaceous aaminations, small scale cross bedding. Scattered		
							turbidites.		
							Top of Box 49		
76°							Sandstone - same as above, light grey fine grained thin carbon-	.0.16	
							aceous laminations. Minor coal inclusions		
73°	144.09	144.42	0.33	.32			Claystone - medium to dark grey with interbeds of light grey fine	0.25	
							grained sandstone. Small scale cross bedding in sandstone. Few		
							thin coaly laminations. 4 cm. of claystone at bottom		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 35 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						477/145.39			
							Claystone - dark grey. With discontinuous coaly laminations.	0.08	
	144.42	144.72	0.30	.29	2469		Coal - bright banded, some shearing	.30	
	144.72	145.11	0.39	.38	2470		Claystone - dark grey with interbeds of dark grey siltstone. Carbonaceous debris. Slight listrics with vitrain thin calcite filled fractures.	0.39	
	145.11	145.36	0.25	.24			Coal - dull with bright bands	.25	
	145.36	145.46	0.10	.10			Coal-dull to bright banded	.10	
					2471				
	145.46	145.63	.17	.16			Coal - boney	.17	
	145.63	145.76	.13	.13			Coal - dull and bright banded	.13	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 36 OF

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	145.76	145.83	.07	.07			Claystone - dark grey carbonaceous with coaly laminations	0,07	
	145.83	146.31	0.48	.47			Siltstone - dark grey with interbeds of dark grey claystone.	0.48	
							Grades into medium grey fine grained sandstone. 3 cm. coaly band		
							6 cm. from bottom		
80°	146.31	147.15	0.84	.82			Sandstone - light grey fine grained with interbeds of medium	0.39	
							to dark grey siltstone. Minor carbonaceous plant debris.		
							Top of Box 50		
78°							Sandstone - same as above. Minor small scale cross bedding	0.45	
							and coaly inclusions and turbidites		
						481/146.85			
							END OF HOLE		

474-8010

HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		3/14/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-08	COATES	90		316	HQ	--	N22/7500 N	3199	1	19

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1549.3	6,065,874.29 N 649,936.64 E	N E	

GENERAL COMMENTS

Fault at 156m

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B6		22.70-23.70	20	0.94	0.94/0.00	31	--		Kb	49.0	1500.3		
									Kh	140.65	1408.65		
B12R		141.85-142.30	70	0.15	0.13/0.02	27	--						
B12		177.92-178.42	12	0.50	0.50/0.00	25	--						
B11		192.60-194.90	25	2.09	1.96/0.13	15	2476						
B10		224.89-225.42	40	0.34	0.34/0.00	0	--						
B9	1293.9	248.45-255.40	30	5.66	5.30/0.36	42	2477-81						HOLE NUMBER MUD 81-08

473-6010

PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-08	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr				COMMENTS
									NAME	BASE	ELEV. BASE	TRUE THICKNESS	
		262.00-262.60	20	0.56	0.56/0.00	0	--						
B8		285.67-290.82	70	1.76	1.01/0.75	38	2482-86						
													HOLE NUBMER MUD 81-08

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	1 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							~~TOP OF BOX 1~~		
	18.97	20.32	1.35				Overburden - badly broken core - a mixture of claystone fragments	0.60	
							sandstone fragments and till (pebbles in an		
							unconsolidated sandy matrix)		
						14.33			
							Overburden - as above - minus the pebbles in sandy matrix	0.75	
						17.37			
	20.32	21.90	1.58				Siltstone - medium grey - grades basally to claystone	0.35	
							dark grey		
						20.42			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	2 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						20.42			
							Claystone - dark grey, carbonaceous - badly fractured and broken core	0.30	
							TOP OF BOX 2		
65°							Siltstone - medium grey - rare laminations, core is moderately fractured at 60° to 70° to core axis	0.71	
							Claystone - medium to dark grey, soft - top 4 cm carbonaceous to coaly	0.22	
	21.90	22.15	0.25	0.23			Core Loss - Coal		
	22.15	22.20	0.05	0.05			Coal - dull pulverized - mixed with claystone fragments		
	22.20	22.70	0.50	0.47			Core Loss - Claystone		
						23.46			

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	3 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°	22.70	23.01	0.31	0.29			Coal: Dull to bright (70/30) Core is badly broken		
	23.01	23.70	0.69	0.65			Core Loss - Coal		
	23.70	30.24	6.54				Sandstone - salt & pepper - medium grained, well sorted.	0.40	
							Contains 2% coaly partings, slickensides on fracture		
							surfaces at 70° to core axis		
							TOP OF BOX 3		
65°							Sandstone - salt & pepper - medium grained, well sorted.	1.70	
							rare laminations - increasing basally.		
							cross-bedded		
						26.52			
							Sandstone - same as above - at 55 cm from top - appears to	0.93	
							have been bioturbated		

474-8010

HOLE NUMBER
3.03

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	4 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 4		
							Sandstone - same as above - Top 35 cm bioturbated	2.08	
						29.57			
70°							Sandstone - same as above - coarsens occassional to granule zones. Poorly developed slickensides on fractures at 60 to 70° to core axis - 2 fractures per metre	0.72	
							Sandstone - same as above - dominantly coarse grain	0.71	
							TOP OF BOX 5		
60°	30.24	32.98	2.74				Sandstone - same as above - zones of medium to coarse to granule. Cross-bedded - 4 fractures per metre at 60° to core axis	2.05	
						32.61			

474-8010

HOLE NUMBER
5.56

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	5 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above - medium to coarse grain	0.37	
							TOP OF BOX 6		
							Sandstone - same as above	0.32	
70°	32.98	44.73	11.75				Sandstone - light to medium grain - fine to medium grained -	2.19	
							laminated to thinly bedded. Rusty zones along		
							lamination in basal 90 cm. Cross-bedded.		
						35.66			
							TOP OF BOX 7		
							Sandstone - same as above - no rusty zone, occasional	2.68	
							moderately well developed slickensides on		
							fractured surface. 2 fractures per metre at 70°		
							to core axis		

474-8010

HOLE NUMBER
5.97

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	6 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 8		
60°							Sandstone - same as above - rare thin rusty colored	2.90	
							oxidized zones 2 fractures per metre along bedding		
							TOP OF BOX 9		
							Sandstone - same as above	0.55	
						41.76			
70°							Sandstone - same as above - occasional fractures at	2.20	
							45° to core axis - oxidized on fractured surfaces		
							TOP OF BOX 10		
70°							Sandstone - same as above - fractured at 40° to core axis	0.98	
							Oxidation on fractured surfaces.		

474-8010

HOLE NUMBER
6.43

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	7 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above	0.25	
	44.73	44.79	0.06				Coreloss - Claystone		
	44.79	45.25	0.46				Claystone - dark grey carbonaceous - soft, slickensides	0.22	
							on fractured surface at 80° to core axis		
							- broken rubbly core.		
							Sandstone - light grey, fine grain, laminated	0.18	
							Claystone - dark grey, rubbly core, broken into thin plates.	0.06	
65°	45.25	48.97	3.72				Sandstone - light grey, fine grain. Well sorted - faintly	0.84	
							laminated.		

474-8010

HOLE NUMBER
1.50

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	8 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 11		
65°							Sandstone - same as above - contains rare, silty to claystone	1.48	
							partings - soft sediment deformation		
						47.85			
							Claystone - dark grey - Carbonaceous with rare coal splints.	0.16	
							Silty at base.		
							Siltstone - medium to dark grey, sandy in part. Cross-bedded.	0.22	
70°							Sandstone - light grey, fine grained - laminated - becomes	1.02	
							silty basally.		

474-6010

HOLE NUMBER
2.83

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	9 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 12		
	48.97	64.48	15.51				Sandstone/Siltstone - Laminated to thinly bedded, soft	1.70	
							sediment deformation, cross-bedded.		
							- Sandstone - light grey fine to medium grain		
							- Siltstone - medium to dark grey		
						50.90			
							Sandstone/Siltstone - same as above	0.96	
							TOP OF BOX 13		
70°							Sandstone/Siltstone - same as above - 50/50	2.06	
						53.95			
							Sandstone/Siltstone - same as above - 50/50	0.65	

474-8010

HOLE NUMBER
5.27

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	10 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 14		
70°							Sandstone/Siltstone - same as above. Rare fractures at 10° to core axis	2.48	
							5 fractures per metre.		
						57.00			
							Sandstone/Siltstone - same as above - 40/60	0.28	
							TOP OF BOX 15		
75°							Sandstone/Siltstone - same as above. 50/50	2.72	
							5 to 7 fractures per metre at 80 to 90° to core axis		
						60.05			

474-8010

HOLE NUMBER
5.43

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	11 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 16		
							Siltstone/Sandstone - same as above. 7 fractures per metre at	2.38	
							80° to core axis		
							- lower 25 cm broken core		
							- Siltstone 60% - Sandstone 40%		
						62.48			
70°							Siltstone/Sandstone - same as above	0.28	
							TOP OF BOX 17		
							Siltstone/Sandstone - 70/30 - same as above	2.00	
							8 fractures per metre at 50 to 70° to		
							core axis. Faintly developed slickenside		
							on fracture in basal 10 cm.		
	64.48	64.69	0.21				Core Loss - Siltstone/Sandstone		
						64.92			

474-6010

HOLE NUMBER 4.61

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	12 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	64.69	67.15	2.46				Siltstone/Sandstone - same as above	0.48	
							TOP OF BOX 18		
65°							Siltstone/Sandstone - same as above - 50/50	1.98	
							- badly broken core.		
							- fractures vary from 0° to 90° to core axis		
	67.15	67.59	0.44				Core Loss - Siltstone/Sandstone		
							TOP OF BOX 19		
						67.97			
70°	67.59	74.33	6.74				Siltstone/Sandstone - interbedded to interlaminated	2.78	
							- Siltstone - dark grey 70%		
							- Sandstone - light grey, fine grain 30%		
							- Soft sediment deformation, cross-laminated		
							- 6 fractures per metre sub parallel to		
							bedded		
							- rare slickensides on fractures		
							- rare carbonaceous partings		

474-8010

HOLE NUMBER
5.19

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	13 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 20		
							Siltstone/Sandstone - same as above	0.44	
						71.32			
70°							Siltstone/Sandstone - same as above	2.37	
							TOP OF BOX 21		
							Siltstone/Sandstone - same as above - 50/50	0.64	
						74.37			
							Siltstone/Sandstone - same as above	0.51	
55°	74.33	74.51	0.18				Deformed rock - light grey color, heavily slickensided	0.18	
							- indicated with calcium carbonate		

474-8010

HOLE NUMBER
4.09

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	14 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
60°	74.51	76.97	2.46				Siltstone/Sandstone - dark grey Siltstone - interlaminated to	1.96	
							thinly interbedded with light grey very		
							fine to fine grain Sandstone - 50/50		
							Soft sediment deformation -		
							Cross-laminated		
							TOP OF BOX 22		
							Siltstone/Sandstone - same as above. 4 fractures per metre	1.00	
							- Slickensides		
						77.42			
70°	76.97	83.68	6.71				Siltstone/Sandstone - Same as above. 7 fractures per metre	1.82	
							- Slickensides		
							TOP OF BOX 23		
65°							Siltstone/Sandstone - same as above. 9 fractures per metre	1.17	
							along bedding.		
							- Slickensides.		
						80.47			

474-8010

HOLE NUMBER 5.40

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	15 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone/Sandstone - same as above. 3 fractures per metre	1.50	
							along bedding		
							TOP OF BOX 24		
							Siltstone/Sandstone - same as above. 5 fractures per metre at	0.98	
							90° to core axis.		
						82.60			
65°							Siltstone/Sandstone - same as above. 10 fractures per metre at		
							65 to 90° to core axis.		
							- Slickensides on fractured surfaces.		
	83.68	83.85	0.17				Core Loss - Siltstone		
						84.43			
	83.85	92.88	9.03				Siltstone/Sandstone - same as above. 70% Siltstone/30% Sandstone	0.66	
							TOP OF BOX 25		
60°							Siltstone/Sandstone - same as above. 60/40	2.39	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	16 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						87.48			
							Siltstone/Sandstone - same as above.	0.36	
							TOP OF BOX 26		
65°							Siltstone/Sandstone - same as above. 6 fractures per metre along	2.69	
							bedding.		

474-8010

HOLE NUMBER
9.77

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	17 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						90.53			
							TOP OF BOX 27		
70°							Siltstone/Sandstone - same as above	2.93	
	92.88	92.99	0.11				Core Loss - Siltstone/Sandstone		
							TOP OF BOX 28		
						93.57			
70°	92.99	99.06	6.07				Siltstone/Sandstone - same as above	2.85	
							TOP OF BOX 29		
							Siltstone/Sandstone - same as above	0.27	
						96.62			
65°							Siltstone/Sandstone - same as above. 80/20	2.49	
							- 6 fractures per metre along bedding		
						*	- 36 cm from top a 2 cm thick bentonite band		

474-8010

HOLE NUMBER
8.54

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	18 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 30		
							Siltstone/Sandstone - same as above. 80/20	0.46	
							- 8 fractures per metre along bedding.		
							- poorly developed slickensides.		
	99.06	99.16	0.10				Core Loss - Siltstone		
						99.67			
60°	99.16	101.51	2.35				Siltstone/Sandstone - same as above. 60/40	2.35	
							- occasional slickensides of fractured surfaces.		
							- rare carbonaceous to coaly partings		
							TOP OF BOX 31		
40°	101.51	106.44	9.93				Siltstone/Sandstone - same as above. 4 fractures per metre along bedding.	0.70	
							- poorly developed slickensides.		
							- 40% Siltstone/60% Sandstone.		
						102.72			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	19 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone/Sandstone - same as above. 6 fractures per metre along bedding. - 50/50	2.18	

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HOLE NUMBER
5.64

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	20 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 32		
70°							Siltstone/Sandstone - same as above - 50/50	0.79	
							- 10 fractures per metre along bedding.		
							- rare coal splints.		
							- rare poorly developed slickensides.		
						105.77			
							Siltstone/Sandstone - same as above. 50/50	1.18	
							Deformed rock - light grey in color - indurated with calcium	0.08	
							carbonate.		
							- slickensided throughout.		
60°	106.44	111.10	4.66				Siltstone/Sandstone - interlaminated to interbedded, soft	0.78	
							sediment deformation, cross-laminated		
							- Siltstone - dark grey 50%		
							- Sandstone - light grey - very fine to		
							fine grain - 50%		
							- 6 fractures per metre along bedding		
							- occasional poorly developed slickensides		
							- rare carbonaceous to coaly partings		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	21 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 33		
							Siltstone/Sandstone - same as above.	1.06	
						108.81			

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HOLE NUMBER 3.83

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	22 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65°							Siltstone/Sandstone - same as above	1.68	
							- 7 fractures per metre along bedding		
							- moderately to well developed slickensides		
							on fractured surfaces.		
							TOP OF BOX 34		
60°							Siltstone/Sandstone - same as above. 50/50	1.14	
							- 10 fractures per metre - well developed		
							slickensides.		
	111.10	111.33	0.23				Core Loss - Siltstone/Sandstone		
						111.86			
	111.33	117.29	5.96				Siltstone/Sandstone - same as above. 50/50	1.52	
							- 5 fractures per metre along bedding.		
							TOP OF BOX 35		
65°							Siltstone/Sandstone - same as above.	1.44	
							- 72 cm from top a 8 cm turbated zone.		
							- 5 fractures per metre sub parallel to bedding		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	23 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						114.91			
							Siltstone/Sandstone - same as above	1.22	
							- 6 fractures per metre at 65 to 90° to		
							core axis		
							- moderately well developed slickensides on		
							fracture surfaces		
							Top of Box 36		
65°							Siltstone/Sandstone - same as above 50/50	1.78	
							- 6 fractures per metre - poorly developed		
							slickensides on fracture surfaces		
70°	117.29	120.98	3.69				Siltstone/Sandstone - same as above 50/50	0.92	
							- 4 fractures per metre along bedding		
							Top of Box 37		
70°							Siltstone/Sandstone - same as above	2.09	
						121.01			
							Siltstone/Sandstone - same as above	0.68	

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HOLE NUMBER 5.78

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	24 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 38		
60°	120.98	126.22	5.24				Siltstone/Sandstone - same as above.	2.38	
						124.05			
							Siltstone/Sandstone - same as above.	0.33	
							TOP OF BOX 39		
65°							Siltstone/Sandstone - same as above, rare coaly partings 50/50	2.53	
	126.22	126.41	0.19				Core Loss - Siltstone		
						127.10			
	126.41	130.61	4.20				Siltstone/Sandstone - same as above. 50/50	0.10	
							TOP OF BOX 40		
60°							Siltstone/Sandstone - same as above.	2.33	
							TOP OF BOX 41		
							Siltstone/Sandstone - same as above	0.06	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	25 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone/Sandstone - same as above. 60/40	1.71	
	130.61	130.71	0.10				Bentonitic Zone - light grey, massive appearance, powdery in middle of zone.	0.10	
	130.71	131.25	0.54				Core Loss - Bentonite		
70°	131.25	132.51	1.26				Siltstone/Sandstone - interlaminated to interbedded - dark grey Silstone - 50% - light grey Sandstone - very fine to fine grain - cross-laminations - soft sediment deformation	0.84	
							TOP OF BOX 42		
							Silstone/Sandstone - same as above.	0.42	
						133.20			
60°	132.51	138.06	5.55				Siltstone/Sandstone - same as above. 50/50 rare coal partings	2.34	
							TOP OF BOX 43		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	26 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65							Siltstone/Sandstone - same as above 70/30	0.69	
							- 12 fractures per metre along bedding.		
						136.25	Siltstone/Sandstone - same as above. 40/60	1.92	
							- badly broken core at base.		
							Top of box 44		
50°							Siltstone/Sandstone - same as above, badly broken core -	0.60	
							fractures from 0 to 50° to core axis		
	138.06	138.27	0.21				Siltstone/Sandstone - core loss		
55°	138.27	138.58	0.31				Siltstone/Sandstone - same as above	0.31	
						139.29			
45°	138.58	139.75	1.17				Siltstone/Sandstone - same as above 20/80 - fractures along		
							bedding - poorly developed occasional slickensides -		
							white infill along bedding/five planes - Kaolinite?		
30°	139.75	140.65	0.90				Siltstone/Sandstone - medium to dark grey siltstone interlaminated	0.20	
							to interbedded with very fine to granular sandstone well		
							sorted - light grey to salt and pepper. Rock is fractured at		
							40° to core axis polished surfaces along fractures - cross bed		

474-8010

HOLE NUMBER 8.02

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	27 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						*	Hulcross/Gates Contact		
							Top of Box 45		
25°							Siltstone/Sandstone - same as above	0.10	
							Siltstone/Sandstone - same as above - badly broken core	0.60	
	140.65	141.47	6.82				Siltstone/Sandstone - core loss		
						142.34			
30°	141.47	141.69	0.22				Siltstone/Sandstone - same as above, polished slickensides on	0.22	
							fractured surfaces - along bedding		
	141.69	141.75	0.06	0.02			Coal - stoney - highly polished slickenside surfaces		
							Seam B12		
	141.75	141.81	0.06	0.02			Coal - dull		
	141.81	142.06	0.25	0.08			Coal - core loss		
	142.06	143.20	1.14				Claystone - carbonaceous - highly polished slickensides	0.81	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	28 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey - massive appearance - highly polished	0.33	
							slickensides at various angles to core axis		
15°	143.20	143.70	.50				Siltstone/Sandstone - medium to dark grey, interlaminated	0.35	
							with light grey to salt and pepper, fine to medium grained		
							sandstone - core is badly broken, bedding is wavy - between		
							0° and 15° to core axis		
							- rare Kaolinite infill		
							Top of Box 46		
45°							Siltstone/Sandstone - same as above	0.15	
	143.70	144.10	.40				Claystone - dark grey, carbonaceous, rubbly to pulverized core	0.40	
	144.10	144.43	.33				Rock loss		
	144.43	144.77	.34				Siltstone - dark grey, massive, rare carbonaceous and coaly	0.34	
							splints		
						145.39			
	144.77	145.32	.55				Claystone - carbonaceous with coaly splints - dark grey	0.55	
							- core is fractured into rubbly pieces 10 cm in length -		
							polished slickensides at various angles to core axis		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	29 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	145.32	145.70	.38				Claystone core loss		
	145.70	146.76	1.06				Siltstone - medium grey, massive, contains pyrite crystals	0.10	
30°							Sandstone - light grey, fine to medium grey with siltstone laminated	0.35	
							Siltstone - dark grey, massive, contains pyrite crystals	0.15	
							Top of Box 47		
							Siltstone - same as above	0.46	
40°	146.76	148.82	2.06				Sandstone - light to medium grey to salt and pepper - very fine to coarse grained. Contains 10% laminations of claystone and siltstone. Calcite infill on fractures at 70 to 90° to core axis, reasonably sound core	0.97	
						148.44			
45°							Sandstone - same as above, cross laminations and sandstone	1.09	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	30 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 48		
55°	148.82	149.31	0.49				Sandstone - same as above	0.49	
	149.31	150.41	1.10				Siltstone - massive appearance - dark grey - contains rare plant fragments and coaly splints 6 fractures per metre at 70° to 90° to core axis	1.10	
	150.41	151.25	0.84				Sandstone - light to medium grey, very fine to medium grained, sandstone, cross laminations, 6 fractures per metre at 70° to 90° to core axis	0.36	
						151.49			
10°							Sandstone - same as above	0.48	
	151.25	153.14	1.89				Siltstone - dark grey, massive appearance, contains rare carbonaceous and coaly flecks	0.46	
							Top of Box 49		
							Siltstone - same as above	0.28	
35°							Sandstone - light grey, laminated to cross laminations, sandstone rare carbonaceous to coaly partings	0.18	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	31 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - medium grey at top, grades to dark grey,	0.97	
							carbonaceous to coaly claystone at base. Massive		
							8 fractures per metre at 60° to 90° to core axis		
							- rare poorly developed slickensides		
	153.14	153.58	0.44				Coaly Claystone - core loss		
45°	153.58	154.14	0.56				Sandstone - salt and pepper, fine to coarse grain laminations	0.36	
							rare carbonaceous and coaly parting, occasional polished		
							slickensides		
						154.53			
							Sandstone - same as above, highly deformed - kaolinite infill	0.20	
							wavy - vertical bedding, slickensides		
	154.14	154.77	0.63				Siltstone - medium to dark grey, massive appearance, core	0.54	
							breaks with sharp hammer blow - abundant polished slicken-		
							sides - dominantly near vertical		
							Top of Box 50		
							Siltstone - same as above	0.09	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	32 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
0°	154.77	155.98	1.21				Sandstone/Siltstone - interlaminated to interbedded. Heavily deformed rock - bedding is vertical, highly polished slickensides along bedding	1.00	
							Siltstone - dark grey - badly broken core	0.21	
	155.98	156.99	1.01				Siltstone - core loss		
						157.58			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	33 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
55°	156.99	159.40	2.41				Sandstone/Siltstone - interlaminated to interbedded - dark	0.91	
							grey siltstone - light grey very fine to fine grained		
							sandstone , cross laminations, soft sediment deformation,		
							slickensides on fracture planes, 6 per metre		
							Top of Box 51		
45°							Sandstone/Siltstone - same as above	1.50	
	159.40	160.04	0.64				Sandstone/Siltstone - core loss		
						160.63			
30°	160.04	160.69	0.65				Sandstone/Siltstone - same as above	0.65	
							Top of Box 52		
10°	160.69	160.99	0.30				Sandstone/Siltstone - same as above	0.30	
70°	160.99	163.09	2.10				Sandstone/Siltstone - same as above, 5 fractures per metre, along	2.10	
							bedding, rare poorly developed slickensides		
	163.09	163.34	0.25				Sandstone/Siltstone - core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	34 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 53		
70°	163.34	166.14	2.80				Sandstone/Siltstone - same as above, 5 fractures per metre	2.73	
							Sandstone/Siltstone - same as above, sandstone coarsens to granular	0.07	
						166.73			
							Top of Box 54		
45°	166.14	166.64	0.50				Sandstone/Siltstone - same as above	0.50	
							- salt and pepper, coarse to granular sandstone interbedded with dark grey siltstone, cross laminations, soft sediment deformations		
							- rare carbonaceous and coaly partings		
							- fairly round core		
80°	166.64	167.64	1.00				Sandstone/Siltstone - same as above	0.10	
80°							Sandstone/Siltstone - interbeds - light grey fine grained with dark grey siltstone, soft sediment deformation, flaser bedding to planar beds 2 cm in thickness, badly broken core	0.90	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	35 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	167.64	169.19	1.55				Claystone - core loss, carbonaceous		
						169.78			
	169.19	169.67	0.48				Claystone - dark grey massive, becomes silty basally,	0.48	
							- slickensides throughout - sound core		
	169.67	171.19	1.52				Sandstone - light grey, medium grained well sorted, laminated,	0.15	
45°							contains thin carbonaceous to coaly partings		
							Top of Box 55		
55°							Sandstone - light grey, fine to medium grey, laminated with	1.37	
							occasional carbonaceous to coaly partings		
							- 10 - 15 fractures per metre dominantly along bedding -		
							calcite infill		
							- well developed slickensides		
	171.19	171.62	0.43				Sandstone - core loss		
						172.21			
	171.62	172.58	0.96				Sandstone - same as above - core is badly broken - rare vugs	0.68	
							Top of Box 56		
75°							Sandstone - same as above	0.28	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	36 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	172.58	175.73	3.15				Siltstone - dark grey massive, contains rare plant impressions	0.27	
							breaks along slickensides, calcite infill		
						173.43			
							Claystone - dark grey, massive appearance - thoroughly	0.27	
							slickensided, calcite infill		
70°							Sandstone - light grey, very fine to fine grained laminations	1.61	
							cross laminations, 5 to 10% siltstone, laminations rare		
							calcite infill		
							Top of Box 57		
							Siltstone - dark grey, massive appearance, abundant plant	0.22	
							impressions		
						175.87			
							Siltstone - same as above - grades to sandy siltstone at base	0.78	
75°	175.73	176.53	0.80				Sandstone - light grey, fine to medium grained laminations to	0.80	
							cross laminations, 10% siltstone and carbonaceous claystone		
							laminations soft sediment deformation		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	37 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	176.53	177.01	0.48				Siltstone - medium to dark grey, laminations to cross	0.23	
							laminations - slickensides on top fracture plane		
							Sandstone - light grey, medium grained cross laminations	0.05	
							Siltstone - dark grey, massive, plant impressions	0.20	
	177.01	177.48	0.47				Claystone - dark grey, massive, carbonaceous to coaly	0.34	
							- occasional slickensides. Core broken.		
	177.48	177.92	0.44				Rock loss		
							Top of Box 58		
							Claystone - carbonaceous to coaly, same as above	0.13	
						178.92			
	177.92	178.06	0.14	0.14			Coal - bright		
	178.06	178.42	0.36	0.36			Coal - core loss, broken		
	178.42	178.55	0.13				Rock loss		
	178.55	179.69	1.14				Siltstone - medium to dark grey, massive, plant impressions	1.14	
							4 fractures per metre		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	38 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Seam B11		
	179.69	179.82	0.13				Coal - stoney, core is broken into 2 to 5 cm plates - slickensides		
	179.82	180.00	0.18				Stoney Coal - core loss		
	180.00	181.24	1.24				Siltstone - medium grey, plant impressions, massive, becomes sandy at base	1.24	
							Top of Box 59		
						181.97			
80°	181.24	184.15	2.91				Sandstone - fine to medium grey, light to medium grey laminations to cross laminations, 10% claystone/Siltstone/carbonaceous partings, 6 fractures per metre at 90° to core axis	2.84	

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	39 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 60		
							Sandstone - same as above	0.07	
	184.15	184.28	0.13				Sandstone - core loss.		
						185.01			
65°	184.28	188.14	3.86				Sandstone - same as above, 3 to 5 fractures per metre along bedding	2.78	
							Top of Box 61		
60°						3.97	Sandstone - same as above, 4 fractures per metre along bedding	0.71	
							Sandstone - same as above, badly broken core fractures at 0° and 90° to core axis	0.37	
	188.14	188.38	0.24				Sandstone - core loss		
						188.98			
75°	188.38	189.20	0.82				Sandstne - same as above, badly broken core - rare coal splints	0.82	
	189.20	189.35	0.15				Claystone - dark grey, carbonaceous with coal splints, polished slickensides	0.15	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	40 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	189.35	189.73	0.38				Claystone - carbonaceous, core loss		
	189.73	190.05	0.32				Siltstone - medium grey, massive, plant impressions, sound core fractures at 90° to core axis	0.32	
							Top of Box 62		
65°	190.05	190.78	0.73				Sandstone - light grey, fine to very fine grained, laminations, to cross laminations, 3 fractures per metre, along bedding or at 45° to core axis	0.73	
	190.78	191.88	1.10				Siltstone - dark grey, massive, contains carbonized plant impressions and coal splints, 3 fractures per metre dominantly at 90° to core axis	1.10	
	191.88	192.60	0.72				Sandstone/Siltstone - interlaminations, interbedded, light grey, very fine to fine grained with medium to dark grey siltstone, soft sediment deformation, cross laminations, occasional carbonized plant impressions	0.67	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	41 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 63		
							Seam B10		
			0.05				Sandstone/Siltstone - same as above, top and bottom has listric surface and slickensides	0.05	
	192.60	193.60	1.00	0.91			Coal - core loss		
	193.60	193.85	0.25	0.23			Coal - dull, heavily broken, pieces have slickensides and when broken display shearing		
						194.20			
	193.85	193.94	0.09	0.08			Claystone - core loss		
	193.94	194.00	0.06	0.05			Claystone - dark grey, broken at top	0.06	
	194.00	194.87	0.87	0.79			Coal - core loss		
	194.87	194.90	0.03	0.03			Coal - pulverized		
	194.90	195.00	0.10				Claystone - dark grey, heavily broken at top	0.10	
65°	195.00	195.97	0.97				Sandstone/Siltstone - light grey, fine grained sandstone, interlaminated with dark grey siltstone, soft sediment	0.97	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	42 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							deformation, cross bedded		
	195.97	196.65	0.68				Claystone - dark grey, bright stringers at top, broken at top	0.38	
						197.25			
							Claystone - same as above, become siltstone at base		
							Top of Box 64		
	196.65	197.72	1.07				Siltstone - dark grey, massive with carbonized plant impressions	0.53	
80°							Sandstone - light grey, fine to medium grained cross laminations	0.29	
							soft sediment deformation		
							Siltstone - dark grey, massive, coaly flecks	0.25	
50°	197.72	197.95	0.23				Sandstone - light grey, laminations, soft sediment deformation,	0.23	
							- appears deformed, rare carbonaceous and coaly surfaces		
	197.95	199.14	1.19				Siltstone - dark grey, massive	0.99	
							- 4 fractures per metre at 80° to 90° to core axis		

474-0010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	43 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey, carbonaceous to coaly - abundant	0.20	
							slickensides		
	199.14	199.60	0.46				Siltstone - dark grey, massive, rare carbonaceous zones	0.40	
							- rare slickensides		
							Top of Box 65		
							Claystone - dark grey, carbonaceous, slickensides on base	0.06	
	199.60	199.75	0.15				Claystone - core loss		
						200.25			
	199.75	200.12	0.37				Claystone - dark grey, massive - carbonaceous to coaly	0.37	
90°	200.12	200.40	0.28				Sandstone - salt and pepper, medium grained grades basally to	0.28	
							laminated with siltstone, abrupt irregular contact with		
60°							overlying contact at 90° to core axis		
							- lower contact at 60° to core axis		
	200.40	201.46	1.06				Siltstone - medium to dark grey, gradational basally, lower	1.06	
							15 cm carbonaceous to coaly, massive		
							- rare slickensides on fracture planes		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	45 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°	201.46	202.89	1.34				Sandstone - light grey, very fine to fine grained massive at	1.02	
							top, grades to laminated with siltstone at base		
							- rare coaly splints at top		
							- occasional moderate well developed slickensides		
							Top of Box 66		
75°							Siltstone/Sandstone - interlaminated, dark grey siltstone with	0.32	
							light grey, fine grained sandstone, soft sediment		
							deformation, cross laminations, occasional carbonaceous		
							partings		
						203.30			
80°	202.80	203.86	1.06				Siltstone - dark with 10% very fine sandstone, interlaminations	1.06	
							poorly developed slickensides on fractures along laminations		
	203.86	204.21	0.35				Siltstone - core loss		
	204.21	204.56	0.35				Sandstone - light grey, medium grey, rare laminations	0.35	
	204.56	205.97	1.41				Sandstone/Siltstone - interlaminated, dark grey siltstone with	0.94	
							light grey, very fine to fine grained sandstone cross		
							laminations - soft sediment deformation, rare carbonaceous		
							to coaly zones		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	46 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 67		
							Sandstone/Siltstone - same as above, deformed - calcite infill	0.26	
							- poorly developed slickensides		
80°							Sandstone/Siltstone - interlaminations, same as above	0.21	
						206.37			
75°	205.97	209.12	3.15				Sandstone - light grey, fine to medium grained contains 10%	2.30	
							dark grey siltstone laminations, 4 fractures per metre along		
							bedding, occasional poorly developed slickensides and		
							calcite infill and carbonaceous zones, soft sediment		
							deformation, cross laminations		
							Top of Box 68		
							Sandstone - same as above	0.37	
							Sandstone - same as above, heavily deformed, convoluted bedding	0.48	
							in places vertical, calcite infill		
							- slickensides well developed		
						209.40			
	209.12	210.88	1.76				Sandstone/Siltstone - same as above 50/50 - deformation indications	1.76	
							decreasing basally		

474-8010

HOLE NUMBER
7.73

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	47 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 69		
70°	210.88	214.78	3.90				Sandstone - light grey, medium grained, well sorted varies from	1.20	
							laminated to thickly bedded. Contains 5% siltstone - dark		
							grey - beds up to 5 cm thick		
							- 3 fractures per metre along bedding		
							- rare carbonaceous surfaces and moderately well developed	0.20	
							slickensides		
						212.46			
							Sandstone - same as above	1.88	
							Top of Box 70		
							Sandstone - same as above	0.62	
65°									
	214.78	216.24	1.46				Sandstone/Siltstone - interlaminations, dark grey siltstone with	0.56	
							light grey fine to medium grained sandstone - carbonaceous		
							and coaly partings - soft sediment deformation		
						215.49			

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	48 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone/Siltstone - same as above grading basally to higher	0.90	
							% siltstone		
	216.24	223.62	7.38				Siltstone - dark grey, massive, rare plant fragments	0.60	
							7 fractures per metre at 90° to core axis		
							Top of Box 71		
							Siltstone - same as above, vertical fractures into basal 25 cm	0.98	
						217.93			
							Siltstone - same as above, grades to carbonaceous and coaly at	1.60	
							base, 6 fractures per metre at 90° to core axis		
							Top of Box 72		
55°							Siltstone - medium to dark grey massive, contains rare 10 cm	1.35	
							lenses of sandstone with carbonaceous partings, 3 fractures		
							per metre at 80° to 90° to core axis		
						220.98			
							Siltstone - same as above, grades basally to carbonaceous to	1.25	
							coaly claystone lower 40 cm contains a near vertical fracture		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	49 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							- occasional slickensides on fractured surfaces at 80°		
							to 90° to core axis		
							TOP OF BOX 73		
							Siltstone - medium to dark grey, massive - 2 fractures per metre	1.60	
							at 90° to core axis.		
						224.03			
60°	223.62	224.39	0.77				Sandstone - light grey fine to medium grained, cross laminations	0.77	
							contains 5% siltstone laminations. Core is badly l badly broken,		
							fractures at 40° to 60° to CA, calcite infill on fractures.		
							- convoluted bedding and heavy calcification from 20 to 40 cm		
							TOP OF BOX 74		
50°	224.39	224.89	0.50				Sandstone - light to medium grey, fine to medium grained.		
							cross laminations contains 5% siltstone laminations. Rare		
							carbonaceous partings, 6 fractures per metre along bedding.		
	224.89	225.42	0.53				Coal loss		
	225.42	226.84	1.42				Claystone - coaly, massive, dark grey.	0.12	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	50 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						225.86			
70°							Claystone - carbonaceous to coaly dark grey, massive with coal	1.30	
							partings 4 fractures per metre at 70° to core axis		
	226.84	228.10	1.26				Sandstone - light to medium grey, fine grained laminations	0.22	
							to cross laminations with siltstone laminations		
						227.69			
70°							Sandstone - same as above	0.34	
							Top of Box 75		
							Sandstone - same as above	0.70	
	228.10	229.00	0.90				Claystone - massive, dark grey carbonaceous to coaly - occasional	0.90	
							moderately well developed slickensides on fractured surfaces		
							- 8 fractures per metre at 70° - 90° to core axis		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	51 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - light to medium grey, faintly laminations, rare	0.80	
70°	229.00	229.80	0.80				coal slivers and plant impressions, rare, moderately well		
							developed slickensides		
						230.73			
	229.80	230.43	0.63				Siltstone - lost core		
							TOP OF BOX 76		
	230.43	232.00	1.57				Siltstone - same as above, 6 fractures per metre along bedding	1.57	
	232.00	232.25	0.25				Claystone - dark grey, carbonaceous to coaly	0.25	
	232.25	232.50	0.25				Claystone - lost core		
	232.50	234.25	1.75				Sandstone - light grey, fine grained with 10% medium to dark	0.84	
							grey siltstone		
							- soft sediment deformation - cross laminations		
							- one calcite infill		
							- rare carbonized plant impressions		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	52 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 77		
							Sandstone - same as above	0.07	
65°							Sandstone - same as above	0.84	
	234.25	235.78	1.53				Siltstone - dark grey, carbonized plant fragments, massive, grades from silty coaly claystone at top to sandy siltstone at base	1.53	
60°									
	235.78	236.61	0.83				Sandstone - light grey, fine to medium grained, massive	0.24	
							Top of Box 78		
							Sandstone - same as above	0.19	
						236.83			
50°							Sandstone - light to medium grey, very fine grained laminated, grades basally to siltstone	0.40	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	53 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey massive, 2 fractures per metre at 80° to	0.95	
	236.61	238.96	2.35				CA - rare poorly developed slickensides		
50°							Sandstone - light to medium grey, very fine to medium grey with	0.46	
							10% siltstone laminated - carbonized plant fragments		
							Siltstone - dark grey, massive, 3 fractures per metre laminated	0.71	
							- at 90° to core axis		
							- dendaitic calcite infill pattern at 45 to 60 cm from top		
							Siltstone - dark grey, massive	0.23	
						239.88			
65°	238.96	241.64	2.68				Sandstone - light to medium grey, fine to medium grained, with	1.65	
							20% siltstone laminations		
							- rare carbonization and coaly partings		
55°							Siltstone - dark grey, massive, 2 fractures per metre at 80° to	0.41	
							core axis		
							Sandstone - light grey, massive, fine to medium grained,	0.41	
							fines basally		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	54 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 80		
							Sandstone - light grey very fine grained massive	0.21	
	241.64	247.77	6.13				Siltstone - dark grey massive, 3 fractures per metre at 90°	0.40	
							to core axis		
							Siltstone - same as above from top to 43 cm below top a vertical	0.95	
							fracture		
							Siltstone/Sandstone - medium to dark grey siltstone, faintly	1.28	
							bedded, mottled appearance. Turbated		
							Top of Box 81		
65°							Siltstone/Sandstone - interlaminated, dark grey siltstone	0.66	
							and light grey, fine to medium grained sandstone turbated		
						245.97			
							Siltstone/Sandstone - same as above, 3 fractures per metre at	2.04	
							90° to core axis		
							- 9 cm from base thick calcite infill on slickensided fracture		
							surface		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	55 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 82		
50°									
50°							Sandstone/Siltstone - light grey, fine grained, sandstone	0.80	
							interlaminated with dark grey siltstone, cross bedded and		
							soft sediment deformation (50-50 ratio)		
							- fractured along bed 60 cm from top, filled with calcite -		
							hairlike veinlets oblique to main fracture core broken at		
							base, pieces coated in calcite and slickensides		
	247.77	247.80	0.03	0.02			Coal - core loss		
	247.80	248.45	0.65	0.53			Sandstone/Siltstone - slick marks top, fractured 17 cm from top	0.26	
							filled with calcite, broken Caved.		
						249.08			
							Same as above - fractured and cemented with calcite	0.39	
							Seam B9		
	248.45	248.65	0.20	0.16			Coal - core loss		
	248.65	248.75	0.10	0.08			Coal - dull heavily broken		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	56 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	248.75	248.83	0.08	0.07			Coal - bright		
					2477				
	248.83	248.85	0.02	0.02			Claystone - dark grey, carbonaceous	0.02	
	248.85	249.18	0.33	0.27			Coal - dull banded, broken, slickensides at base		
	249.18	249.35	0.17	0.14			Coal - core loss		
	249.35	249.57	0.22	0.18	2478		Claystone - dark grey, carbonaceous	0.22	
	249.57	250.12	0.55	0.45			Coal - dull, metallic lustre; 5% bright bands		
							Box 83		
	250.12	250.17	0.05	0.04			Coal - dull, metallic lustre		
	250.17	250.23	0.06	0.05			Coal - bright, 75%		
	250.25	250.43	0.20	0.16			Coal - dull, metallic lustre		
					2479				
	250.43	250.63	0.20	0.16			Coal - core loss, boney		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	57 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	250.63	250.98	0.35	0.29			Coal - dull, 10% bright, heavily broken, Fe stains		
	250.98	251.40	0.42	0.34			Coal - core loss		
						252.13			
	251.40	251.42	0.02	0.02			Coal - pulverized		
	251.42	251.47	0.05	0.04			Coal - dull		
	251.47	251.50	0.03	0.02	2479		Coal - pulverized		
	251.50	251.58	0.08	0.07			Coal - boney		
	251.58	251.75	0.17	0.14			Coal - dull metallic lustre, heavily broken		
	251.75	251.85	0.10	0.08			Coal - dull banded, 15% bright, heavily broken		
	251.85	252.40	0.55	0.45			Coal - core loss		
	252.40	252.50	0.10	0.08	2480		Claystone - dark grey, carbonaceous, slickensides at top	0.10	
	252.50	252.60	0.10	0.08			Core loss - rock		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	58 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	252.60	252.66	0.06	0.05			Coal - pulverized		
	252.66	254.66	2.00	1.63			Coal - core loss		
	254.66	254.78	0.12	0.09			Coal - bright, broken		
					2481	255.18			
	254.78	254.88	0.10	0.08			Coal - bright banded 65% heavily broken		
	254.88	255.25	0.37	0.30			Coal - core loss		
	255.25	255.40	0.15	0.12			Coal - dull, metallic lustre, slicks at base, very hard		
	255.40	255.60	0.20				Siltstone - dark grey, carbonaceous at top, broken	0.20	
							Box 84		
	255.60	256.10	0.50				Claystone - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	59 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 84		
40°	256.10	260.21	1.11				Sandstone/Siltstone - light grey, very fine to medium grey,	1.72	
							sandstone interlaminated with medium to dark grey siltstone		
							carbonaceous to coaly partings - calcite infill and		
							slickensides, soft sediment deformation and turbation		
						258.17			
							Sandstone/Siltstone - same as above, 5 fractures per metre at	0.82	
							55° to core axis		
							Top of Box 85		
							Sandstone/Siltstone - same as above, 80 sandstone/20 siltstone	1.57	
	260.21	260.57	0.36				Siltstone - dark grey, massive to faintly laminated - carbonaceous	0.36	
							to coaly - calcite infill in fractures at 70° to core axis		
	260.57	260.86	0.29				Core loss - rock		
						261.21			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	60 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	260.86	262.00	1.14				Claystone - carbonaceous to coaly, silty, massive, rare calcite	0.80	
							infilling		
							Top of Box ~~85~~ 86		
							Claystone - carbonaceous to coaly, silty, massive	0.34	
							- calcite infilling, polished slickensides		
	262.00	262.60	0.60				Coal - core loss		
	262.60	263.19	0.59				Claystone - as above	0.59	
	263.19	263.70	0.51				Sandstone - light grey, fine to medium grained laminated with	0.41	
							dark grey siltstone badly fractured core		
							fractures at 45° to CA - two sets of fractures 90° apart		
							- calcite infilling		
							- slickensides		
							Sandstone - medium grey, fine grained massive	0.10	
	263.70	264.41	0.71				Claystone - core loss		
						264.26			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	61 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	264.41	264.90	0.50				Siltstone - medium to dark grey, massive - abundant calcite	0.50	
							infilling and slickensides		
							- fractures and slickensides at 0 to 30° to core axis		
	264.90	265.36	0.45				Claystone - carbonaceous to coaly, dark grey, rubbly broken core	0.45	
							- abundant slickensides		
							Top pf Box 87		
	265.36	265.86	0.50				Sandstone - light grey, medium grained massive, badly broken core	0.50	
							slickensides and thin calcite infilling		
	265.86	265.94	0.08				Sandstone - core loss		
						265.79			
25°	265.94	266.18	0.24				Sandstone - fine grained, light to medium grey, laminated -	0.24	
							slickensides on fractures along bedding - calcite infilling		
							dominantly near vertical		
	266.18	266.73	0.55				Siltstone - medium to dark grey, massive 10 fractures per metre	0.55	
							at 45° to 90° to core axis, slickensides		
							- occasional calcite infills		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	62 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	266.73	267.15	0.42				Sandstone - light grey, medium grained, massive 10 fractures per metre at 90° to CA - abundant calcite infilling	0.28	
							Sandstone - same as above - vertically sheared, calcite infills - slickensides	0.14	
							Top of Box 88		
	267.15	268.00	0.85				Sandstone - core loss		
10°	268.00	270.35	2.35			0.85	Sandstone - light grey, fine grained, laminated, fractured at 10° BCA for length of unit, calcite infilling, core broken and sheared at top with slicks and near base, hairline calcite veinlets branching from main fracture	0.55	
						268.53			
							Sandstone - light grey, fine grained, heavily broken	0.05	
15°							Sandstone - light grey, fine grained, laminated, fractured along bedding with calcite infilling for length of unit, calcite veinlets abundant	0.42	
							Sandstone - same as above, heavily broken	0.05	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	63 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, fine grained, heavily broken	0.05	
10°							Sandstone - light grey, fine grained, laminated, claystone	0.60	
							rip up clast at base, wavy laminations, fractured 15 cm from		
							top at 20° BCA with calcite		
							Sandstone - same as above, fractured at 20° BCA at 30 cm from	0.68	
							top, calcite infilling and slickensides, also fractured		
							at base with calcite		
							Top of Box 89		
30°	270.35	271.77	1.42				Sandstone - light grey, fine grained, planar laminations, soft	0.72	
							soft sediment deformation		
							- darker lamination interlaminated with light, dark laminated,		
							slightly carbonaceous		
							Sandstone - same as above	0.70	
30°	271.77	272.39	0.62				Sandstone/Siltstone - light grey, fine grained, interlaminated	0.62	
							with dark grey, (70-30) slightly carbonaceous, siltstone,		
							fractured 41 cm from top, oblique to bedding - filled with		
							calcite and slickensides, broken core		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	64 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						272.56			
10°	272.39	273.09	0.70				Sandstone - light grey, very fine grained, laminated rare	0.70	
							coaly plant fragments - fractured along bedding, fracture		
							coated with calcite and slickensides - fracture extends		
							length of unit broken core		
							Top of Box 90		
25°	273.09	278.77	5.68				Siltstone - medium grey, laminated, rare coaly lenses, fractured	0.72	
							parallel to bedding in top 20 cm with listric surface in		
							coaly lense. Basal 15 cm fracture along coal lense also -		
							listric surface		
							Siltstone - same as above, top 22 cm broken and fractured filled	0.74	
							with calcite, 22 cm - 1 cm calcite vein		
							Siltstone - same as above	1.00	
						275.60			
							Siltstone - dark grey, massive	0.40	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	65 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 91		
							Siltstone - same as above	0.60	
						276.52	(very consistent unit)		
							Siltstone - same as above	0.07	
							Siltstone - same as above, coal stringers in places	2.15	
							Top of Box 92		
						0.25	Siltstone - dark grey, massive, trace of coal stringers	0.58	
	278.77	279.02	0.25				Siltstone - core loss		
						279.57			
	279.02	284.85	5.83				Siltstone - same as above	2.30	
							Box 93		
							Siltstone - dark grey, massive, coaly stringers	0.67	
						282.62			
15°							Siltstone - same as above, broken at top 30 along coal band with slickensides	2.16	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	66 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 94		
							Siltstone - dark grey, massive, fractured at 30° BCA at base along coal band	0.70	
	284.85	284.98	0.13				Claystone - dark grey, very carbonaceous, abundant bright stringers, broken	0.13	
	284.98	285.12	0.14				Claystone - core loss		
						285.67			
	285.12	285.67	0.55				Claystone - dark grey, very carbonaceous	0.55	
							Seam B8		
	285.67	285.95	0.28	0.23			Coal - dull banded 10% bright		0.56
	285.95	286.35	0.40	0.33			Coal - dull, metallic lustre		
					2482				
	286.35	286.40	0.05	0.04			Coal - boney		
	286.40	287.00	0.60	0.49	2483		Claystone - dark grey, carbonaceous	0.60	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	67 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	287.00	287.10	0.10	0.08	2484		Coal - heavily broken with listric surfaces		
	287.10	287.40	0.30				Coal - core loss		
							Top of Box 95		
	287.40	287.85	0.45				Claystone - core loss		
	287.85	287.95	0.10	0.08	2485		Claystone - dark grey, heavily broken and sheared	0.10	
	287.95	288.10	0.15	0.12			Coal - core loss		
						288.71			
20°	288.10	288.66	0.56	0.46	2486		Claystone - core loss		
	288.66	289.10	0.44	0.36			Claystone - dark grey, fractured along bedding, broken	0.44	
	289.10	289.25	0.15				Coal loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	68 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	289.25	289.85	0.60				Claystone - dark grey, heavily broken in spots, sheared at 15%	0.60	
							BCA in places		
	289.85	290.02	0.17				Clyst/Coal - heavily broken to pulverized.		
	290.02	290.15	0.13				Coal loss		
	290.15	290.50	0.35				Rock loss		
	290.50	290.82	0.32				Coal loss		
	290.82	291.59	0.77				Rock loss		
	291.59	294.02	2.43				Siltstone - dark grey, massive, carbonaceous at top	0.33	
							TOP OF BOX 96		
							Siltstone - same as above	1.38	
45°							Siltstone - dark grey, broken at top, calcite stringers and	0.22	
							veinlets throughout		
							Siltstone - same as above, sheared with listric surfaces and	0.50	
							heavily broken		
	294.02	294.22	0.20				Coal - dull, heavily broken and sheared		
	294.22	295.42	1.20				Siltstone - dark grey, solid, heavily broken in basal 10 cm	0.30	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	69 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 97		
							Siltstone - dark grey, heavily broken	0.15	
						294.81			
40°							Siltstone - dark grey, heavily broken at top with shearing along	0.35	
							bedding, listric surfaces and slickensides, several coaly		
							bands throughout		
							Siltstone - same as above, heavily broken at top and base	0.40	
	295.42	295.72	0.30				Siltstone - core loss		
	295.72	295.74	0.02				Coal - pulverized		
	295.74	296.04	0.30				Siltstone - dark grey, massive	0.25	
	296.04	296.43	0.39				Siltstone - core loss		
	296.43	300.07	3.64				Siltstone - same as above, broken	0.30	
							Siltstone - same as above	0.38	
						297.25			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	70 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above	0.30	
							Top of Box 98		
40°							Siltstone - light and dark grey bands interlaminated	1.86	
							Siltstone - same as above, top 5 cm heavily broken, basal 20 cm broken along bedding	0.25	
							Siltstone - same as above, fractured along bedding, trace calcite	0.55	
	300.07	300.16	0.09				Siltstone - core loss		
						300.30			
							Top of Box 99		
	300.16	301.59	1.43				Siltstone - dark grey, massive, rare coal band 1 cm, grading to fine grained sandstone at base	1.43	
	301.59	303.85	2.26				Sandstone - light grey, fine grained, laminated, soft sediment deformation	1.40	

474-5010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	71 OF 74

DATE BEGUN	March 11/81	DATE FINISHED	March 14/81	MINE GRID	N E	UTM	6,065,880 N 649,750 E
ELEV. COLLAR	1615	BEARING	N/A	HOLE ANGLE	90	TOTAL DEPTH	316.15
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D. Hope/E. Panchy	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 100		
							Sandstone - same as above	0.20	
						303.65			
50°							Sandstone - light grey, fine grained, soft sediment deformation	0.66	
	303.85	306.35	2.50				Siltstone - medium grey, laminated, soft sediment deformation,	1.90	
							sandstone lenses near top (siltstone - sandstone) 85-15		
							Box 101		
							Siltstone - dark grey, massive	0.60	
	306.35	306.69	0.34				Sandstone/Siltstone - light grey, fine grained - sandstone	0.24	
							interlaminated with dark grey siltstone		
							- convolute bedding (siltstone-sandstone) (50-50)		
						306.70			
							Same as above	0.10	
	306.69	308.45	1.76				Siltstone - dark grey, massive, rare sandstone load cast	1.76	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	72 OF 74

DATE BEGUN: March 11/81	DATE FINISHED: March 14/81	MINE GRID: N E	UTM: 6,065,880 N 649,750 E
ELEV. COLLAR: 1615	BEARING: N/A	HOLE ANGLE: 90	TOTAL DEPTH: 316.15
COAL LICENCE: 3199	CONTRACTOR: Coates	LOGGED BY: D. Hope/E. Panchy	CORE SIZE: HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 102		
	308.45	309.97	1.52				Siltstone/Sandstone - dark siltstone with sandstone, fine	0.70	
							grained, interlaminated (siltstone 80-20)		
							- soft sediment deformation and convolute beds		
45°							Sandstone/Siltstone - light grey, medium grained, interlaminated	0.49	
							with dark grey (70-30) siltstone and some carbonaceous plant		
							fragments, convolute bedding and some soft sediment		
							deformation fractured 8 cm from top with calcite and		
							slickensides of fracture		
						309.75			
							Sandstone/Siltstone - same as above, fractured at 45° BCA - 22	0.33	
							cm from top, $CaCO_2$ and slickensides		
							(85-15)		
45°	309.97	315.59	3.62				Sandstone - light grey, medium grained, laminated and cross	0.71	
							bedded, coaly wisps throughout, rare calcite veinlet along		
							bedding		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	73 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 103		
							Sandstone - same as above, fractured at 45° perpendicular to bedding with calcite 15 cm from top	1.77	
						313.10			
							Sandstone - light to medium grey, fine grained, convolute bedding and small scale cross beds, several calcite filled fractures along bedding 10 and 22 cm from top 10% siltstone inter-laminations throughout	0.32	
							Sandstone - light grey, fine grained, cross bedded and soft sediment deformation, fractured along bedding 45° and filled with calcite	0.72	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 8108	74 OF 74

DATE BEGUN March 11/81	DATE FINISHED March 14/81	MINE GRID N E	UTM 6,065,880 N 649,750 E
ELEV. COLLAR 1615	BEARING N/A	HOLE ANGLE 90	TOTAL DEPTH 316.15
COAL LICENCE 3199	CONTRACTOR Coates	LOGGED BY D. Hope/E. Panchy	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 104		
45°							Sandstone - same as above, fractured at 42 cm from top at 30°	2.10	
							BCA - with 15 cm of broken core		
							- fractured at 75 cm from top at 45° BCA with 8 cm of broken		
							core		
							- fractured 184 cm from top at 30° BCA with 15 cm of broken		
							core		
							- all fractures are calcite filled		
	315.59	316.04	0.45				Sandstone - core loss		
						316.15			
							E.O.H.		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		3/16/81	1 OF 2

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-09	COATES	90		325	HQ		N22/900011	3200	37	3

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1619.2	6,060,266.61 N 648,167.68 E	N E	

GENERAL COMMENTS

Fault at 172.5m

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		35.15-35.80	10	0.64	0.62/0.02	53	2487		Kh	24.9	1594.3		
B11		53.85-54.80	20	0.94	0.74/0.20		2488-90						
B10		68.57-69.06	14	0.48	0.43/0.05	100	--						
B9	1519.9	95.40-99.30	15	3.79	3.60/0.19	87	2491-93						
B8		113.10-113.90	19	0.76	0.62/0.14	87	2494-96						
B7R	1567.2	148.57-152.00	18	3.29	3.00/0.29	85	2497-99						Fault repeat
B7	1430.5	185.72-188.72	25	2.74	2.20/0.54	60	2501-05						HOLE NUMBER MUD 81-09

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PETRO CANADA

DRILL HOLE SUMMARY - CONTINUATION SHEET

HOLE NUMBER	PAGE
MUD 81-09	2 OF 2

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAG. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B6(u)		218.12-221.35	10	3.23	2.49/0.74	88	2506-10						
B6(L)		233.55-234.23	10	0.67	0.67/0.00	78	2511						
B6(L)		235.75-236.30	10	0.55	0.45/0.10	85	2512						
B5	1375.2	242.66-243.97	10	1.31	0.89/0.42	82	2513-14						
		249.00-249.30	13	0.30	0.30/0.00	47	--						
B4	1358.3	258.42-260.90	10	2.43	2.06/0.37	84	2515-17						
B3	1321.1	296.10-298.10	5	2.00	1.73/0.27	75	2518-22						
B1	1311.8	304.72-307.42	10	2.69	2.24/0.45	80	2523-25						
													HOLE NUBMER MUD 81-09

473A-8106

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-09	1 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 1		
							Hole spudded in lower portion of Hulcross		
						10/3.05	Casing 10'		
	3.05	6.46	3.41				Siltstone - dark grey with interbeds of dark grey claystone, core badly broken.	1.35	
						17/5.18			
80°							Siltstone - dark grey with interbeds of dark grey claystone and light grey fine grained sandstone, core badly broken.	1.06	
							Box 2		
							Siltstone - same as above, core badly broken percentage of light grey fine grained sandstone increasing.	0.60	
						23/7.01			
							Siltstone - same as above	0.40	
	6.46	6.52	0.06				Bentonite - light grey, soft, iron staining	0.06	
82°	6.52	7.17	0.65				Siltstone - dark grey with interbeds of light grey fine grained sandstone, carbonaceous laminations, core broken.	0.65	
80°	7.17	9.10	1.93			27/8.23	Sandstone - light grey fine grained with interbeds of dark grey siltstone, cross-bedding, core slightly broken.	0.31	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	2 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 2		
77°							Sandstone - light grey, fine grained interbeds grey siltstone,	0.56	
							minor small scale cross-bedding and turbidities,		
							rip up clasts.		
							Box 3		
83°							Sandstone - same as above, percentage of siltstone increasing	1.06	
							towards base.		
	9.10	10.30	1.20				Siltstone - dark grey with interbeds of light grey fine grained	1.20	
							sandstone, core broken, slight shearing and minor		
							iron staining.		
						37/11.28			
80°	10.30	10.81	0.51				Sandstone - light grey with interbeds of dark grey siltstone	0.51	
							sandstone has small scale cross-beds, load casts		
							and minor rip up clasts.		
							Box 4		
77°	10.81	12.19	1.38				Siltstone - dark grey with interbeds of light grey fine sandstone		1.38
							sandstone has small scale cross-beds, turbidities		
							and load casts.		
76°	12.19	16.09	3.90				Sandstone - light grey fine grained with interbeds of dark grey	1.16	
						47/14.33	siltstone, core slightly broken, sandstone has cross-beds and minor load casts.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	3 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 4		
							Sandstone - same as above	0.12	
							Box 5		
73°							Sandstone - same as above, core slightly broken, minor shearing	2.62	
	16.09	16.14	0.05				Lost core - sandstone		
	16.14	16.36	0.22				Sandstone - same as above, core badly broken		
							Box 6		
						57/17.37			
	16.36	17.00	0.64				Siltstone - dark grey with interbeds of light fine grained sandstone, core broken.	0.64	
	17.00	17.08	0.08				Bentonite - light grey with minor medium grey siltstone	0.08	
79°	17.08	19.40	2.32				Siltstone - dark grey with interbeds of light grey fine grained sandstone, sandstone has small scale cross-beds, load casts and minor turbidities, core slightly broken.	1.98	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	4 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 7		
							Siltstone - dark grey with interbeds of light grey fine grained sandstone, slight shearing with iron staining, core broken.	0.34	
						67/20.42			
77°	19.40	22.66	3.26				Sandstone - light grey fine grained with interbeds of dark grey siltstone and minor dark grey claystone, sandstone has load casts turbidities.	2.46	
							Box 8		
80°							Sandstone - same as above, core broken, cross-bedding minor shearing with calcite filling.	0.80	
	22.66	22.71	0.05				Lost core - sandstone		
						77/23.47			
78°	22.71	26.84	4.13				Sandstone - same as above, slight shearing at base with iron staining, minor small scale cross-beds, rip up clasts and load casts.	1.95	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	5 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 9		
82°							Sandstone - light grey fine grained with interbeds of dark grey siltstone, core slightly broken. Minor load casts one thin (2cm) pebble band 28cm from top. Also minor small scale cross-beds.	1.03	
						87/26.52			
74°							Sandstone - same as above, minor discontinuous coaly laminations	1.15	
62°	26.84	27.39	0.55				~~Siltstone - dark grey with interbeds of light grey fine grained sandstone.~~	~~0.55~~	
	27.39	28.12	0.37				Sandstone - light grey fine grained with interbeds of dark grey siltstone, tubidities in sandstone.	0.18	
							Box 10		
76°							Sandstone - light grey, fine grained with minor interbeds of of dark grey siltstone, small load casts, turbidities and scattered discontinuous coaly laminations.	0.55	
70°	28.12	32.72	4.60				Siltstone - dark grey with minor light grey fine grained sandstone, sandstone has small scale cross-beds and rip up clasts slightly broken at bottom.	0.76	
						97/29.57	Siltstone - same as above, core broken	1.33	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	6 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 11		
			1.57				Siltstone - same as above, core slightly broken at top	1.57	
						107/32.61			
74°			0.94				Siltstone - same as above, interbeds of sandstone show	0.94	
							turbidities core broken in places.		
75°	32.72	34.38	1.66				Sandstone - light grey, fine grained with interbeds of dark grey,	0.24	
							siltstone scattered, discontinuous coaly laminations,		
							minor turbidities and rip up clasts.		
							Box 12		
82°							Sandstone - same as above		
	34.38	34.82	0.44				Siltstone - medium to dark grey, core slightly broken	0.44	
						117/35.66			
	34.82	35.15	0.33				Claystone - dark grey, carbonaceous, minor shearing with calcite	0.33	
							film and pyrite as well, carbonaceous plant debris.		
							Box 12		
	35.15	35.17	2	0.02			Coal - boney		
	35.17	35.35	18	0.18			Coal - dull with bright bands iridescent colors on surface		
	35.35	35.37	2	0.02	2487		Rock - claystone dark grey thin coaly bands.		
	35.37	35.49	22	0.12			Coal - dull with bright bands inidescent		
	35.49	35.80	31	0.30			Core loss - coal		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	7 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	35.80	35.87	0.07				Siltstone - dark grey	0.07	
							Box 13		
77°	35.87	36.96	1.09				Sandstone - light grey, fine grained minor thin interbeds of dark grey siltstone, turbidities and minor small load casts minor shearing with calcite filling.	1.09	
	36.96	37.62	0.66				Siltstone - same as above, core broken	0.87	
	37.62	37.78	0.16				Lost core - siltstone		
	37.78	40.09	2.31			27/38.71	Siltstone - same as above, core broken		
							Box 14		
							Siltstone - same as above, core broken at top slight shearing	1.44	
	40.09	40.19	0.10				Lost core - siltstone and sandstone		
67°	40.19	42.45	2.26				Sandstone - light to medium grey, fine grained with interbeds of dark grey siltstone, sandstone has minor small scale cross-beds and turbidities.	0.64	
						137/41.76			
66°							Sandstone - same as above, sandstone has minor load casting and rip up clasts as well.	0.74	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	8 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 15		
76°							Sandstone - same as above, still with interbeds of dark grey	0.98	
							siltstone, percentage of siltstone increasing downwards		
	42.45	42.66	0.21				Claystone - dark grey with thin coaly laminations throughout	0.21	
							2cm bright coal band at top.		
	42.66	43.25	0.59				Lost core - claystone		
	43.25	47.65	4.40				Siltstone - dark grey with interbeds of light grey fine grained	0.94	
							sandstone 80/20% sandstone shows		
						147/44.81			
							Siltstone - same as above	0.13	
72°							Sandstone - light to medium grey, fine grained much turbidity	0.58	
							discontinuous carbonaceous laminations.		
							Box 16		
73°							Siltstone - dark grey with minor interbeds of light grey fine	2.32	
							grained sandstone, slight shearing with calcite film.		
							Core broken at top.		
						157/47.85			
80°							Siltstone - same as above, sandstone shows scattered, discontinuous	0.43	
							coaly laminations and minor turbidities.		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	9 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 17		
79°	47.65	49.77	2.12				Sandstone - light to medium grey fine grained interbeds of dark grey siltstone, sandstone has turbidities rip up clasts and load casts scattered coaly fragments, (locally bedding goes to 66° BCA)	2.12	
82°	49.77	50.76	0.99				Siltstone - dark grey with minor coaly laminations along bedding	0.18	
						167/50.90			
							Siltstone - same as above	0.23	
							Box 18		
							Claystone - dark grey with interbeds of dark grey siltstone, core sheared and broken, minor coaly bands bottom 5cm pulverized with sheared coaly fragments.	0.32	
							Siltstone - dark grey with interbeds of medium grey fine grained sandstone.	0.26	
80°	50.76	51.54	0.78				Sandstone - light to medium grey with 10-15% interbeds of dark grey siltstone. Slight shearing along bedding with calcite filling.	0.78	
75°	51.54	53.85	2.31				Siltstone - dark grey with interbeds of medium grey fine grained sandstone, thin discontinuous coal laminations, minor rip up clasts and load casts.	1.40	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	10 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical 90°	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							coal laminations, minor rip up clasts and load casts		
							Top of Box 19		
							Siltstone - same as above	0.06	
						177/53.95			
							Siltstone - same as above, minor carbonaceous debris	0.85	
	53.85	54.31	46	0.45			Coal - core loss		
					2488				
	54.31	54.45	14	0.14			Coal - dull with bright bands, core broken		
	54.45	54.65	20	0.20	2489		Claystone - dark grey (brown streak) carbonaceous, with coaly laminations throughout		
	54.65	54.75	10	0.10			Coal - boney, core broken		
					2490				
	54.75	54.80	5	0.05			Coal - bright with dull bands, core broken		
	54.80	54.87	0.07				Claystone - dark grey, soft slightly sheared, core broken	0.07	
	54.87	57.46	2.59				Siltstone - dark grey, scattered	0.13	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	11 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical 90°	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey (brown streak) thin coaly laminations	0.19	
							carbonaceous		
							Siltstone - dark grey with minor light grey fine grained sand	0.99	
							and dark grey claystone with coaly bands		
							Top of Box 20		
						187/57	00		
							Siltstone - dark grey minor, medium grey fine grained sandstone	1.28	
	57.46	58.04	0.58				Claystone - dark grey with interbeds of dark grey siltstone. Core	0.58	
							broken		
78°	58.04	58.77	0.73				Sandstone - light grey fine grained cross bedding, thin carbonaceous	0.73	
							laminaes 2 cm wide fracture filled with calcite cross beds well		
							formed. (Fracture must have been opened for a long period of		
							time) 40 cm from top		
83°	58.77	59.20	0.43				Siltstone - dark grey with minor interbeds of light grey fine	0.19	
							grained sandstone		
							Top of Box 21		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	12 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical 90°	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above	0.24	
	59.20	59.90	0.70				Sandstone - light grey medium	0.08	
						197/60.05			
74°							Sandstone - light grey, fine grained interbeds of dark grey	0.62	
							siltstone as bands and rip up clasts. Sandstone has		
							turbidities		
	59.90	66.51	6.61				Siltstone - dark grey with minor interbeds of light grey fine	1.76	
							sandstone. Core slightly broken. Carbonaceous plant debris		
							- siltstone - lost core		
							Top of Box 22		
82°							Siltstone - same as above, slight shearing, lost core - siltstone	1.28	
						207/63.09			
							Siltstone - same as above, core slightly broken, lost core-siltstone	1.71	
							Top of Box 23		
							Siltstone - same as above, 4 cm Fe staining band 15 cm from top	0.66	
						217/66.14			
							Siltstone - same as above slight shearing	1.20	
	66.51	66.67	0.16				Siltstone - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	MRC 81-09	SHEET	13 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical 90°	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	66.67	67.49	0.82				Claystone - dark grey, slight shearing with calcite film becomes	0.82	
							silty at bottom		
							Top of Box 24		
	67.49	67.84	0.35				Siltstone - dark grey, carbonaceous plant debris	0.35	
80°	67.84	68.50	0.66				Sandstone - light grey, fine grained slight coarsening downhole	0.50	
							minor dark grey siltstone bands and carbonaceous laminations		
						277/69.19			
							Sandstone - same as above	0.16	
	68.50	68.57	7				Coal - stoney with thin coaly laminations		
	68.57	68.71	14				Coal - bright with dull bands		
	68.71	68.76	5				Coal - stoney		
	68.76	68.78	2				Coal - boney		
	68.78	69.06	28				Coal - bright with dull bands		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	14 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
72°	69.06	70.74	1.68				Siltstone - dark grey with interbeds of medium grey fine grained sandstone and dark grey claystone, minor shearing	1.10	
							Top of Box 25		
80°							Sandstone - light to medium grey fine grained, minor carbonaceous laminations and interbeds of dark grey siltstone	0.22	
							Siltstone - dark grey with minor interbeds of medium grey fine grained sandstone	0.36	
	70.74	71.24	50				Claystone - dark grey with coaly laminations and minor interbeds of dark grey siltstone. Core broken	0.50	
	71.24	71.53	0.29				Claystone - lost core		
						237/72.24			
	71.53	71.69	16				Ironstone - dark grey brown with discontinuous coaly laminations hard, fractured	0.16	
	71.69	71.82	13				Siltstone - dark grey, core broken	0.13	
	71.82	71.89	7				Claystone - dark grey, carbonaceous with thin coaly laminations	0.07	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	15 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	71.89	72.02	13				Coal/claystone (carbonaceous) - core badly squeezed and pulverized. Coal dull with bright bands.	0.13	
	72.02	72.31	0.29				Claystone/Coal - lost core		
	72.31	73.52	1.21				Siltstone - dark grey with minor interbeds of medium grey fine grey sandstone	0.56	
77°							Sandstone - light grey fine grained with interbeds of dark grey siltstone, minor load casts and rip up clasts	0.31	
							Claystone - very soft (putty) dark grey	0.07	
							Siltstone - dark grey	0.05	
							Top of Box 26		
							Siltstone - dark grey with interbeds of light grey fine grained sandstone, carbonaceous plant fragments	0.22	
82°	73.52	74.87	1.35				Sandstone - medium grey fine grained with interbeds of dark grey siltstone, sandstone discontinuous coaly laminations, minor cross beds and load casts	1.04	

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	16 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						247/75.29			
							Sandstone - same as above	0.31	
	74.87	75.27	40				Claystone - dark grey with thin coaly laminations, (Brown streak) minor interbeds of dark grey siltstone. Core broken in places	0.40	
84°	75.27	76.73	1.46				Sandstone - medium grey fine grained, small scale cross beds load casts and turbidities, interbeds of dark grey siltstone	0.68	
							Top of Box 27		
85°							Sandstone - same as above	0.78	
	76.73	76.75	0.02				Lost core - siltstone		
	76.75	80.00	3.25				Siltstone - dark grey, core broken at top. Minor interbeds of dark grey claystone	0.74	
						257/78.33			
							Siltstone - same as above. Core slightly broken. Slight shearing along bedding with coaly plant remains and minor calcite film	1.06	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	17 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 28		
							Siltstone - same as above, becoming more sandy towards base, minor	1.45	
							interbeds of light grey fine grained sandstone		
85°	80.00	95.40	15.40				Sandstone - light to medium grey, fine to medium grained, minor	0.51	
							interbeds of dark grey siltstone		
						267/81	38		
							Sandstone - same as above		
							Top of Box 29		
80°							Sandstone - same as above, slight shearing. Core slightly broken	2.25	
							Sandstone has minor load casts, and other turbidities		
						227/84	43		
							Sandstone - same as above	0.51	
							Top of Box 30		
70°							Sandstone - same as above, beaucoup de turbidite	2.47	
						287/87	48		
76°							Sandstone - same as above, slight shearing	0.41	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	18 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 31		
75°							Sandstone - same as above with interbeds of dark grey siltstone,	2.59	
							local steepening of bedding to 66° to core axis. Core		
							slightly broken		
						297/90	.53		
							Sandstone - same as above, interbeds of dark grey siltstone	0.30	
							becoming more frequent		
							Top of Box 32		
75°							Sandstone - same as above, much turbidity, minor coaly fragments	2.76	
							and discontinuous laminations, slight shearing along bedding		
							interbeds of dark grey siltstone. % is 60 sandstone/40		
							siltstone		
						307/93	.57		
							Top of Box 33		
72°							Sandstone - medium grey with fine grained interbeds of light	2.78	
							grey fine grained sandstone and dark grey siltstone.		
							Scattered coaly laminations up to 5 cm. Much turbidity		
							medium sandstone. Rip up clasts and small load casts.		
							Slight shearing along bedding. Core broken in places		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	19 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							(34 & 35 = have B9 to be logged later when geophy Log is done)		
							Box 34 SEAM B9 R-1		
							Sandstone/Siltstone - same as above	10	
	95.40	95.61	0.21	0.20			Coal - core loss		
	95.61	96.01	0.40	0.39			Coal - dull with 5-10% bright bands, heavily broken		
	96.01	96.74	0.73	0.71			Coal - dull with 5% bright bands, hard		
	96.74	96.89	0.10	0.10	2491		Coal - dull with 5-10% bright bands		
	96.89	96.93	0.04	0.04			Coal - boney		
	96.93	96.99	0.06	0.06	2492		Claystone - dark grey, carbonaceous, slightly broken near base	6	
	96.99	97.92	0.13	0.13			Rock - core loss		
	97.92	97.30	0.18	0.17			Coal - dull, metallic lustre		
	97.30	97.39	0.09	0.09			Coal - dull with 5% bright bands		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	20 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	97.39	97.52	0.13	0.13			Coal - dull and bright banded - 30% bright, broken at base		
	97.52	97.56	0.04	0.04			Coal - dull with bright bands, 25% bright, heavily broken		
	97.56	97.65	0.09	0.09	2493		Coal - dull with bright bands 40% bright		
	97.65	97.68	0.03	0.03			Coal - dull		
	97.68	98.24	0.56	0.54			Coal - dull with bright bands 40%		
							Top of Box 35		
	98.24	98.31	0.07	0.07			Coal - dull with bright bands 15% bright		
	98.31	98.59	0.28	0.27		327/99.69	Coal - bright banded 80% bright		
	98.59	98.66	0.07	0.07			Coal - boney		
	98.66	98.89	0.23	0.22			Coal - bright banded		
	98.89	98.95	0.06	0.06			Coal -dull with bright bands 20% bright		
	98.95	99.12	0.17	0.16			Coal - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	21 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	99.12	99.28	0.16	0.15			Coal - heavily broken to pulverized		
	99.28	99.30	0.02	0.02			Coal - dull with bright bands		
	99.30	99.40	0.10				Claystone - dark grey, carbonaceous, heavily broken to crushed	10	
75°	99.40	101.01	1.61				Siltstone/Sandstone - light grey very fine grained, sandstone interlaminated with dark grey siltstone, cross bedded, soft sediment deformation, convolute bedding, coaly bright lenses in places, core fractured 100 cm from top at 20° BCA for 20 cm (no calcite)	171	
							Top of Box 36		
82°	101.01	103.90	2.89				Sandstone - light to medium grey fine grained with interbeds of dark grey siltstone; sandstone has cross bedding, rip up clasts, few load casts, pinch and swell structures	0.41	
						337/102.72			
75°							Sandstone - with increasing % of siltstone going downwards, minor coaly laminations as well. Slightly sheared cross beds	2.48	
	103.90	104.37	0.47				Sandstone - lost core		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	22 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 37		
	104.37	108.51	4.14				Sandstone - light to medium grey with interbeds of dark grey	0.59	
							siltstone, slightly sheared coaly laminations - turbidities		
						347/105.77			
70°							Sandstone - same as above, slightly sheared. Core broken.	2.15	
							scattered coaly fragments		
							Top of Box 38		
72°							Sandstone - same as above with interbeds of dark grey siltstone	0.90	
							with thin coaly laminations and calcite filled fractures along		
							bedding. Much turbidity in sandstone.		
						357/108.81			
66							Sandstone - same as above. Much turbidity interbeds of dark	0.28	
							grey siltstone, cross beds in sandstone		
							Siltstone - dark grey with interbeds of medium grey fine grained	0.22	
							sandstone		
	108.51	109.36	0.85				Claystone - dark grey with coaly laminaes and minor interbeds of	0.85	
							dark grey siltstone. Slight shearing		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	23 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	109.36	113.10	3.74				Siltstone - dark grey, scattered coaly fragments and carbonaceous laminaes	0.52	
							Top of Box 39		
							Siltstone - same as above	1.00	
						361/111.86			
							Siltstone - same as above, copious carbonaceous fern impressions	1.86	
							Top of Box 40		
							Siltstone - dark grey, massive, carbonaceous at base, some bright bands	0.36	
	113.10	113.15	5				Coal - core loss		
	113.15	113.22	7				Coal - pulverized		
	113.22	113.35	13	2494			Coal - dull banded 10% bright bands		
	113.35	113.50	15	2495			Claystone - dark grey, carbonaceous, slightly broken at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	24 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	113.50	113.55	5				Coal - core loss		
	113.55	113.70	15				Coal - dull and bright banded 40% bright, fusain lenses		
				2496					
	113.70	113.78	8				Coal - dull 5% bright		
	113.78	113.90	12				Coal - dull with bright bands 15% bright		
						114.93			
	113.90	116.19	2.29				Siltstone - dark grey, massive, random bright stringers	160	
							Top of Box 41		
							Claystone - dark grey carbonaceous with minor interbeds of dark grey siltstone, coaly laminaes and very thin bands (0.5 cm maximum) core broken	0.57	
							Siltstone - dark grey with interbeds of dark grey claystone, carbonaceous plant debris. Slight shearing	0.13	
76°	116.19	119.88	3.69				Sandstone - dark grey fine to medium grained, minor interbeds of light grey fine grained sandstone	0.73	
						387/117.96			

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	25 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
79°							Sandstone - same as above, coalified wood with many small calcite filled fractures at top. Minor turbidity	1.33	
							Top of Box 42		
87°							Sandstone - same as above, turbidity at base	0.45	
							Siltstone - dark grey minor interbeds of medium grey fine grained sandstone	0.32	
							Ironstone - dark grey brown, hard. Calcite filled thin fractures	0.08	
							Siltstone - dark grey minor medium grey sandstone, slight shearing	0.79	
	119.88	120.03	0.15				Siltstone - lost core		
						397/121.01			
	120.03	122.33	2.30				Siltstone - same as above	1.15	
							Top of Box 43		
88°							Siltstone - same as above. Core broken, fractured perpendicular to bedding	1.18	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	26 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
87°	122.33	144.12	21.79				Sandstone - light to medium grey, fine grained minor interbeds	0.72	
							of dark grey siltstone. Carbonaceous laminaes rip up clasts,		
							small scale cross beds and turbidities. Scattered		
							discontinuous coaly laminaes		
						407/124.06			
							Sandstone - same as above with interbeds of dark grey siltstone	0.95	
							fractures perpendicular to bedding		
							Top of Box 44		
70°							Sandstone - light to medium grey fine grained interbeds of dark	2.10	
							grey siltstone. Core broken in places, minor turbidities		
							small scale cross beds, minor rip up clasts		
						417/112.10			
76°							Sandstone - same as above. Core slightly broken	0.76	
							Top of Box 45		
75°							Sandstone/Siltstone - interbedded sandstone, light to medium	2.29	
							grey fine grained, minor carbonaceous laminaes and discontin-		
							uous, coaly laminaes as well. Small scale crossbeds,		
							siltstone dark grey		
						427/130.15			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	27 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone/Siltstone - same as above. In addition, sandstone has bioturbation (worm burrows)	0.59	
							Top of Box 46		
75°							Sandstone/Siltstone - same as above, few very thin calcite stringers along bedding. Slight slipp	1.42	
82°							Sandstone - light grey fine grained with interbeds of dark grey siltstone, minor small scale cross beds	0.50	
							Siltstone - dark grey with minor interbeds of medium grey fine grained sandstone. Core broken	0.55	
						437/133.23			
							Siltstone - same as above	0.44	
							Top of Box 47		
							Siltstone - same as above with minor interbeds of medium grey fine grained sandstone	1.20	
84°							Sandstone - light to medium grey fine grained with interbeds of dark grey siltstone	1.12	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	28 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey, minor coaly laminaes and thin calcite	0.18	
							filled fractures		
						447/136.25			
							Siltstone - same as above, core slightly broken, minor interbeds	0.30	
							of medium grey fine grained sandstone, minor carbonaceous		
							debris		
							Top of Box 48		
							Siltstone - same as above	0.51	
80°							Sandstone - light to medium grey fine grained with interbeds of	0.85	
							dark grey siltstone. Sandstone has much turbidity small		
							scale cross beds thin carbonaceous laminaes		
							Sandstone/Siltstone - interbeds 60/40% sandstone to siltstone.	1.46	
							Sandstone - medium grey fine grained siltstone - dark grey		
						457/139.30			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	29 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 49		
65°							Sandstone - light to medium grey fine grained with minor interbeds	0.66	
							of dark grey siltstone. Minor turbidity and small load		
							casting. Carbonaceous laminaes		
82°							Sandstone/Siltstone - interbeds - light to medium fine grained	2.29	
							sandstone and dark grey siltstone. Sandstone has turbidities		
							load casts and minor small scale cross beds - siltstone slight		
							shear in along bedding with thin coaly laminaes		
							Top of Box 50		
						467/142.34			
							Sandstone/Siltstone - same as above. Core slightly broken.	2.90	
							Minor fractures perpendicular to bedding		
							Top of Box 51		
	144.12	148.57	4.45				Siltstone/Sandstone - basically same as above. % of siltstone	0.19	
							greater 75/25		
						477/145.39			
76°							Siltstone - dark grey with interbeds of light grey fine grained	2.76	
							sandstone. Scattered coaly includions and carbonaceous		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	30 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							plant remains. Minor pyrite as well		
							Top of Box 52		
							Siltstone - dark grey, massive	32	
						148.47			
							Siltstone - same as above	12	
							Claystone - dark grey, soft (mucite)	4	
							Siltstone - dark grey, massive, fractured at 45° - 47 cm, from top and 60° BCA at 70 cm from top	89	
							Siltstone - dark grey, massive, sheared at 10° BCA with listric surfaces and slicks	13	
	148.57	148.62	0.05	0.05			Coal - core loss		
	148.62	148.70	0.08	0.08			Coal - pulverized		
	148.70	149.18	0.48	0.46			Coal - mainly dull - sheared with listric surfaces on most pieces, soft, easily breaks in hand, imbricate shear pattern at 45°		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	31 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	149.18	149.90	0.77	0.68			Coal - dull - 10% bright bands, soft		
							Top of Box 53		
	149.90	150.00	0.10	0.10			Coal - dull - 5% bright bands		
	150.00	150.05	0.05	0.05			Coal - boney		
					2497				
	150.05	150.25	0.20	0.19			Coal - pull 10% bright bands, heavily broken at base		
	150.25	150.30	0.05	0.05			Coal - core loss		
	150.30	150.43	0.13	0.12			Claystone - dark grey, carbonaceous heavily broken at base	13	
	150.43	150.45	0.02	0.02			Rock - core loss		
	150.45	150.48	0.03	0.03			Coal - pulverized		
	150.48	150.68	0.20	0.19		151.52	Coal - core loss		
					2498				
	150.68	150.70	0.02	0.02			Coal - heavily broken		
	150.70	150.79	0.09	0.09			Siltstone - light grey, carbonaceous, slicks at base broken at base	9	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	32 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	150.79	150.85	0.06	0.06			Rock - core loss		
	150.85	150.95	0.10	0.10			Coal - dull, metallic lustre, heavily broken		
	150.95	151.20	0.25	0.24			Coal - bright, heavily broken	25	
	151.20	151.60	0.40	0.38			Coal - bright banded 65% bright		
	151.60	151.80	0.20	0.19	2499		Coal - core loss		
	151.80	152.00	0.20	0.19			Coal - dull, metallic lustre, pulverized at base		
	152.00	152.12	0.12	0.12			Rock - core loss		
	152.12	152.13	0.01	0.01	2500		Claystone - dark grey, heavily broken, carbonaceous	1	
	152.13	152.30	0.17	0.16			Claystone - dark grey, heavily broken at base, carbonaceous, coaly chips at base	17	
	152.30	152.53	0.23	0.22			Coal - core loss		
	152.53	152.83	0.30				Claystone - dark grey, heavily broken, chips of coal mixed in	0.30	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	33 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	152.83	153.22	0.39				Claystone - lost core		
						154.26			
							Top of Box 54		
	153.22	153.37	0.15				Siltstone - dark grey with thin coaly laminaes. Core broken	0.15	
	153.37	153.61	0.24				Siltstone - core lost		
	153.61	153.95	0.34				Sandstone - light to medium grey, medium to fine grained, coarsening down cross beds and thin coaly laminaes	0.34	
	153.95	155.08	1.13				Siltstone - dark grey with minor discontinuous coaly laminaes slightly sheared	0.61	
							Claystone - dark grey with thin coaly laminaes and carbonaceous debris	0.14	
							Siltstone - dark grey with minor dark grey claystone interbeds. Both coaly and carbonaceous material as inclusions	0.38	
	155.08	155.44	0.36				Coal/Carbonaceous Claystone - Mixed core badly broken and crushed and some shearing	0.17	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	34 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - dark grey, soft with sheared coaly laminaes	0.14	
							Coal - crushed looks bright	0.10	
	155.44	155.68	0.24				Claystone/Coal - lost core		
	155.68	157.78	2.10				Siltstone - dark grey with carbonaceous plant debris, also mud clasts, 2 cm of dark grey. Carbonaceous claystone at top	0.76	
							Top of Box 55		
82							Siltstone/Sandstone - interbeds - 60/40 siltstone dark grey, sandstone light grey fine grained sandstone has some turbation with minor small load casts, and rip ups	0.34	
						517/157.58			
70							Sandstone/Siltstone - interbeds, same as above	1.00	
71	157.78	159.14	1.36				Sandstone - light to medium grey, fine to medium grained minor dark grey siltstone, slight fractures along bedding with calcite	1.36	
	159.14	162.66	3.52				Claystone - dark grey with thin coaly laminaes and carbonaceous debris	0.20	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	35 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 56		
							Claystone - same as above	0.45	
						527/160.63			
							Claystone - same as above, crushed and sheared coaly band 43 cm from top (5 cm wide)	1.08	
							Siltstone - dark grey borderline siltstone/fine grained sandstone	0.82	
							Claystone - dark grey brown (streak) interbeds of dark grey siltstone. Discontinuous coaly laminae and carbonaceous plant debris	0.32	
							Top of Box 57		
							Siltstone - dark grey with clayey rich band at top (7 cm) core broken, few carbonaceous laminaes, scattered throughout. Core broken	0.65	
	162.66	162.84	0.18				Siltstone - lost core		
						537/163.68			
	162.84	165.58	2.74				Siltstone - dark grey, with few minor very thin calcite filled fractures	2.04	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	36 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 58		
							Siltstone - same as above	0.27	
						547/166.73			
							Siltstone - same as above, core broken	0.43	
70	165.58	166.63	1.05				Sandstone - light grey fine to medium grained, carbonaceous	1.05	
							laminaes and discontinuous coaly laminaes and fragments		
							core broken. Two 0.25 cm calcite filled fractures 70° to		
							core axis. Minor dark grey siltstone at top		
	166.63	167.01	0.38				Sandstone - lost core		
	167.01	171.49	4.48				Siltstone - dark grey, core badly broken. Coaly debris (small	0.79	
							fragments) throughout		
							Top of Box 59		
70							Siltstone - dark grey with interbeds of light grey fine grained	0.53	
							sandstone. Some turbidities in sandstone also thin		
							carbonaceous laminaes as well as minor coaly laminaes		
						555/169.17			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-01	37 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
70°							Siltstone - dark grey with minor interbeds of dark grey claystone	2.22	
							Thin hairlike fractures throughout filled with calcite. Slight		
							along thin coaly laminaes		
							Top of Box 60		
							Siltstone - same as above, bottom 25 cm fractured. Filled with	0.94	
							calcite. Shearing at bottom		
						563/171.60			
	171.49	172.69	120				Sandstone - light grey-brown, fine grained badly fractured.	1.20	
							Fractures filled with calcite. Major fracture pattern		
							perpendicular to bedding, at least two phases of fracturing.		
							Brownish coloration caused by Fe staining. Bioturbation at		
							base (worm burrows)		
						567/172.82			
								0.44	

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HOLE NUMBER

CORE LOG - COAL DIVISION

HOLE NUMBER	MRC 81-09	SHEET	37 OF 71
DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15
MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A
HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates
LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
83	172.69	175.94	3.25				Siltstone - dark grey with minor interbeds of dark grey claystone	0.44	
							calcite along slightly sheared bedding		
							Top of Box 61		
77							Siltstone - same as above, very minor thin calcite filled	2.60	
							fractures scattered coaly fragments		
						577/175.87			
							Siltstone - same as above, minor interbeds of medium grey fine	0.21	
							grained sandstone towards base		
							Top of Box 62		
65	175.94	178.80	2.86				Sandstone - medium grey fine grained minor interbeds of dark	2.86	
							grey siltstone. Minor shearing with calcite filling,		
							turbation throughout thin carbonaceous laminaes. Bioturbation		
							as well (worm burrows)		
						387/178.92			
							Top of Box 63		
64	178.80	181.59	2.79				Siltstone - dark grey minor interbeds of dark grey claystone	2.33	
							Slight shearing with calcite filled fractures		

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	38 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey badly sheared, broken and pulverized	0.15	
						597/181.97			
							Top of Box 64		
							Siltstone - dark grey, minor fractures with calcite filling	0.31	
67	181.59	181.97	0.38				Sandstone - light to medium grey fine grained with carbonaceous	0.38	
							laminaes sheared. BCA at bottom of interval 40°*		
	181.97	182.25	0.28				Sandstone - lost core		
	182.25	183.53	1.28				Siltstone - dark grey, badly sheared. Calcite filled fractures	0.35	
							Siltstone - same as above, badly broken and sheared and badly	0.93	
							crushed throughout		
	183.53	183.75	0.22				Siltstone - lost core		
53	183.75	185.45	1.70				Sandstone - medium grey, fine grained with interbeds of dark	0.50	
							grey siltstone sheared. Minor calcite filled fractures		
						607/185.02			
							Sandstone - same as above	0.06	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	39 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 65		
60°							Sandstone - light grey, fine grained - very fine grained, laminated, cross bedded (low angle) light and dark grey color banding, some soft sediment deformation, core is heavily fractured and all fractures are calcite filled, fractures are mainly perpendicular to bedding and at oblique angles to bedding, fractures range in thickness from 1-2 mm up to a small zone of 1 cm thick. Fractured at top and 20, 45, 60, 85 and 115 cm from top, small amount of broken core adjacent to fractures	1.14	
	185.45	185.72	0.27				Sandstone - lost core		
	185.72	186.10	0.38	0.34			Coal - core loss		
	186.10	186.30	0.20	0.18	2501		Coal - heavily broken and pulverized		
	186.30	186.37	0.07	0.07			Coal - dull 5-10% bright, broken and pulverized at base		
	186.37	186.64	0.27	0.25			Rock - core loss		
	186.64	186.70	0.06	0.06	2502		Claystone - dark grey, broken at top with slickensides		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	40 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	186.70	187.15	0.45	0.41			Coal - core loss		
	187.15	187.30	0.15	0.14			Coal - pulverized		
	187.30	187.35	0.05	0.05			Claystone - dark grey, broken	5	
					2503				
	187.35	187.65	0.30	0.27			Coal - dull, metallic lustre, 5% bright, heavily broken		
							Top of Box 66		
	187.65	188.00	0.35	0.32			Coal - dull with 10% bright bands		
	188.00	188.20	0.20	0.18	2504		Claystone - dark grey, carbonaceous at top and base, slightly broken	20	
	188.20	188.30	0.10	0.09			Coal - dull, listric surface on base		
					2505				
	188.30	188.51	0.21	0.19			Coal - dull, metallic lustre, 5% bright		
	188.51	188.72	0.21	0.19			Coal - core loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	41 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	188.72	188.87	0.15				Claystone - dark grey, carbonaceous at top, heavily broken at base, broken at top with listric surfaces	0.15	
	188.87	189.51	0.64				Siltstone - dark grey, massive	0.64	
70°	189.51	190.24	0.73				Sandstone - light grey, fine grained, minor cross beds, laminated light and dark grey color banding, fractured 10° BCA - filled with calcite through most of unit, soft sediment deformation	0.73	
	190.24	190.53	0.29			191.15	Sandstone as above.		
	190.53	190.69	0.16				Sandstone - same as above	0.16	
	190.69	190.88	0.19				Sandstone - same as above		
							Top of Box 67		
70°	190.88	193.54	2.66				Siltstone - dark grey, core badly broken, minor interbedded dark grey claystone, shearing with listric surfaces. Minor bands of interbeds of medium grey fine grained sandstone	2.66	
	193.54	193.79	0.25				Lost core - claystone and siltstone		
						637/194.16			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	42 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 68		
	193.79	194.63	0.84				Siltstone - same as above, sheared and broken	0.84	
	194.63	196.63	2.00				Sandstone - light grey fine grained badly fractured with much calcite filling. Core badly broken. Bedding badly distorted in places. Major fractures oriented 70° to 11 to core axis	1.75	
							Top of Box 69		
							Sandstone - light grey, fine grained, laminated, heavily broken, calcite on fractures	0.25	
						197.25			
50°	196.63	197.87	1.24				Siltstone - light and dark grey color banding, carbonaceous plant fragments (stems) slickensides at top with calcite along bedding at top and base - heavily broken at base	0.24	
							Siltstone - same as above, heavily broken in top 20 cm with slickensides and calcite	1.00	
	197.87	198.06	0.19				Claystone - dark grey, soft/coal chips - pulverized	0.10	
							Claystone - dark grey, carbonaceous	0.09	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	43 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	198.06	205.82	7.76				Siltstone - dark grey, massive, carbonaceous at top	0.21	
						199.08			
							Siltstone - same as above, dark grey	0.23	
							Top of Box 70		
							Siltstone - dark grey, grades into very fine grained medium grey sandstone in places	0.95	
						657/200.76			
							Siltstone - same as above	1.93	
							Top of Box 71		
							Siltstone - same as above	1.11	
						667/203.30			
							Siltstone - same as above	0.70	
							Siltstone - medium grey, with interbeds (minor) of dark grey siltstone. Few thin calcite filled fractures and minor coaly laminations. Minor interbed of medium grey fine grained sandstone	1.02	
							Box 72		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	44 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 72		
70°							Siltstone - medium grey with interbeds of medium grey fine	1.33	
							grained sandstone, sandstone slightly turbidities, minor		
							small load casts		
						677/206	35		
							Siltstone - medium to dark grey with interbeds of medium grey	0.28	
							fine grained sandstone turbidities		
	205.82	206.30	0.48				Siltstone - light to medium grey fine grained with interbeds of	0.48	
							dark grey siltstone highly turbated		
	206.30	206.35	0.05				Sandstone - lost core		
76°	206.35	207.71	1.36				Siltstone - dark grey with minor interbeds of medium grey fine	0.76	
							grained sandstone minor very fine calcite filled fractures		
							as well slight shearing		
							Box 73		
							Siltstone - same as above	0.60	
	207.71	207.08	1.37				Sandstone - light grey fine grained with interbeds of dark grey	0.88	
							siltstone, bioturbation (worm borrows), soft sediments deforma-		
							tion as well. Minor calcite filled fractures		
						687/209	40		
77°							Sandstone - same as above	0.49	
	209.08	211.64	2.56				Siltstone - medium to dark grey carbonaceous plant debris	0.86	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	45 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 74		
70°							Siltstone - dark grey with minor medium grey fine grained sand-	1.70	
							stone, siltstone has minor carbonaceous debris.		
						697/212.45			
80°	211.64	212.29	0.65				Sandstone - light to medium grey fine grained minor interbeds	0.65	
							of dark grey siltstone at top. Sandstone has minor		
							small scale cross-beds and thin carbonaceous		
							laminations, slight shearing with calcite filling.		
	212.29	217.71	5.42				Siltstone - dark grey, minor interbeds of medium grey siltstone	0.50	
							as well turbidities, minor rip up clasts few small		
							coaly fragments and carbonaceous debris slight listics.		
							Box 75		
77°							Siltstone - medium to dark grey with minor interbeds of medium	1.90	
							grey fine grained sandstone. Minor carbonaceous		
							debris in siltstone. Sandstone show turbidities		
							and bioturb (worm burrows).		
						707/215.50			
83°							Siltstone - same as above, few discontinuous coaly laminations	0.90	
							and carbonaceous debris.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	46 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 76		
							Siltstone - dark grey, few carbonaceous laminations, massive	2.12	
							fractured 8cm from top at 15° BCA, coated with		
							calcite broken at base, similar fractures 55cm		
							from base.		
	217.71	217.75	0.04				Lost core - siltstone		
						218.59			
	217.75	218.12	0.37				Claystone - dark grey, very carbonaceous, numerous coal bands,	0.28	
							broken at base.		
							Claystone - dark grey, very carbonaceous, broken at top with	0.09	
							slickensides.		
	218.12	218.23	0.11	0.11			~~Coal - honey, broken, calcite on breaks, slickensides on breaks~~		
	218.23	218.35	0.12	0.12			~~Coal - dull banded 10% bright~~		
					2506				
							Box 77		
	218.35	218.61	0.26	0.26			Coal - dull banded 10% bright, broken at base		
	218.61	218.65	0.04	0.04			Core loss - coal		
	218.65	218.81	0.16	0.16			Claystone - dark grey, carbonaceous at base	0.16	
	218.81	218.86	0.05	0.05			Coal - dull 5% bright		
					2507				

474-5010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	47 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	218.86	219.03	0.17	0.17			Claystone - dark grey, carbonaceous at top and base.	0.17	
	219.03	219.07	0.04	0.04			Coal - dull banded 10-15% bright		
	219.07	219.15	0.08	0.08			Claystone - dark grey, carbonaceous, coal bands throughout slickensides at base.	0.08	
	219.15	219.55	0.40	0.40			Coal - dull, metallic lustre, 5% bright bands, slightly broken		
	219.55	219.60	0.05	0.05			Coal - dull, heavily broken		
	219.60	219.82	0.22	0.22			Core loss - coal		
	219.82	219.90	0.08	0.08			Coal - dull banded, heavily broken		
	219.90	220.25	0.35	0.35			Coal - dull banded 10% bright		
	220.25	220.31	0.06	0.06			Siltstone - dark grey, few coal stringers at top		
	220.31	220.33	0.02	0.02			Coal - dull, heavily broken		
	220.33	220.46	0.13	0.13	2508		Core loss - coal		
	220.46	220.55	0.09	0.09			Coal - dull banded, heavily broken		
						221.64			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	48 OF

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	220.55	220.60	0.05	0.05			Coal - boney		
	220.60	220.87	0.27	0.27	2509		Claystone - dark grey, carbonaceous, numerous coaly stringer near base	27	
	220.87	221.01	0.14	0.14			Coal - dull banded 10% bright, broken at top and base		
							Top of Box 78		
	221.01	221.20	0.19	0.19	2510		Coal - dull banded 10% bright		
	221.20	221.23	0.03	0.03			Coal - dull banded 10% bright		
	221.23	221.28	0.05	0.05			Coal - dull banded		
	221.28	221.35	0.07	0.07			Coal - boney		
	221.35	221.73	0.38				Claystone - dark grey, numerous bright bands in top 20 cm, massive	38	
	221.73	221.95	0.22				Claystone, same as above, heavily broken, fractured at 45° at base	022	
	221.95	222.40	0.45				Rock - core loss	045	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	49 OF

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	222.40	223.25	0.85				Claystone - dark grey, massive, very carbonaceous at top	0.85	
	223.25	223.34	0.09				Coal - dull, metallic lustre - 5% bright	0.09	
	223.34	223.39	0.05				Coal - dull banded, slickensides, heavily broken	0.05	
	223.39	223.55	0.16				Coal - core loss	0.16	
						224.69			
	223.55	225.25	1.70				Claystone - dark grey, coaly bands near top	0.25	
							Claystone - same as above, broken, fractured near base at 60° BCA with slickensides (very minor fractures)		
							Top of Box 79		
70°							Claystone - dark grey, massive, very carbonaceous in places, several soft grey claystone bands (5) 7 cm randomly distributed calcite fractures at 80° BCA, 1-3 cm bright band 40 cm from base, broken	1.22	
80°	225.25	233.38	8.13				Siltstone - light grey, thinly bedded, wavy bedding traces, soft sediments deformations, rare calcite stringer parallel to bedding, conglomerate banded	1.60	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	50 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						227.71			
							Top of Box 80		
77°							Siltstone - medium to dark grey, minor interbeds of light grey	2.87	
							fine grained sandstone. Much turbidity in sandstone		
							(bioturbs caused by worm burrows). Also minor load casts		
							and rip up clasts. Minor thin coaly laminations		
							Top of Box 81		
							Siltstone - with interbeds of sandstone - bioturbation (worms)	0.14	
						757/230.73			
							Siltstone - medium to dark grey with interbeds of light grey fine	2.68	
							grained sandstone, minor thin carbonaceous laminations,		
							also thin dark grey claystone bands (worm burrows)		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	51 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 82		
							Siltstone - dark grey, massive	0.37	
						233.84			
80°							Siltstone - same as above, carbonaceous at base, fracture 8cm	0.47	
							from base at 40° BCA with slickenslides, broken		
							slightly at base		
	233.38	233.55	0.17				Lost core - siltstone and sandstone		
	233.55	233.70	0.15	0.15			Core loss - coal		
	233.70	234.23	0.53	0.52	2511		Coal - dull 5-10% bright bands, broken heavily in places at base		
80°	234.23	235.56	1.33				Siltstone - light and dark grey color banding, laminated, low	1.25	
							angle cross-bedding, minor soft sediments, deformation		
							trace carbonaceous plant remains		
							Box 83		
							Siltstone - same as above	0.08	
	235.56	235.75	0.19				Claystone - dark grey, carbonaceous	0.19	
	235.75	235.85	0.10				Coal - dull		
	235.85	235.95	0.10				Claystone - dark grey, carbonaceous		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	52 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	235.95	236.00	0.05	0.05			Coal - boney	0.05	
						236.89			
					2512				
	236.00	236.06	0.06	0.06			Coal - dull banded 20% bright	0.06	
	236.06	236.22	0.16	0.16			Coal - dull banded 30% bright, broken at base	0.16	
	236.22	236.30	0.08				Core loss - coal	0.08	
	236.30	236.64	0.34				Claystone - dark grey, carbonaceous, massive	0.34	
	236.64	236.67	0.03				Coal - bright	0.03	
	236.67	237.87	1.20				Claystone - dark grey, carbonaceous massive, coaly bands throughout	1.20	
	237.87	237.92	0.05				Coal - bright	0.05	
	237.92	238.00	0.08				Claystone - dark grey, carbonaceous coaly bands throughout	0.08	
	238.00	238.11	0.11				Coal - dull and bright banded	0.11	
	238.11	238.28	0.17				Claystone - dark grey, carbonaceous coaly bands throughout	0.17	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	53 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 84		
80°	238.28	240.31	2.03				Claystone - dark grey, very carbonaceous, coaly bands throughout	0.69	
						239.93			
							Claystone - same as above, slickensides at base	1.34	
	240.31	240.41	0.10				Core loss - rock	0.10	
	240.41	240.46	0.05				Coal - bright pulverized	0.05	
	240.46	241.21	0.75				Claystone - very carbonaceous in places, dark grey, bright bands throughout.	0.76	
							Box 85		
	241.21	241.32	0.11				Siltstone - light grey, laminated cross-bedded, bright coaly stringers in basal part, slightly carbonaceous.	0.11	
	241.32	241.37	0.05				Coal - bright	0.05	
	241.37	242.57	1.20				Siltstone - light grey (as above siltstone), bright band 10cm from top, fractured at 10° BCA below coal for 15cm - coal bands at 9cm from base.	0.65	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	54 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						242.98	Siltstone - same as above, 4cm bright band 16cm from top	0.55	
	242.57	242.66	0.09				Claystone - dark grey, very carbonaceous	0.09	
	242.66	242.71	0.05				Coal - dull banded 15% bright	0.05	
	242.71	242.85	0.14				Core loss - coal	0.14	
	242.85	243.03	0.18				Siltstone - dark grey, carbonaceous bright stringers throughout, broken top	0.18	
	243.03	243.13	0.10	0.10			Coal - dull banded	0.10	
	243.13	243.20	0.07	0.07			Claystone - dark grey, carbonaceous	0.07	
	243.20	243.24	0.04	0.04			Core loss - coal	0.04	
	243.24	243.36	0.12	0.12	2513		Coal - bright, broken	0.12	
	243.36	243.60	0.24	0.24			Coal - dull, metallic lustre, broken at top	0.24	
	243.60	243.77	0.17	0.17			Claystone - dark grey, very carbonaceous	0.17	
	243.77	243.92	0.15	0.15	2514		Coal - dull and bright banded, heavily broken	0.15	
	243.92	243.97	0.05	0.05			Core loss - coal	0.05	
	243.97	244.09	0.12				Siltstone - medium grey, carbonaceous at top and base	0.12	
	244.09	244.11	0.02				Coal - bright	0.02	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	55 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 86		
	244.11	245.85	1.74				Siltstone - dark grey carbonaceous with minor interbeds of medium	1.11	
							fine grained claystone.		
						807/245.78			
							Siltstone - same as above	0.63	
79°	245.85	247.09	1.24				Sandstone - medium grey fine grained with minor interbeds of dark	1.10	
							grey siltstone. Sandstone highly bioturbated (worm		
							burrows).		
							Box 87		
							Sandstone - same as above (worm burrows)	0.14	
74°	247.09	248.70	1.61				Siltstone - dark grey with interbeds of medium grey fine grained	1.17	
							sandstone, carbonaceous plant remains. Also minor		
							dark grey claystone.		
						817/249.02			
							Siltstone - same as above, with higher percentage of clay at	0.44	
							bottom.		
	248.70	248.79	0.09				Lost core - claystone		
	248.79	249.00	0.21				Claystone - dark grey with thin coaly laminations.	0.21	
	249.00	249.16	0.16	0.16			Core Loss - coal		
	249.16	249.24	0.08	0.08			Coal - dull with light bands sheared and broken		
	249.24	249.30	0.06	0.06			Coal - boney hard		
	249.30	249.40	0.10				Claystone - carbonaceous with coaly laminations.	0.10	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	56 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 87		
	249.40	250.11	0.71				Siltstone - dark grey claystone at top (3cm)	0.65	
							Box 88		
							Siltstone - dark grey	0.06	
80°	250.11	257.49	7.38				Sandstone - light grey fine grained with interbeds of medium to dark grey siltstone. Sandstone has much bioturbation worm burrows and other activity and small scattered coaly fragments.	1.36	
						827/252.07			
80°							Sandstone - same as above, minor calcite filled fractures	1.49	
							Box 89		
78°							Siltstone/Sandstone - (interbeds) siltstone dark grey with coaly laminations, sandstone medium grey fine grained with small load casts and minor rip up clasts, sandstone also has turbidities and small scale cross-beds.	1.46	
						837/255.12			
							Siltstone - dark grey with minor carbonaceous laminations and and calcite filled fractures along bedding.	0.70	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	57 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°							~~Sandstone/Siltstone - (interbeds) sandstone medium grey fine~~	~~0.65~~	
							grained with thin carbonaceous and coaly		
							laminations. Turbated siltstone, dark grey.		
							Box 90		
80°							Siltstone/Sandstone - (Interbeds) same as above	1.72	
						847/258.17			
	257.49	258.42	0.93				Siltstone - dark grey with coaly laminations and carbonaceous	0.93	
							plant remains.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	58 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 91		
	258.42	258.75	0.33	0.32			Coal - dull banded approximately 15% bright.	0.83	
	258.75	258.85	0.10	0.10			Coal - dull fusain bands, metallic lustre, 5% bright	0.10	
	258.85	259.10	0.25	0.25			Core loss - coal	0.25	
	259.10	259.15	0.05	0.05			Coal - heavily broken	0.05	
					2515				
	259.15	259.37	0.22	0.22			Coal - dull banded approximately 10-15% bright	0.22	
	259.37	259.67	0.30	0.29			Coal - dull and bright banded approximately 30% bright	0.30	
85°	259.67	260.05	0.38	0.37	2516		Siltstone - light grey, carbonaceous at top and bottom, coaly lenses throughout, minor cross-beds, soft sediment deformation (overbank deposit).	0.38	
	260.05	260.42	0.37	0.36			Coal - dull 10% bright banding, squeezed, broken at base	0.37	
					2517	261.28			
	260.42	260.77	0.35	0.34			Coal - dull and bright banded, heavily broken	0.35	
	260.77	260.90	0.13	0.13			Core loss - coal	0.13	
	260.90	262.37	1.47				Siltstone - dark grey, carbonaceous at top, massive	0.51	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	59 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 92		
							Siltstone - dark grey with coaly laminations and carbonaceous plant remains. Appears to have approximately 20-30% clay material.	0.96	
	262.37	263.73	1.37				Sandstone - light to medium grey, fine to medium grained with interbeds of dark grey siltstone. Carbonaceous laminations and small coaly fragments. Sandstone has small scale cross-beds and minor turbidities.	1.10	
						867/264.26			
71°									
							Sandstone - same as above	0.26	
83°	263.73	266.94	3.21				Siltstone - dark grey with minor light grey fine grained sandstone thin coaly laminations and hair fractures parallel to bedding and filled with calcite.	1.18	
							Box 93 60/40		
82°							Siltstone - dark grey with interbeds of light grey fine grained sandstone. Siltstone has minor coaly laminations and carbonaceous plant debris as well. Sandstone shows turbidity currents and worm activity (burrows).	2.30	
						877/267.31			
							Siltstone - dark grey with minor coaly laminations and carbonaceous plant remains.	0.43	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	60 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 94		
	266.94	267.14	0.20				Lost core - claystone		
	267.14	267.28	0.14				Claystone - dark grey carbonaceous with coaly laminations, core broken and sheared.	0.14	
	267.28	267.38	0.10				Core loss - coal		
	267.38	267.50	0.12				Coal - bright with few dull bands.		
	267.50	267.61	0.11				Claystone - dark grey, with thin coaly laminations.	0.11	
	267.61	267.97	0.36				Siltstone - dark grey, with minor claystone bands. Becoming sandy towards bottom.	0.36	
77°	267.97	275.73	7.76				Sandstone - light grey fine grained with thin carbonaceous laminations throughout. Minor small scale load casting turbidities towards base.	1.85	
						887/270.36			
							Siltstone - medium to dark grey with minor sandstone interbeds.	0.20	
							Box 95		
76°							Sandstone - light grey fine grained with thin carbonaceous laminations throughout. Minor dark grey siltstone interbeds. Scattered siltstone rip up fragments. Small scale cross-beds turbidities, occasional coaly fragments as well. A few calcite filled fractures.	2.86	
						897/273.41			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	61 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 96		
82°							Sandstone - same as above, one long calcite filled fracture	2.62	
							(89cm) almost parallel with core axis 2-3 mm thick.		
							Box 97		
							Sandstone - light grey fine to medium grey minor dark grey	0.23	
							siltstone fragments.		
						907/274.46			
79°	275.73	281.23	5.50				Siltstone - dark grey with interbeds of medium grey fine grained	2.49	
							sandstone and minor dark grey claystone. Top 12cm		
							badly broken, load casts in sandstone. Coaly lamina-		
							tions in top third of interval. Small scale cross-		
							beds in sandstone as well. Coaly and carbonaceous		
							plant remains (ferns and grasses) slight shearing		
							along bedding.		
							Box 98		
							Siltstone - same as above	0.50	
						917/279.51			
86°							Siltstone - same as above	2.22	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	62 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 99		
80°							Siltstone - light grey, laminated, cross-bedded, carbonaceous	0.29	
							at base, slickensides at base.		
	281.23	281.38	0.15				Coal - dull banded approximately 15% bright, broken at base	0.15	
	281.38	282.77	1.39				Lost core stoney coal or coaly claystone.		
	282.77	285.70	2.93				Claystone - dark grey, carbonaceous, bright bands, broken	0.10	
							Claystone - same as above, siltstone lenses		
						282.62			
							Claystone - same as above, coaly bands	2.00	
							Box 100		
							Claystone - dark grey with interbeds of dark grey siltstone, thin coaly laminations, minor shearing, thin calcite stringers scattered throughout along bedding.	0.73	
	285.70	295.73	10.03				Sandstone - medium grey, fine grained slight coarsening downward worm burrows, minor scattered coaly fragments.	0.16	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	63 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 100 (continued)		
						937/285.60			
							Sandstone - same as above	0.17	
							Siltstone - dark grey, slightly sheared, 3cm bentonite band 19 cm from top.	0.75	
							Sandstone - medium grey fine grained, thin carbonaceous laminations slight shearing, slight turbidity.	0.83	
							Box 101		
							Sandstone - same as above, minor bioturbtion (worm burrows)	0.60	
							Siltstone - medium grey	0.27	
						947/288.65			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	64 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above	0.27	
78°							Sandstone - medium grey fine grained with minor interbeds of dark grey siltstone, minor cross-bedding and turbidities.	1.10	
83°							Siltstone - dark grey with dark grey claystone interbeds, coaly and carbonaceous plant remains.	0.36	
							Box 102		
							Siltstone - medium to dark grey with minor interbeds of medium grey fine grained sandstone percentage of sandstone increasing downward occasional carbonaceous laminations.	0.80	
79°							Sandstone - medium grey fine grained with minor interbeds of dark grey siltstone, few thin coaly laminations.	0.27	
						957/291.70			
82°							Sandstone - same as above, slight shearing along bedding with calcite filling.	1.16	
							Siltstone - dark grey with minor interbeds of medium grey fine grained sandstone. Slight shearing, coaly laminations and carbonaceous plant debris.	0.27	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	65 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 103		
							Siltstone - dark grey with minor interbeds of medium grey fine grained sandstone. Sandstone has turbidities carbonaceous plant remains.	1.31	
						967/294.75			
							Siltstone - same as above	0.63	
76°							Sandstone - medium grey fine grained with interbeds of dark grey grey siltstone, minor rip up clasts and small scale load casting scattered coaly laminations and carbon-plant remains.	0.70	
							Box 104		
							Siltstone - light grey, laminated, cross-bedded	0.38	
	295.73	296.00	0.27				Claystone - dark grey, carbonaceous, two bright coal bands approximately 2cm thick at top and one at bottom.	0.27	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	66 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85°	296.00	296.10	0.10				Siltstone - light grey, laminated, cross-beds, carbonaceous at top and bottom calcite stringers parallel to bedding at top.	0.10	
	296.10	296.75	0.65	0.65	2518		Coal - dull banded approxiamtely 15% bright, bright bands 1cm	0.65	
	296.75	296.88	0.13	0.13	2519		Claystone - dark grey, carbonaceous	0.13	
	296.88	297.18	0.30	0.30			Coal - dull banded approximately 15% bright	0.30	
	297.18	297.36	0.18	0.18	2520		Coal - heavily broken to pulverized	0.18	
	297.36	297.68	0.32	0.32			Core loss - coal	0.32	
	297.68	297.82	0.14	0.14	2521		Claystone - dark grey, very carbonaceous, coaly stringer throughout.	0.14	
	297.82	297.92	0.10	0.10	2522		Coal - pulverized	0.10	
	287.92	298.10	0.18	0.18			Core loss - coal	0.18	
	298.10	298.25	0.15	0.15			Claystone - dark grey, heavily broken, coal chips	0.15	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	67 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 105		
	298.25	299.50	1.25				Siltstone - dark grey with interbeds of dark grey silty claystone coaly fragments and carbonaceous plant debris.	1.25	
	299.50	299.65	0.15				Coal - dull with bright bands.	0.15	
	299.65	299.78	0.13				Lost core - coal		
	299.78	299.88	0.10				Claystone - dark grey, minor coaly laminations	0.10	
	299.88	303.40	3.52				Siltstone - dark grey, minor shearing and carbonaceous laminations	0.33	
						987/300.84			
							Siltstone - same as above	0.80	
							Box 106		
82°							Siltstone - dark grey with minor interbeds of light grey fine grained sandstone, turbidities in sandstone, minor coaly and carbonaceous plant debris.	2.39	
	303.40	303.86	0.46				Claystone - dark grey with thin bright coaly bands, slight shearing listric surfaces slightly carbonaceous in places.	0.46	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	68 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 107		
80°	303.86	304.44	0.58				Claystone - dark grey, carbonaceous, bright band throughout, plant debris, calcite at base along bedding, massive.	0.58	
	304.44	304.72	0.28				Rock loss		
	304.72	304.80	0.08	0.08			Coal - dull 5% bright bands, slightly boney, slickensides and calcite at top.		
	304.80	304.95	0.15	0.15	2523		Coal - dull banded approximately 15% bright	0.15	
	304.95	305.40	0.45	0.44			Coal - dull, metallic lustre, 5% bright	0.45	
	304.40	305.92	0.52	0.51	2524		Claystone - dark grey, carbonaceous, bright bands throughout, massive several calcite stringers near base.	0.56	
	305.92	306.18	0.26	0.26			Coal - dull banded 10% bright, broken at base	26	
	306.18	306.33	0.15	0.15			Coal - dull, banded, broken	0.15	
	306.33	306.57	0.24	0.24			Coal - dull 5% bright	0.24	
	306.57	306.87	0.30	0.30	2525		Core loss		
	306.87	306.97	0.10	0.10			Coal - heavily broken	0.10	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	69 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 108		
	306.97	307.23	0.26	0.26			Coal - dull and bright banded approximately 40% bright	0.26	
	307.23	307.33	0.10	0.10			Coal - heavily broken to pulverized	0.10	
	307.33	307.42	0.09	0.09			Core loss - coal		
	307.42	307.77	0.35				Siltstone - dark grey, heavily broken	0.35	
	307.77	309.84	2.07				Sandstone/Siltstone - light grey, fine grained, sandstone interlaminated with dark grey siltstone, low angle cross-bedding, soft sediment deformation, color banding rare bright band.	1.77	
						310.06			
							Sandstone/Siltstone - same as above	0.30	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	70 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 109		
82°	309.84	310.59	0.75				Sandstone - light to medium grey fine grained, showing turbidities, minor carbonaceous laminations, as well as discontinuous thin coaly laminations.	0.75	
74°	310.59	311.91	1.32				Siltstone - dark grey with interbeds of dark grey claystone, thin coaly laminations, also minor interbeds of medium grey fine grained sandstone (6cm coal dull with bright bands 13cm from base).	1.32	
							Gates/Torrens Contact - sharp (BCA 82°)		
	311.91	324.56	12.65				Sandstone - light to medium grey medium grained, minor carbonaceous laminations.	0.54	
						1027/313.02			
80°							Sandstone - same as above	0.13	
							Box 110		
80°							Sandstone - same as above, tension fracture 18cm long with calcite filling starting 12 cm from top of box 80° to core axis slickensides.	2.81	

174-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MRC 81-09	71 OF 71

DATE BEGUN	1981-03-10	DATE FINISHED	1981-03-15	MINE GRID	N E	UTM	6,066,350 N 48,195 E
ELEV. COLLAR	1600	BEARING	N/A	HOLE ANGLE	Vertical -90	TOTAL DEPTH	352.22
COAL LICENCE	3200	CONTRACTOR	Coates	LOGGED BY	T. Covert	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 111		
82°							Sandstone - same as above, minor calcite filled fractures sub parallel to core axis, scattered thin coaly laminations.	2.58	
							Box 112		
							Sandstone - same as above, scattered well rounded siltstone clasts.	0.42	
						1047/319.13			
							Sandstone - same as above	2.36	
							Box 113		
							Sandstone - same as above, scattered well rounded quartz and chert pebbles as well as siltstone.	0.61	
						1057/322.17			
81°							Sandstone - same as above	2.18	
							Box 114		
							Sandstone - same as above	0.91	
						1067/325.22			
							EOH		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN	15/03-17/03	17/03	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-10	D. W. COATES	90°	--	226.73	HQ		N22/6500N	3196	Flowing	6.00

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1389.5	6,065,113.74 N	650,661.02 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B.C.		80.86-81.61	30	0.68	0.68/0.00	24	--		Kb	103.15	1286.35		
									Kh	186.96	1202.54		
B12		200.05-200.58	28	0.47	0.47/0.00	34	2526						
		205.21-206.15	27	0.83	0.67/0.16	81	2527-28						

HOLE NUMBER MUD 81-10

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-10	1 OF 39

DATE BEGUN March 15, 1981	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE Vertical	TOTAL DEPTH
COAL LICENCE	CONTRACTOR Coates	LOGGED BY E. Panchy	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							BOULDER CREEK FORMATION		
							OVERBURDEN		
							Box 1		
65°	6.00	8.10	2.10				SANDSTONE- light-medium grey; coarse grained; cross-	210	
							bedded; iron staining; core has a vuggy		
							appearance near top; core slightly broken;		
							fractured in spots filled with drilling		
							mud and iron stains - minor calcite		
	8.10	11.09	2.99				ROCK LOSS, SANDSTONE		
						11.28			
	11.09	11.71	62				SANDSTONE- (same as above) core fracture at 10 B.C.A.	20	
							and filled with mud - core heavily broken		
							in basal 5 cm.		
							Box 2		
							SANDSTONE- medium grey; coarse grained; cross-	42	
							bedded		
	11.71	12.85	1.14				ROCK LOSS, CLAYSTONE		
	12.85	14.03	1.18				CLAY- unconsolidated; yellowish-brown; highly		
							oxidized; lots of iron stain; soft, grey		
							color near centre; no pebbles or fragments		
							in it (fault gouge-soil horizon?)		
							(mucite)		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	2 or 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						13.72			
							CLAY- dark grey; unindurated; breaks easily in hand	15	
							CLAYSTONE- dark grey; indurated; breaks by hammer; core broken	35	
	14.03	14.21	18				SILTSTONE- dark grey; iron stained; massive; gritty between teeth; slickensides at bottom, broken at top	18	
	14.21	14.82	61				ROCK LOSS, SILTSTONE		
	14.82	14.95	13				CLAYSTONE- grey-brown; soft; iron stained; carbonaceous; plant debris; possibly ventonitic; slightly broken	13	
	14.95	15.35	40				SILTSTONE- dark grey; iron stained, carbonaceous; plant fragments throughout	18	
							SILTSTONE- (same as above) heavily broken	12	
							SILTSTONE- dark grey; iron stained; carbonaceous; plant fragments; massive slickensides at top.	10	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	3 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 3		
						15.54			
	15.35	17.90	2.55				SANDSTONE- dark grey; very fine grain; iron stained;	15	
							heavily broken; calcite on fractured		
							surfaces		
				2.44	SS				
			11				ROCK LOSS, SANDSTONE		
							SANDSTONE- light grey; very fine grain; appears	23	
							massive; broken at top; minute calcite		
							vienlet (<1mm) at top - oblique to core		
							axis		
							SANDSTONE- light grey; fragmented; cross-bedded;	74	
							fractured at 10 B.C.A. and filled with		
							clacite; broken at top; iron stained		
65°							SANDSTONE- light grey; fragmented; small scale planar	60	
							cross-bedding; several calcite vienlets		
							(<1mm) near top along bedding; iron		
						17.37	staining at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	4 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SANDSTONE- (same as above) coarsening to medium grain	72	
							at base; entire interval; iron stained		
							Box 4		
70°	17.90	29.42	11.52	11.42	mgss		SANDSTONE- light grey; medium grain; cross bedded	215	
							cut and fill structures; core heavily		
							broken in top 40 cm with iron staining		
						20.42			
							SANDSTONE- medium to dark grey; very fine grain;	65	
							cross beds in places, otherwise massive		
							color banding; rip-up at base with		
							convolute bedding at base-load features;		
							broken at base with iron staining		
							SANDSTONE- light grey; medium to coarse grained;	240	
							cross bedded; rare carbonaceous bands		
							(<1mm) color banding; iron stained in		
							places; rare pebble band		
						23.47			
							Box 6		
							SANDSTONE- (same as above)	275	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	5 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 7		
			6				ROCK LOSS, SANDSTONE		
							SANDSTONE- (same as above) broken and iron stained at	24	
							top		
						26.52			
							SANDSTONE- (same as above) becoming massive in basal	251	
							70 cm; fractured 147 cm from top at		
							right angles to bedding with calcite and		
							iron stains		
							Box 8		
							SANDSTONE- (same as above)	50	
			4				ROCK LOSS, SANDSTONE		
						29.57			
							SANDSTONE- light grey; coarse grain; massive;	22	
							broken at top and base, iron staining;		
							rare pebble near base; fractured at base		
							≈45° B.C.A.		
	29.42	29.71	29				ROCK LOSS, CLAYSTONE		
	29.71	29.75	4				CLAYSTONE- dark grey; soft; pebbles in top 1 cm	4	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	6 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
70°	29.75	29.90	15				SILTSTONE- dark grey; heavily broken; iron stained; color banding; mixture of clay and pebbles at base (gouge?)	15	
	29.90	30.22	32				SANDSTONE- light grey; medium to coarse grained; thick bedded; coaly stringers at base; broken at base with iron stains	32	
	30.22	30.48	26				ROCK LOSS, SANDSTONE		
	30.48	31.18	70				SANDSTONE- dark grey; fine grain; appears massive; carbonaceous with coaly stringers throughout; iron stained; heavily broken; plant imprints	20	
							SANDSTONE- medium grey, fine grained matrix with rounded pebbles ≈.5 cm in diameter making up 10-15% of unit; coaly stringers and trace of rootlets; rock appears to have been disturbed through churning - possibly seat earth of coal	50	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 7 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	31.18	31.45	27				CLAYSTONE- brownish-grey weathered orange; iron	10	
							stains; soft; heavily broken		
							Box 9		
							CLAYSTONE- (same as above)	17	
	31.45	32.02	57				ROCK LOSS, CLAYSTONE		
						32.61			
	32.02	32.66	64				SANDSTONE- light grey; fine grain; appears massive;	64	
							broken at top as 45°; calcite filled frac-		
							tures at 5 cm and 20 cm from top ≈60°		
							B.C.A.; core slightly broken		
	32.66	32.71	.05				CLAYSTONE- dark grey; soft	5	
	32.71	32.92	.21				ROCK LOSS		
60°	32.92	34.57	1.65				SANDSTONE- light grey, fine grain; cross bedded;		
							broken along bedding 85 cm and 95 cm top	from	
							with calcite and iron staining; core mod-	165	
							erate; broken in places		
							Box 10		
	34.57	35.91	1.34				SILTSTONE- dark grey; soft sediment deformation -	50	
						35.66	convolute beds		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	8 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SILTSTONE- (same as before) sheared with slickenside	84	
							at base		
	35.91	36.08	.17				CLAYSTONE- dark grey; slickensides at top; soft	17	
	36.08	37.16	1.08				SILTSTONE- dark grey; soft sediment deformation;	93	
							convolute bedding		
							SILTSTONE- (same as above) heavily broken	15	
	37.16	37.47	.31				Rock loss, siltstone		
							Box 11		
	37.47	38.92	1.45				SILTSTONE- dark grey; massive; broken slightly	65	
						38.71			
							SILTSTONE- medium grey; massive; broken; fracture	80	
							45 cm from top at 60° B.C.A. filled with		
							calcite		
	38.92	39.62	.70				CLAYSTONE- medium grey; soft; appears to have a	70	
							high sand content; almost a granular		
							texture		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	9 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	39.62	40.32	.70				SILTSTONE- dark grey; massive; broken at base	55	
							Box 12		
							SILTSTONE- (same as above)	15	
	40.32	40.36	.04				CLAYSTONE- dark grey; soft	4	
	40.36	40.86	.5				SILTSTONE- medium grey; massive; broken at bottom	50	
	40.86	40.91	.5				CLAYSTONE- dark grey; soft	5	
	40.91	41.77	.86				SANDSTONE- light grey; fragmented; cross bedded	17	
						41.76			
							SANDSTONE- (same as above)	69	
	41.77	46.48	4.71				SILTSTONE- medium grey; massive	118	
							Top of Box 13		
							SILTSTONE- (same as above) broken with iron stains		
						44.81			
							SILTSTONE - (same as above) broken in several places at	135	
							45° (4 breaks) iron stains on breaks		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 10 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 14		
							SILTSTONE- dark grey; massive	95	
							SILTSTONE- dark grey; heavily broken	5	
	46.48	47.25	.77				SANDSTONE- light grey; fine grain; massive; coaly	62	
							stringer near top; core fracture along		
							stringer - 10° B.C.A.		
						47.86			
							SANDSTONE- (same as above)	15	
	47.25	47.61	36				CLAYSTONE- light grey; massive; sandy; very soft and	36	
							friable; broken		
	47.61	48.60	99				SANDSTONE- light grey; very fine grain; massive;	34	
							broken at top		
							Box 15		
							SILTSTONE- light grey; broken at top and base; mas-	65	
							sive		
	48.60	48.95	35				ROCK LOSS		
	48.95	50.35	1.4				SILTSTONE- (same as above) broken at base; massive	65	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	11 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SILTSTONE- (same as above) broken at top; fracture at	55	
							top also 0° B.C.A.		
						50.91			
							SILTSTONE- (same as above) heavily broken; calcite on	20	
							some breaks		
	50.35	50.55	22				ROCK LOSS		
	50.55	52.48	1.93				SANDSTONE- light grey; very fine grain; small scale	10	
							cross beds (low angle)		
							Box 16		
							SILTSTONE/SANDSTONE- dark grey siltstone interlamina-	146	
							ted with light grey; very fine grain		
							sandstone; cross bedded (low angle) (50-		
							50 ratio); cross beds becoming high angle		
							at base		
65°							SANDSTONE/SILTSTONE- light grey;very fine grain; sand-	37	
							stone interlaminated with siltstone; 70-		
							30 ratio; high angle cross beds; broken		
							along bedding near base with calcite		
	52.48	63.27	10.79				SANDSTONE- light grey; fine grain; cross bedded (low	70	
							angle); cut and fill structures		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 12 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						53.96			
							SANDSTONE- (same as before)	70	
							Box 17		
60°							SANDSTONE- light grey; fine grain; planar bedding	148	
							with some thick bedded sections up to 30cm		
							thick; rare mud rip-up clast		
							SANDSTONE- light grey; medium grain; planar laminae;	136	
							very little or no cross bedding; light -		
							dark color banding		
						57.01			
							Box 18		
65°							SANDSTONE- (same as above) medium grain	213	
							SANDSTONE- light grey; medium grain; planar lamina-	72	
							tions; light and dark color banding; core		
							broken; iron staining; no calcite; core		
							fracture at top ≈20° B.C.A. for 36cm (no		
							cross beds)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 13 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 19		
							SANDSTONE- (same as before)	20	
						60.06			
65°							SANDSTONE- (same as before) fracture 26 cm from top	258	
							oblique to bedding at 45°; trace calcite;		
							several 1 cm rip-up clasts 45 cm from		
							base; planar laminations. (no cross beds)		
							Box 20		
60°							SANDSTONE- (same as above)	26	
							SANDSTONE- light grey; medium grain; cross bedded;	18	
							color banded		
						63.10			
55°							SANDSTONE- (same as above)	95	
	63.27	64.37	1.10				CONGLOMERATE- medium grey; pebbles <1 cm in diameter;	110	
							sedimentary origin - pebbles; coarse		
							grain sandstone matrix; moderately sorted;		
							sub-rounded; rare coaly; wisp		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 14 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	64.37	66.07	1.07				SANDSTONE- light grey; coarse grain; appears massive;	20	
							small (≈3-4mm) pebbles dispersed randomly		
							throughout		
							Top of Box 21		
							SANDSTONE- (same as above) coarse grain; clasts at	81	
							base; broken at base through clasts; clasts		
							appear to be claystone		
						66.15			
							SANDSTONE- (same as above) fractured at 45° at top;	40	
							clasts near top		
							SANDSTONE- light grey; fine grain; cross bedded (low	29	
							angle) color banded; coarsening at base;		
							abrupt contact with underlying siltstone;		
							scour features and load casting at contact		
	66.07	66.31	24				SILTSTONE- dark grey; load features with overlying	24	
							sandstone. soft sediment deformation		
							throughout; fractured at 30° B.C.A.;		
							slickensided at base		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 15 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	66.31	66.34	33				CLAYSTONE- dark grey; heavily broken in top 15 cm;	23	
							slightly carbonaceous with rare bright band		
	66.34	68.01	1.67				SLITSTONE- medium grey; massive; argillaceous;	72	
							bentonitic swelling in 5 cm clay band 30 cm		
							from top; white powder or flim on dry core;		
							fracture at 30°F.C.A. 10 cm from top		
							Box 22		
							SILTSTONE- (same as above) argillaceous; heavily	95	
							broken at base		
	68.01	68.23	22			69.20	ROCK LOSS		
	68.23	68.48	25				SILTSTONE- medium grey; argillaceous (more than nor-	25	
							mal); heavily broken in top 10 cm		
	69.48	68.81	33				CLAYSTONE- light grey; soft; swelling features -	33	
							bentonitic; friable		
	68.81	70.44	1.63				SILTSTONE- light grey; massive; soft; 5 cm clay zone	100	
							35 cm from top which is heavily broken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 16 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 23		
							SILTSTONE- (same as before) grading to fine grain	63	
							sandstone at base		
	70.44	70.84	40				SANDSTONE- light grey; fine grain; laminated and	40	
							cross bedded at low angle; color banded;		
							several siltstone lenses		
	70.84	71.06	22			72.25	ROCK LOSS		
	71.06	71.62	56				SANDSTONE- (same as above)	56	
	71.62	72.07	45				ROCK LOSS		
	72.07	72.98	91				SILTSTONE- dark grey; massive; heavily broken; frac-	19	
							ture at top ≈30° B.C.A.		
60°							SANDSTONE- light grey; fine grain; cross bedding; cut	72	
							and fill features; color banding laminat-		
							ed; fracture at 60° B.C.A. along bedding		
							filled with calcite; grades to siltstone		
							at base		
							Box 24		
	72.98	74.24	1.26				SILTSTONE- dark grey; massive	30	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	17 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SILTSTONE- dark grey; heavily broken; clay bands	83	
							<20mm in places		
						75.30			
							SILTSTONE- (same as above) heavily broken	15	
	74.24	74.47	23				ROCK LOSS		
	74.47	76.27	1.80				SILTSTONE- dark grey; broken at top; faint cross	60	
							bedding - minor feature; minor soft		
							sediment deformation		
							SILTSTONE- (same as above) heavily broken	10	
							SILTSTONE- dark grey; massive; fracture at 25° B.C.A.	20	
							at top		
							Box 25		
							SILTSTONE- (same as above)	45	
							SILTSTONE- (same as above) heavily broken - pulverized	45	
							coal		
	76.27	76.50	23				ROCK LOSS		
	76.50	79.42	2.92				SILTSTONE- dark grey; massive	60	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	18 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SANDSTONE/SILTSTONE- light grey; fine grain; sand-	22	
							stone interlamination with dark grey		
							siltstone; cross bedding; color band;		
							convolute beds (60-40 ratio)		
						78.35			
60°							SANDSTONE/SILTSTONE- fracture perpendicular to bed-	90	
							ding near base		
							Box 26		
							SILTSTONE- dark grey; faint thinly bedded; very	120	
							minor cross beds; broken zone 35 cm from		
							top; fracture perpendicular to bedding;		
							rare carbonaceous plant remains; heavily		
	79.42	79.91	49				ROCK LOSS - broken at base		
	79.91	80.18	27				COAL LOSS		
	80.18	80.20	2				COAL- bright; broken	2	
	80.20	80.37	17			81.38	ROCK LOSS		
	80.37	80.52	15				CLAYSTONE- dark grey; carbonaceous	15	
	80.52	80.86	34				ROCK LOSS		
	80.86	81.01	15				COAL- dull; heavily broken	15	
	81.01	81.61	60				COAL LOSS		
	81.61	82.15	54				ROCK LOSS		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 19 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	82.15	88.05	5.90				SANDSTONE- light grey; conglomerate; slighty carbon-	99	
							aceous at top; high angle cross beds;		
							broken at top		
							Top of Box 27		
							SANDSTONE- light grey; coarse grained; high angle	82	
							cross beds; several small pebble bands		
							with pebbles < 2mm in diameter; laminated		
							and color banded in places; slightly broken		
						84.43			
60°							SANDSTONE- (same as above) coarse grain	188	
							Box 28		
							SANDSTONE- (same as above) coarse grain	117	
						87.48			
							SANDSTONE- (same as above) coarse grain	104	
	88.05	88.71	66				SANDSTONE- light grey; fine grain; planar laminations	66	
							- color change to dark grey, 28 cm from		
							top for rest of unit (carbonaceous?)		
							Box 29		
	88.71	89.02	31				CONGLOMERATE- dark grey; pebbles < 3mm dia-	31	

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 20 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							meter; sub-rounded; well sorted; sedi-		
							ment origin - mainly grey and white; peb-		
							bles sub-parallel; coarse sandstone matrix;		
							siliceous cement; rare carbonaceous mater-		
							ial		
65°	89.02	99.56					SANDSTONE- light grey; fine grain; laminated; faint-	104	
							minor cross beds; carbonaceous partings		
							<1 mm thick; core breaks along partings		
							with listric; may account for color band-		
							ing; conglomeratic in places		
						90.53			
							SANDSTONE- light grey; fine grain; cross bedding	140	
							(very minor); laminated; color banding		
							(light and dark); 5 cm pebble band 30 cm		
							from top; worm burrows, 128 cm from top		
							for 8 cm; hole diameter <1 cm		
							Box 30		
65°							SANDSTONE- (same as above) fine grain	161	
						93.57			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	21 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							SANDSTONE- (same as above) fine grain; few pebbles at	115	
							random spacing		
							Box 31		
							SANDSTONE- (same as above) fine grain	190	
						96.62			
							SANDSTONE (same as above) fine grain	80	
							Box 32		
							SANDSTONE- (same as above) fine grain	216	
						99.67			
							SANDSTONE- (same as above) fine grain	48	
	99.56	103.15	3.59				SILTSTONE/SANDSTONE- dark grey siltsone interlaminated	70	
							with light grey fine grain sandstone;		
							cross beds; convoluted bed and soft		
							sediment deformation; siltstone content		
							increases towards base		
							(top sandstone-siltstone ratio 70-30)		
							(bottom siltstone-sandstone ratio 80-20)		
							SANDSTONE- light grey; fine grain; very faint and	187	
							minor cross beds		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	22 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						102.72			
							SILTSTONE/SANDSTONE- dark grey siltstone interlam-	16	
							inated with light grey; fine grain; sand-		
							stone slickensides on base (siltstone-		
							sandstone ration 80-20)		
70°							SANDSTONE- light grey; fine grain; laminated; cross	10	
							bedded (low angle); light and dark color		
							banding		
							Box 34		
							SANDSTONE- (same as above)	60	
							SILTSTONE- dark grey; soft sediment deformation;	16	
							broken at base with listric surfaces and		
							slickensides		
	103.15	103.19	.04				ROCK LOSS - top of Holcross		
	103.19	105.18	1.99				SANDSTONE- light grey; fine grain; planar laminations;	23	
							color banding; top 5 cm has convolute		
							beds with overlying siltstone		
							SILTSTONE/SANDSTONE- dark grey siltstone interlamina-	38	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
	23 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							ted with light grey; fine grain; sandstone;		
							convolute beds; soft sediment deformation		
							(siltstone-sandstone ratio 80 - 20)		
							SILTSTONE- dark grey; massive	23	
							SANDSTONE- light grey; fine grain; very minor cross	115	
							beds; planar laminations; color banding;		
							siltstone bands up to 6 cm in places;		
							broken near base along bedding with listric		
							surfaces		
						105.77			
							Box 35		
60°									
	105.18	127.75	22.57				SILTSTONE/SANDSTONE- dark grey siltstone interlamina-	272	

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HOLE NUMBER

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CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET 24 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							ted with light grey; fine grain; sand-		
							sandstone; displays low angle cross bed-		
							ding; convolute beds and soft sediment		
							deformation are the main features; load		
							casting - minor (sandstone-siltstone		
							ratio 60-40); core broken near top with		
							listric surfaces; core broken 66 cm from		
							top with calcite perpendicular to bed		
							Box 36		
							SANDSTONE/SILTSTONE- (same as above) ratio 50-50	36	
						108.84			
							SANDSTONE/SILTSTONE- (same as above) ratio 50-50	240	
							Box 37		
60°							SILTSTONE/SANDSTONE- (same as above) ratio 60-40	65	
						111.89			
							SILTSTONE/SANDSTONE- (same as above) ratio 60-40	208	
							Box 38		
65°							SILTSTONE/SANDSTONE- (same as above) ratio 65-35	90	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	25 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						114.93			
							SILTSTONE/SANDSTONE- (same as before)	183	
							Box 39		
							SILTSTONE/SANDSTONE- (same as above)	124	
						117.98			
							SILTSTONE/SANDSTONE- (same as above)	163	
							Box 40		
							SILTSTONE/SANDSTONE- (same as above)	142	
						121.03			
							SILTSTONE /SANDSTONE- (same as above) 70 - 30 ratio	141	
							Box 41		
							SILTSTONE/SANDSTONE- (same as above) 70 - 30 ratio	168	
						124.08			
							SILTSTONE/SANDSTONE- (same as above)	123	
							Box 42		
60°							SILTSTONE/SANDSTONE- (same as above)	182	
						127.13			
							SILTSTONE/SANDSTONE- (same as above) 24 and 26 cm	74	
							from top; 1 cm white clay bands (bentonite)		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	26 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 43		
							SILTSTONE/SANDSTONE- (same as above) 70 - 30 ratio;	46	
							core broken at 10° B.C.A.(no $CaCO_2$ or		
							slickensides)		
	127.75	127.93	.18				ROCK LOSS		
	127.93	135.75	7.82				SILTSTONE/SANDSTONE- (same as above)	167	
							SILTSTONE/SANDSTONE- (same as above)	71	
							Box 44		
65°							SILTSTONE/SANDSTONE- (same as above)	234	
						133.23			
							SILTSTONE/SANDSTONE- (same as above)	50	
							Box 45		
							SILTSTONE/SANDSTONE- (same as above) 70 - 30 ratio	254	
							SILTSTONE- dark grey; massive	6	
	135.75	135.88	13				CLAY- white; soft; friable	10	
							Box 46		
							CLAY- (same as above)	3	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	27 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	135.88	3.55	139.43				SILTSTONE/SANDSTONE- dark grey siltstone interlamin-	282	
							ated with light grey; fine grain; sand-		
							stone; cross bedded (low angle); convolute		
							beds in places and other soft sediment		
							deformation; siltstone-sandstone ratio		
							70 - 30		
						139.32			
							Box 47		
						139.32			
							SILTSTONE/SANDSTONE- (same as above) 70 - 30 ratio	73	
	139.43	139.46	3				CLAY- white; soft; friable	3	
	139.46	149.06	9.60				SILTSTONE/SANDSTONE- (same as above; siltstone-sand-	202	
							stone unit)		
							Box 48		
							SILTSTONE/SANDSTONE- (same as above)	26	
						142.37			
65°							SILTSTONE/SANDSTONE- (same as above)	245	
							Box 49		
							SILTSTONE/SANDSTONE - (same as above)	55	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 28 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						145.42			
							SILTSTONE/SANDSTONE- (same as above) 70 - 30 ratio	210	
							Box 50		
							SILTSTONE/SANDSTONE- (same as above)	82	
						148.47			
							SILTSTONE/SANDSTONE- (same as above)	140	
							CLAY- white soft; friable	10	
							SILTSTONE/SANDSTONE- dark grey siltstone interlamina-	66	
							ted with light grey; fine grain; sandstone;		
							cross beds; convoluted and soft sediment		
							deformation (siltstone-sandstone ratio 70-30)		
							Box 51		
							SILTSTONE/SANDSTONE- (same as above) ratio 80 - 20	93	
						151.52			
							SILTSTONE/SANDSTONE- (same as above)	196	
							Box 52		
							SILTSTONE/SANDSTONE- (same as above)	125	
						154.57			
							SILTSTONE/SANDSTONE- (same as above) ratio 80 - 20	162	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	29 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 53		
							SILTSTONE/SANDSTONE- (same as above)	143	
						157.62			
							SILTSTONE/SANDSTONE- (same as above)	137	
							Box 54		
							SILTSTONE/SANDSTONE- (same as above)	5	
							SILTSTONE- dark grey; heavily fractured and cemented	8	
							with calcite; anastomising fracture pattern		
65°							SILTSTONE/SANDSTONE- dark grey siltstone interlamina-	155	
							ted with light grey; fine grain sandstone		
							laminated; cross bedded (low angle); soft		
							sediment deformation		
						160.67			
							SILTSTONE/SANDSTONE- (same as above) ratio 80 - 20	98	
							Box 55		
							SILTSTONE/SANDSTONE- (same as above)	206	
						163.71			
							SILTSTONE/SANDSTONE- (same as above)	63	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	30 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 56		
							SILTSTONE/SANDSTONE- (same as above) ratio 80 - 20	235	
						166.76			
							SILTSTONE/SANDSTONE- (same as above)	32	
							Box 57		
60°							SILTSTONE/SANDSTONE- (same as above)	273	
						169.81			
							Box 58		
							SILTSTONE/SANDSTONE- (same as above)	283	
							Box 59		
65°							SILTSTONE/SANDSTONE- (same as above)	21	
						172.85			
							SILTSTONE/SANDSTONE- (same as above)	251	
							Box 60		
							SILTSTONE/SANDSTONE- (same as above)	55	
						175.91			
							SILTSTONE/SANDSTONE- (same as above)	214	
							Box 61		
							SILTSTONE/SANDSTONE- (same as above)	90	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	31 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						178.96			
							SILTSTONE/SANDSTONE- (same as above)	163	
	179.90	179.93	.03				CLAY- white; soft; friable	3	
	179.93	186.90	6.97				SILTSTONE/SANDSTONE- dark grey siltstone interlaminated	36	
							with light grey; fine grain; sandstone		
							laminated; cross beds (low angle); soft		
							sediment deformation; ratio of 75 - 25		
							Box 62		
							SILTSTONE/SANDSTONE- (same as above) ratio 60 - 40	124	
						182.01			
							SILTSTONE/SANDSTONE- (same as above)	135	
							Box 63		
65°							SILTSTONE/SANDSTONE- (same as above) ratio 50 - 50	161	
							SILTSTONE/SANDSTONE- (same as above)	120	
							Box 64		
							SANDSTONE- color banded, light grey; fine grain; laminated;	22	
							cross bed		
							SANDSTONE/SILTSTONE- dark grey siltstone interlamina-	135	
							ted with light grey; fine grain; sandstone;		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	32 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							cross bedded (low angle); soft sediment		
							deformation; (sandstone-siltstone ratio 60-40)		
	186.90	186.96	6		Kh		SANDSTONE- light grey; coarse grain; massive; sev-	6	
							eral pebbles <5mm pebbles sub-round; sed-		
							iment origin		
	186.96	187.21	25		Kg		SANDSTONE/SILTSTONE- light grey; fine grain; sandstone	25	
							interlaminated with dark grey siltstone;		
							cross beds; soft sediment deformation;		
							coaly stringers; 2 cm medium grain sand-		
						188.10	stone band marks base		
	187.21	187.41	20				SILTSTONE- dark grey; massive; sheared with slicken-	20	
							sides; heavily broken; coaly stringers		
							Box 65		
	187.41	188.80	1.39				ROCK LOSS		
	188.80	190.14	1.34				SILTSTONE- (same as above) heavily broken	40	
							SILTSTONE- dark grey; massive; coaly stringers	94	
	190.14	191.22	108				SANDSTONE- light grey; very fine grain; cross bed	12	
							(low angle); grades to silt at base; laminated		
						191.15			
65°							SANDSTONE- (same as above)	96	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	33 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 66		
	192.22	196.19	4.97				SILTSTONE- dark grey; massive	33	
							SANDSTONE- light grey; very fine grain; cross bed;	57	
							laminated; rare coaly stringer; plant		
							debris		
							SILTSTONE- dark grey; massive	85	
							SANDSTONE/SILTSTONE- light grey; very fine grain; sand-	33	
							stone thinly bedded (<2cm) with dark silt-		
							stone; some load features and soft sedi-		
							ment deformation (50-50 ratio)		
						194.20			
65°							SANDSTONE/SILTSTONE- (same as above)	65	
							Box 67		
	60						SANDSTONE/SILTSTONE- light grey; very fine grain to	224	
							fine grain; sandstone interlaminated with		
							dark grey siltstone; cross bedded, soft		
							sediment deformation; load casts (50-50 ratio)		
	196.19	196.28	0.09				SILTSTONE- dark grey; soft sediment deformation; few	9	
							wavy bedding traces; thinly bedded		
						197.25			
	196.28	196.81	0.53				Rock loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	34 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	196.81	197.18	0.37				SILTSTONE- dark grey; massive	37	
							Box 68		
	197.18	199.54	236				SILTSTONE- (same as above)	215	
						200.30			
							SILTSTONE- carbonaceous at base	21	
	199.54	200.05	51				ROCK LOSS		
							Box 69		
	200.05	200.23	18		25	26	COAL- dull; 5% bright bands; broken; slickensides	18	
	200.23	200.58	35				COAL LOSS		
	200.58	202.76	2.18				SILTSTONE- dark grey; massive; coaly stringers at top;	84	
							slickensides at top		
							SILTSTONE- (same as above)- broken; bright stringers	25	
							SILTSTONE- (same as above)- becomes almost fine grain	81	
						203.35	sandstone at base		
60°							SILTSTONE- (same as above)	28	
	202.76	203.05	.29				ROCK LOSS		
	203.05	203.25	.20				CLAYSTONE- dark grey; carbonaceous; heavily broken	20	
	203.25	203.55	.30				ROCK LOSS		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
	35 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 70		
65°	203.55	205.21	1.66				SILTSTONE- dark grey; massive; coaly stringers	166	
							throughout; calcite filled fractures 75 to		
							85 cm from top; fractures up to 3 mm in		
							thickness; branded pattern with vugs; be-		
							comes carbonaceous at base		
	205.21	205.63	42				COAL- dull 5% bright; metallic lustre; broken	42	
					2527				
	205.63	205.76	13				COAL - bright	13	
	205.76	205.86	10				CLAYSTONE- dark grey; broken	10	
	205.86	205.93	7				ROCK LOSS		
	205.93	205.99	6		2528		COAL- dull banded 15% bright; heavily broken	6	
	205.99	206.09	10				COAL LOSS		
	206.09	206.15	6				COAL- boney; broken	6	
	206.15	206.99	.84				SILTSTONE- dark grey; thick bedded with some light	13	
							grey; fine grain; sandstone lenses; soft		
							sediment deformation; carbonaceous at top;		
							coaly wisps throughout; listric surfaces at top		
							Box 71		
60°							SILTSTONE- (same as above) slightly broken near base	71	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 36 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	206.99	208.28	129				SANDSTONE- light grey; fine grain; corss bedded; dark	129	
							grey; siltstone phases in places; soft		
							sediment deformation; siltstone is wavy		
							in spots		
	208.28	209.07	79				SILTSTONE- dark grey; massive; slightly carbonaceous	35	
						209.45	near top		
							SILTSTONE- (same as above)	21	
	209.07	209.32	25				ROCK LOSS		
							Box 72		
60°							SILTSTONE- (same as above) broken in places on coaly	23	
							stringer along bedding		
	209.32	209.72	40				SANDSTONE- light to medium grey; very fine grain to	40	
							fine grain; laminated and cross bedded;		
							becoming silt at base		
	209.72	211.84	2.12				SILTSTONE- dark grey; massive; coaly stringer in	212	
							spots at random		

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HOLE NUMBER

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CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 37 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 73		
						212.50			
	211.84	217.19	5.35				SANDSTONE/SILTSTONE- light grey; fine grain; sandstone	111	
							interlaminated with dark grey siltstone;		
							siltstone bands up to 3 cm in places but		
							mainly laminae; soft sediment deformation		
							and color banding; calcite filled fracture		
							up to 1 cm thick along bedding, 9 cm from		
							base; several worm burrows near top		
							SILTSTONE- dark grey; several sandstone lenses and	78	
							load casts near top; overall massive		
65°							SANDSTONE/SILTSTONE- light grey; fine grain; sandstone		
							laminated and thinly bedded with dark grey		
							siltstone; low angle cross beds; load casts		
							and soft sediment deformation; siltstone		
							is lensoidal in places; siltstone increa-		
							sing at base (sandstone-siltstone ratio 50-50)		
							Top of Box 74		
							SILTSTONE/SANDSTONE- (same as above) ratio 70 - 30	20	
						215.54			
							SILTSTONE/SANDSTONE- (same as above) ratio 80 - 20	156	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 38 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	217.19	218.53	1.34				SANDSTONE- light grey; fine grain; appears massive;	107	
							several dark grey; siltstone lenses at top		
							Box 75		
							SANDSTONE- (same as above) very faint; minor cross beds	27	
						218.59			
	218.53	219.87	1.34				SILTSTONE/SANDSTONE- thinly interbedded; soft sedi-	21	
							ment deformation (ratio 60 - 40)		
							SANDSTONE- light grey; fine grain; faint cross beds;	23	
							siltstone lenses near top		
							SILTSTONE- dark grey load cast contact with sand-	22	
							stone; few thin sandstone laminae at top		
							SANDSTONE- light grey; fine grain; cross bedded;	61	
							siltstone wisps near top		
							SILTSTONE- dark grey; cross bedded; soft sediment	7	
							deformation; sandstone lenses at base		
	219.87	222.91	3.04				SANDSTONE- light grey; fine grain; faint cross beds	36	
							Box 76		
							SANDSTONE- (same as above) clay galls 100 cm from top	268	
							(illegible)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET 39 OF 39

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 77		
	222.91	225.83	2.92				CLAY- dark grey; soft	3	
							SILTSTONE- dark grey; massive	61	
						224.69			
							SILTSTONE- (same as above)	170	
							SILTSTONE/COAL- heavily broken; coaly fines	10	
							SILTSTONE- dark grey; massive; coaly stringers at	48	
							top		
							Box 78		
60°	225.83	226.73	.90				SANDSTONE/SILTSTONE- light grey; fine grain; interbedded	90	
							and laminated with dark grey siltstone;		
							rip-up clasts near top of siltstone; soft		
							sediment deformation and load casts		
						227.74			
							END OF HOLE		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		20/3	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	Q.B. THICKNESS
MUD 81-11	D. W. Coates	90°	--	235	HQ		N22/8500N	3200	13	6

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1641.4	6,066,425.83 N	648,995.02 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		131.90-132.96	46	0.81	0.81/0.00	86	2542		Kh	125.85	1515.55		
B11		154.74-155.96	37	0.97	0.61/0.36	86	2543-45						
B10		181.67-182.47	40	0.61	0.61/0.00	100	2546						
B9	1426.9	207.10-214.50	40	5.72	5.12/0.60	54	2547-50						
							1551-54						
		219.80-220.30	30	0.43	0.43/0.00	100	1555						
B8		226.28-226.48	33	0.17	0.17/0.00	100							
													HOLE NUMBER MUD 81-11

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	1 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N	E	UTM 6,066,420 N	649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 1		
						6.10	(Hulcross Formation) (Fault zone near top of Hole)		
	6.10	6.71	61				Core Loss - Siltstone and sandstone		
	6.71	6.88	17				Siltstone/Sandstone - dark grey, badly broken minor iron staining	0.17	
	6.88	7.63	75				Siltstone/Sandstone - dark grey, badly broken, minor shearing	0.75	
							with iron staining, minor interbeds of		
							medium grey fine grained sandstone		
	7.63	8.23	60				Core loss - siltstone and sandstone		
						27/8.23			
	8.23	8.50	27				Siltstone/Sandstone - same as above		
	8.50	9.15	65				Siltstone/Sandstone - same as above	0.65	
							Box 2		
	9.15	9.74	59				Core loss - Siltstone and sandstone		
	9.74	10.06	32				Siltstone/Sandstone - same as above, core very badly broken	0.32	
							and sheared iron staining		
						33/10.06			
	10.06	10.26	20				Core loss - siltstone and sandstone		
73°	10.26	14.02	3.76				Siltstone/Sandstone - same as above, with interbeds of medium grey	1.02	
							fragments, sandstone shearing along bedding with iron staining, minor dark grey claystone.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	2 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E		UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 2		
						37/11.28			
							Siltstone/Sandstone - dark grey, same as above, minor claystone dark grey warped ironstone nodules as well, core badly broken	0.89	
							Box 3		
65°							Siltstone/Sandstone - same as above, with interbeds of light to medium grey fragments, sandstone which has rip up clasts and load casts. Sheared along bedding with iron staining. Core badly broken.	1.85	
						46/14.02			
	14.02	14.62	60				Core loss - siltstone and sandstone		
	14.62	18.98	4.36				Siltstone/Sandstone - same as above, core badly broken and crushed in places	0.60	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	3 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 4		
							Siltstone/Sandstone - same as above, core is very badly crushed and broken. Also badly sheared. Bedding almost parallel to core axis. Fault zone a very strong possibility as core loss the appearance of being a fault gauge. Much iron staining. Scattered iron stone nodules.	2.00	
							Box 5		
						17.37			
							~~Siltstone/Sandstone - same as above, top 8 cm badly broken with iron staining. Interbeds of medium grey fragments, sandstone showing beaucoup de turbiditie.~~	~~1.76~~	
	18.98	19.36	0.38				Core loss - siltstone and sandstone		
	19.36	19.96	60				Siltstone/Sandstone - same as above, core badly crushed and broken, iron staining sheared as well.	0.60	
						66/20.12			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	4 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 6		
	19.96	20.63	.67				Core loss - siltstone and sandstone		
3-5°	20.63	22.95	2.32				Siltstone/Sandstone - dark grey with interbeds of light grey fragments, sandstone. Core very badly sheared (slickenside) and broken. Iron staining bedding almost parallel to core axis. Sandstone loss load casts and small rip up clasts.	1.80	
							Box 7		
73°							Siltstone/Sandstone - same as above, core badly broken and squeezed. Sheared as well, calcite as well as iron coating along shears. Very small calcite filled tension veinlets perpendicular to bedding.	0.52	
						76/23.16			
	22.95	23.55	0.60				Core loss - rock		
	23.55	25.73	2.18				Siltstone/Sandstone - same as above, very badly crushed zone toward base	92	
						81/24.69			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	5 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE Vertical (-90)	TOTAL DEPTH 235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY TC	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 8		
65°							Siltstone/Sandstone - same as above, not as badly sheared and deformed but core is still quite badly broken, minor iron coating.	1.26	
	25.73	26.30	57				Core loss - siltstone and sandstone		
						87/26.52			
65°	26.30	28.08	1.78				Siltstone/Sandstone - same as above	0.80	
							Box 9		
70°							Siltstone/Sandstone - same as above, core still badly broken, amount of shearing increasing, core in part badly crushed (grunge stone) iron coating	0.78	
	28.08	29.45	1.37				Core Loss - Siltstone and sandstone		
						97/29.57			
	29.45	30.60	1.15				Siltstone/Sandstone - same as above	0.80	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	6 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 10		
60°							Siltstone/Sandstone - same as above, core badly broken and crushed, some shearing	0.35	
	30.60	31.58	98				Core loss - siltstone and sandstone		
						104/31.70			
50°	31.58	32.33	75				Siltstone/Sandstone - same as above, core broken but not crushed, sheared	0.75	
	32.33	32.80	47				Core loss - siltstone and sandstone		
						108/32.92			
	32.80	33.20	40				Siltstone/Sandstone - same as above	0.40	
							Box 11		
	33.20	34.75	1.55				Core loss - siltstone and sandstone		
	34.75	37.03	2.28				Siltstone/Sandstone - same as above, badly broken and partly crushed, sheared as well.	0.75	
						117/35.66			
							Siltstone/Sandstone - same as above	0.88	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	7 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 12		
40°							Siltstone/Sandstone - same as above, sheared along bedding planes,	0.65	
							somewhat broken.		
	37.03	38.53	1.50				Core loss - siltstone sandstone, broken		
						127/38.71			
	38.53	39.49	96				Siltstone/Sandstone - same as above, core sheared and broken	0.96	
							also crushed interval toward bottom of		
							interval, minor iron staining		
	39.49	41.49	2.00				Core loss - siltstone and sandstone		
						137/41.76			
							Box 13		
50°	41.49	42.27	78				Siltstone/Sandstone - same as above	0.78	
	42.27	44.47	2.20				Core loss - siltstone and sandstone		
						147/44.81			
42°	44.47	45.22	75				Siltstone/Sandstone - same as above	0.75	
	45.22	47.22	2.00				Core loss - siltstone and sandstone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	8 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 14		
	47.22	47.46	24				Siltstone/Sandstone - same as above, badly broken and crushed, sandstone has convolent bedding	0.24	
						157/47.85			
	47.46	50.06	2.60				Core loss - siltstone and sandstone		
	50.06	50.42	36				Siltstone/Sandstone - same as above, crushed	0.36	
						167/50.90			
	50.42	51.53	1.11				Core loss - siltstone and sandstone		
50°	51.53	52.25	72				Siltstone/Sandstone - same as above, badly sheared, core broken, small mico faulting in sandstone bands.	0.72	
						173/52.73			
	52.25	53.35	1.10				Core loss - siltstone and sandstone		
	53.35	53.50	15				Siltstone/Sandstone - same as above	0.15	
							Box 15		
60°	53.50	57.27	3.77				Siltstone/Sandstone - same as above, sheared and broken, minor calcite fractures, local steepening of beds to 30° to C.A.	2.57	
						186/56.64			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	9 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 16		
							Siltstone/Sandstone - same as above, bedding to core axis change to less steeply dipping beds. Core still sheared and broken, crushed interval at base of interval.	1.20	
	57.27	57.91	0.64				Core loss - siltstone and sandstone		
						192/58.52			
68°	57.91	58.97	1.06				Siltstone/Sandstone - same as above	0.50	
							Box 17		
70°							Siltstone/Sandstone - same as above, bands show turbidites, rip up clasts, small scale load casts and minor convoluted bedding.	0.56	
	58.97	59.42	0.45				Core loss - siltstone and sandstone		
						197/60.05			
65°	59.42	60.98	1.56				Siltstone/Sandstone - same as above, badly crushed at base	1.50	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	10 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE Vertical (-90)	TOTAL DEPTH 235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY TC	CORE SIZE HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 18		
							Siltstone/Sandstone - core broken and sheared	0.06	
	60.98	61.18	0.20				Core loss - siltstone and sandstone		
						203/61.85			
60°	61.18	63.43	2.25				Siltstone/Sandstone - same as above, some shearing along bedding, core broken	2.15	
							Box 19		
60°							Siltstone/Sandstone - same as above	0.10	
	63.43	63.93	0.50				Core loss - siltstone and sandstone		
						212/64.62			
54°	63.93	65.33	1.40				Siltstone/Sandstone - same as above, core broken and sheared	1.40	
						217/66.14			
	65.33	65.91	0.58				Core loss - siltstone and sandstone		
66°	65.91	68.32	2.41				Siltstone/Sandstone - same as above, core badly broken and sheared.	0.65	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	11 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 20		
67°									
							Siltstone/Sandstone - same as above, siltstone dark grey sandstone	1.76	
							light to medium grey, fragments micro		
							structures (2-5mm displacement)		
						227/69	19		
	68.32	68.68	36				Core loss - siltstone and sandstone		
55°	68.68	71.32	2.64				Siltstone/Sandstone - same as above	0.52	
							Box 21		
55°							Siltstone/Sandstone - same as above, core only slightly broken,	2.12	
							still slight shearing along bedding		
						237/72	24		
	71.32	71.92	0.60				Core loss - siltstone and sandstone		
	71.92	74.29	2.37				Siltstone - dark grey with minor interbeds of medium grey fragments,	0.42	
							core broken and slightly sheared.		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	12 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 22		
							Siltstone/Sandstone - dark grey, core broken and blocky also	0.50	
							slightly sheared		
						242/73.76			
60°							Siltstone - dark grey, core broken and sheared	1.45	
	74.29	75.59	1.30				Core loss - siltstone and sandstone		
						251/76.51			
56°	75.59	76.59	1.00				Siltstone/Sandstone - siltstone dark grey, sandstone medium grey	0.24	
							fine grained sandstone has convoluted bedding		
							Box 23		
70°							Siltstone/Sandstone - same as above, sheared and broken	0.76	
	76.59	77.39	0.80				Core loss - siltstone and sandstone		
						257/78.23			
	77.39	78.67	1.28				Siltstone/Sandstone - same as above, much turbidity in sandstone	1.28	
							fraction convoluted bedding, swirl structure		
							core broken and sheared.		
	78.67	78.92	0.25				Core loss - siltstone and sandstone		
						262/79.86			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	13 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 24		
	78.92	79.08	0.16				Core loss - siltstone and sandstone		
55°	79.08	82.73	3.65				Siltstone/Sandstone - same as above, core broken with minor shearing	1.67	
						268/81.69			
65°							Siltstone/Sandstone - same as above, core broken	0.78	
							Box 25		
57°							Siltstone/Sandstone - same as above, core broken and sheared	1.20	
	82.73	83.48	0.75				Core loss - siltstone and sandstone		
						277/84.43			
58°	83.48	85.06	1.58				Siltstone/Sandstone - same as above	1.26	
							Box 26		
60°							Siltstone/Sandstone - same as above	0.32	
	85.06	85.31	25				Core loss - siltstone and sandstone		
						283/86.26			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	14 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 26		
68°	85.31	87.62	2.31				Siltstone/Sandstone - same as above, numerous thin calcite filed	2.31	
							fractures, core slightly broken and sheared		
	87.62	87.87	0.25				Core loss - siltstone and sandstone		
							Box 27		
62°	87.87	88.29	42				Siltstone/Sandstone - same as above, core slightly broken and	0.42	
							sheared, small scale turbidity structures.		
						293/89.31			
	88.29	88.50	0.21				Core loss - siltstone and sandstone		
53°	88.50	90.73	2.23				Siltstone/Sandstone - same as above, percentage of siltstone and	2.05	
							sandstone is about 60/40.		
							Box 28		
							Siltstone/Sandstone - same as above	0.18	
						301/91.75			
	90.73	90.87	0.14				Core loss - siltstone and sandstone		
55°	90.87	93.15	2.28				Siltstone - same as above	1.68	
						307/93.57			
							Siltstone/Sandstone - same as above	0.60	
							Core loss - siltstone and sandstone	1.26	
	93.15	93.88	73			317/96.62			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	15 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 29		
53°	93.88	99.85	5.97				Siltstone/Sandstone - same as above, percentage of siltstone and sandstone is about 50/50, sandstone beds exhibit slight convolute structure. Minor very fine calcite filled veinlets perpendicular to bedding.	2.35	
							Box 30		
60°							Siltstone/Sandstone - same as above, siltstone dark grey, sheared sandstone medium grey fine grained with small scale cross-bedding, and load casts, core broken.	2.42	
						327/99.67			
							Box 31		
55°							Siltstone/Sandstone - same as above, percentage of siltstone to sandstone 40/60.	1.20	
	99.85	101.70	1.85				Core loss - siltstone and sandstone		
						337/102.72			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	16 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 31		
62°	101.70	103.78	2.08				Siltstone/Sandstone - same as above, sandstone shows slight convolute bedding and small minor structures (displacement up to 3mm) shearing along bedding.	1.28	
							Box 32		
57°							Siltstone/Sandstone - same as above, percentage of sandstone increasing relative to siltstone, 60% sandstone 40% siltstone. Core still broken and sheared along bedding.	0.80	
	103.78	104.68	0.90				Core loss - siltstone and sandstone		
						347/105.79			
54°	104.68	105.48	0.80				Siltstone/Sandstone - same as above	0.80	
	105.48	107.68	2.20				Core loss - siltstone and sandstone		
						357/108.84			
	107.68	110.33	2.65				Siltstone/Sandstone - same as above	0.50	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	17 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 33		
60°							Sandstone/Siltstone - same as above, percentage of sandstone increasing to about 75% of total core interval. Sandstone light to medium grey fine grained with minor turbidity. Siltstone dark grey. Core sheared and slightly broken in places.	1.44	
						364/110.97			
60°							Sandstone/Siltstone - same as above, siltstone component increasing to about 40% verus 60% for sandstone, core broken.	0.65	
	110.33	110.53	0.20				Core loss - Sandstone and siltstone		
						367/111.89			
	110.53	110.80	0.27				Core loss - Sandstone and siltstone		
							Box 34		
	110.80	111.11	0.31				Core loss - bentonite		
54°	111.11	115.79	4.63				Sandstone/Siltstone - same as above, 60% sandstone, 40% siltstone core still badly broken in places, also sheared along bedding. Scattered calcite filled tension fractures parallel and perpendicular to bedding.	2.13	
						375/114.33			

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	18 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 35		
56°							Siltstone/Sandstone - same as above, siltstone dark grey,	2.50	
							sandstone light to medium grey, fine		
							grained. Core slightly broken, minor		
							shearing, calcite filled tension fractures		
							parallel and perpendicular to bedding.		
							1cm bentonite band 60cm from bottom.		
	115.74	116.24	0.50				Core loss - Siltstone and sandstone		
							Box 36		
						385/117.38			
53°	116.24	122.50	6.26				Siltstone/Sandstone - same as above, siltstone dark to light	1.80	
							medium grey, fine grained, with minor		
							cross-beds and turbidities, core slightly		
							broken and sheared (listrics)		
						391/119.21			
							Siltstone/Sandstone - same as above	0.60	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	19 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 37		
56°							Siltstone/Sandstone - same as above, slight shearing minor breakage (little bit). Trans bedding tension fractures filled with calcite. Minor small scale cross-beds and turbidities.	1.12	
						397/121.04			
50°							Siltstone/Sandstone - same as above	1.26	
							Box 38		
47°							Siltstone/Sandstone - same as above, core only slightly broken. Minor listries and thin calcite filled fractures along bedding. Small scale load casts (beds right side up).	1.48	
						406/123.78			
	122.50	123.16	0.66				Core loss - Siltstone and sandstone		
	123.16	123.50	0.34				Siltstone/Sandstone - same as above	0.34	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	20 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 38		
50°	123.50	125.85	2.35				Sandstone - light to medium grey, fine grained with minor interbeds of dark grey siltstone. Core broken, minor calcite filled fractures perpendicular to bedding. Minor turbidity.	0.70	
							Box 39		
52°							Sandstone - same as above, light to medium grey, fine grained rip up clasts and minor load casts. Minor interbeds of dark grey siltstone, minor discontinuous coaly laminae.	1.65	
						417/127.13			
							Hulcross/Gates Contact		
53°	125.85	126.70	0.85				Claystone - dark grey with minor interbeds of medium grey, fine grained sandstone and dark grey siltstone. Core broken and slightly sheared.	0.65	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	21 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 40		
							Claystone - dark grey, badly sheared, thin coaly laminations in part carbonaceous also badly broken.	0.20	
	126.70	127.40	0.70				Siltstone - dark grey with minor interbeds of dark grey claystone.	0.70	
	127.40	127.55	0.15				Coal/Claystone - core badly crushed and crushed.	0.15	
	127.55	128.00	0.45				Core loss - coal		
	128.00	128.20	0.20				Claystone - dark grye, badly sheared and broken	0.20	
	128.20	128.45	0.25				Core loss - claystone		
	128.48	129.02	0.57				Siltstone - dark grey with interbeds of dark grey claystone, sheared with listric surfaces.	0.20	
						426/129.88			
							Siltstone - dark grey, sheared, pyrite inclusions and discontinuous coaly laminations, 8cm iron stone nodule at base with calcite filled tension fractures.	0.32	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	22 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE Vertical (-90)	TOTAL DEPTH 235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY TC	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 40		
55°	129.02	129.44	0.42				Sandstone - light to medium grey, fine grained, with minor siltstone, bands and carbonaceous laminations, small rip up clasts, slight shearing.	0.42	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	23 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 41		
50°	129.44	131.40	1.96				Siltstone - dark grey with medium grey fine grained, sandstone	1.96	
							interbeds iron stone nodules scattered throughout		
							slight shearing with calcite filling thin discontinu-		
							coaly laminations.		
	131.40	131.90	0.50				(B12) Core loss - claystone		
	131.90	132.12	0.22	0.17			Coal - dull with light bands, sheared and broken	0.22	
						436/132.93			
	132.12	132.47	0.35	0.27	2542		Coal - dull with bright bands. Top half broken sheared as well.	0.35	
							Box 42		
	132.47	132.62	0.15	0.11			Core Loss - coal		
	132.62	132.96	0.34	0.26			Coal - dull with bright bands, badly sheared and broken	0.34	
	132.96	133.37	0.41				Claystone - dark grey, badly sheared and broken	0.41	
						439/133.84			

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	24 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 42		
30°	133.37	135.17	1.80				Sandstone - light to medium grey, fine grained, sheared thin carbonaceous laminations. Minor hair fractures filled with calcite perpendicular to bedding.	1.80	
	135.17	135.77	0.60				Core loss - sandstone		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	25 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 43		
						447/136.25			
45°	135.77	137.48	1.71				Siltstone - medium to dark grey with minor interbeds of medium grey fine grained sandstone which shows turbidities calcite filled fractures along bedding.	1.20	
							Coal/Carbonaceous Claystone - badly squeezed and sheared	0.11	
							Siltstone - dark grey, sheared 5cm iron stone band in middle of interval, minor thin calcite filled fractures.	0.40	
	137.48	137.93	0.45				Core loss - coal		
	137.93	138.80	0.87				Claystone/Coal - claystone dark grey, in part carbonaceous whole zone badly crushed and sheared.	0.30	
							Siltstone - dark grey, with minor dark claystone	0.20	
							Claystone - carbonaceous with thin coaly laminations, badly squeezed.	0.02	
							Siltstone - dark grey	0.06	
						456/138.99			

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	26 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 43		
							Claystone - dark grey, with minor interbeds of dark grey siltstone, discontinuous coaly laminations.	0.15	
							Box 44		
							Claystone - dark grey, carbonaceous, thin coaly laminations, sheared, core broken.	0.14	
	138.80	140.22	1.42				Siltstone - dark grey with minor dark grey claystone, minor carbonaceous plant remains.	1.42	
50°	140.22	141.22	1.00				Claystone - dark grey, inpart carbonaceous with thin coaly laminations. Minor carbonaceous plant remains. Core slightly sheared in places.	1.00	
	141.22	141.77	0.55				Core loss - claystone		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	27 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 45		
	141.77	142.70	0.93				Siltstone - dark grey, minor thin coaly laminations and carbon-aceous debris.	0.13	
						466/142.04			
							Claystone - carbonaceous, dark grey with coaly laminations, core broken.	0.14	
							Siltstone - medium to dark grey, minor interbeds of medium grey sandstone, minor carbonaceous plant debris, listric surfaces.	0.66	
50°	142.70	147.15	4.45				Sandstone - light to medium grey, fine grained with small scale cross-beds and load casting. Turbidities as well.	0.50	
							Siltstone - dark grey with minor discontinuous coaly laminations.	0.28	
48°							Sandstone - light to medium grey, fine grained with minor inter-beds of light grey siltston. Turbidities.	0.90	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	28 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 46		
28°							Sandstone - light to medium grey, fine grained, minor thin carbonaceous laminae, slight shearing.	0.50	
						477/145.39			
							Sandstone - same as above, minor thin calcite filled fractures both parallel and perpendicular to bedding sheared. Much turbidity.	2.27	
							Box 47		
30°	147.15	147.77	0.62				Siltstone - dark grey, with minor coaly laminations, sheared.	0.62	
							Claystone - dark grey, with carbonaceous claystone with coaly lamination. Core badly broken and sheared.		
	147.77	147.87	0.10				Core loss - claystone		
						487/148.44			
30°	147.87	151.72	3.85				Sandstone/Siltstone - dark grey, with interbeds of dark grey claystone, badly sheared.	0.30	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	29 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 47 (continued)		
30°							Sandstone - light to medium grey, fine grained, minor carbonaceous	1.55	
							laminations and calcite filled fractures. Turbidities		
							minor discontinuous coaly laminations.		
							Box 48		
42°							Sandstone - light to medium grey, fine grained, carbonaceous	1.10	
							laminations, slight shearing. Bedding getting very		
							steep. Calcite filled, fractures either parallel		
							to bedding or perpendicular, core broken toward base.		
						497/151.49			
							Sandstone - same as above, minor interbeds of dark grey siltstone	0.90	
	151.72	151.87	0.15				Core loss - rock		
							Siltstone - dark grey with minor interbeds of medium grey fine	0.72	
40°	151.87	154.42	2.55				grained sandstone, shearing along bedding planes		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	30 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 49		
53°							Siltstone - dark grey, sheared, carbonaceous debris	1.28	
						507/154.57			
							Siltstone - same as above	0.22	
							Claystone - dark grey, carbonaceous in part with coaly laminations	0.13	
							Siltstone - dark grey with interbeds of dark grey claystone.	0.20	
	154.42	154.74	0.32				Claystone - carbonaceous, dark grey, sheared, with coaly laminations.	0.32	
	154.74	155.18	0.44	0.35	2543		Coal - dull and bright, good and light, slight shearing	0.44	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	31 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE Vertical (-90)	TOTAL DEPTH 235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY TC	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 50		
	155.18	155.28	0.10	0.08			Coal - dull and bright, sheared	0.10	
	155.28	155.56	0.28	0.22	2544		Claystone - dark grey	0.28	
	155.56	155.74	0.18	0.14			Core loss - claystone		
	155.74	155.96	0.22	0.18	2545		Coal - dull and bright, core badly sheared and crushed	0.22	
	155.96	156.30	0.34				Core loss - claystone		
	156.30	158.33	2.03				Claystone - dark grey	0.05	
						514/156.71			
							Siltstone - dark grey with minor interbeds of dark grey claystone to light grey, fine grained sandstone.	0.76	
							Coal - bright, badly sheared and crushed	0.04	
							Siltstone - dark grey	0.10	
						517/157.62			
60°							Siltstone - dark grey, sheared core broken in places, thin discontinuous coaly laminations. Becoming sandy towards base.	1.08	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	32 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 51		
45°	158.33	158.85	0.52				Sandstone - medium grey, fine grained, minor interbeds of dark grey siltstone, sheared parallel to bedding.	0.32	
43°							Siltstone - dark grey, sheared along bedding	0.20	
	158.85	159.21	0.36				Claystone - dark grey, (brown streak)	0.11	
							Coal - boney crushed and broken	0.03	
							Claystone - dark grey, sheared	0.02	
							Siltstone - dark grey	0.20	
	159.21	159.34	0.13				Core loss - siltstone	0.13	
	159.34	161.23	1.89				Sandstone - light grey, fine grained, minor calcite filled small fractures.	0.21	
							Siltstone - dark grey	0.70	
						527/160.67			

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	33 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 51		
							Siltstone - dark grey, scattered carbonaceous debris	0.98	
							Box 52		
43°	161.23	161.48	0.25				Claystone - dark grey, in part carbonaceous with some shearing and thin coaly bands (max. width 0.5cm), core slightly broken.	0.25	
	161.48	161.58	0.10				Core loss - claystone		
	161.58	162.54	1.06				Siltstone - dark grey, 5cm iron stone nodule near base of interval	1.06	
57°	162.54	164.46	1.92				Sandstone - light grey, fine grained, thin calcite filled fractures, parallel to bedding, 6cm siltstone band at base.	0.66	
						537/163.72			
							Sandstone - same as above, turbidities, 13cm sandstone and siltstone at top.	0.64	

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HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	34 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 53		
							Sandstone - same as above, calcite filled thin fractures parallel to bedding.	0.62	
53°	164.46	165.78	1.32				Siltstone - dark grey	1.32	
	165.78	165.93	0.15				Coal - boney	0.02	
							Coal - dull with bright bands, sheared	0.12	
							Claystone - carbonaceous thin coaly laminations	0.01	
	165.93	166.02	0.09				Core loss - claystone		
	166.02	169.03	3.01				Siltstone - dark grey	0.23	
						547/166.77			
							Siltstone - dark grey, (3cm iron stone nodule at base)	0.36	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	35 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 54		
56°							Siltstone - dark grey, with scattered thin iron stone nodules and interbeds, medium grey, fine grained sandstone.	2.42	
	169.03	169.30	0.27				Core loss - siltstone		
						557/169.82			
	169.30	175.31	6.01				Siltstone - same as above	0.23	
							Box 55		
55°							Siltstone - same as above, interbeds of medium fine grained sandstone with small scale cross-beds and iron nodules, core slightly broken.	2.76	
							Box 56		
							Siltstone - same as above, slight listries	0.06	
						567/172.86			
53°							Siltstone - same as above, minor coaly debris inclusions	2.64	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	36 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 57		
							Siltstone - same as above, dark grey	0.32	
	175.31	175.41	0.10				Core loss - siltstone		
						577/175.91			
56°	175.41	177.84	2.43				Siltstone - same as above, minor dark grey, claystone near base, slight shearing (listrics)	2.43	
							Box 58		
	177.84	178.46	0.62				Claystone - dark grey, core broken in places	0.62	
						587/178.96			
	178.46	180.19	1.73				Siltstone - dark grey, minor interbeds of light grey medium grain sandstone.	1.38	
							Sandstone - light grey, medium grained with thin carbonaceous laminations, load casts into underlying claystone.	0.35	
52°	180.19	180.83	0.64				Claystone - dark grey	0.13	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	37 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 59		
							Siltstone - dark grey, minor (3cm) dark grey claystone at top. Minor interbeds of light grey fine grained sandstone as well.	0.51	
44°	180.83	181.26	0.43				Sandstone - light grey, fine grained, minor load casting at base. Cross-beds right side up.	0.43	
	181.26	181.67	0.41				Claystone - dark grey, core sheared	0.13	
						597/182 01			
							Claystone - same as above, core sheared and partially broken	0.28	
	181.67	182.47	0.80	0.61	2546		Coal - Mostly dull with some bright bands, minor boney coal as well. Sheared with claystone along shear planes.	0.80	
58°	182.47	182.95	0.48				Claystone - dark grey, soft minor coaly laminations	0.10	
							Coal - boney	0.05	
							~~Claystone dark grey, soft with minor coaly laminations~~	0.28	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	38 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 60		
							Coal/Carbonaceous claystone - coal boney and claystone dark grey with coaly laminations. Core badly broken	0.05	
	182.95	183.00	0.05				Core loss - claystone		
	183.00	183.08	0.08				Core loss - siltstone		
	183.08	184.38	1.30				Siltsone - dark grey, few coaly laminations, core broken	0.18	
						603/183.84			
56°							Siltstone - same as above, interbeds of dark grey claystone and a few thin coaly bands up to 0.5cm.	1.12	
	184.38	184.48	0.10				Coal/Claystone (Carbonaceous) - coal boney, claystone dark grey with coaly laminations, core broken and sheared.	0.10	
						607/185.06			
	184.48	184.59	0.11				Core loss - claystone, coaly and carbonaceous	0.07	
	184.59	185.68	1.09				Claystone - dark grey, minor carbonaceous claystone interbeds with thin coaly laminations, core broken in part 20cm from top for 6cm.	0.54	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	39 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 60		
						609/185.67			
							Claystone - same as above, sheared in places minor iron stone nodules, top 6cm broken	0.43	
							Box 61		
							Carbonaceous/Claystone - dark grey with coaly laminations	0.12	
	185.68	185.75	7				Coal - boney, core broken		
	185.75	186.00	0.25				Core loss - coal stoney		
	186.00	186.71	0.71				Claystone - dark grey, sheared	0.36	
							Coal - dull with bright bands	0.12	
							Claystone - dark grey, with discontinuous coaly laminations.	0.23	
57°	186.71	190.45	3.74				Siltstone - dark grey, with minor interbeds of dark grey claystone	0.91	
						617/188.11			
							Siltstone - dark grey, with interbeds of dark grey claystone	0.76	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	40 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 62		
							Siltstone - dark grey, same as above, slightly sheared minor interbeds of dark grey claystone.	2.07	
	190.45	190.67	0.22				Core loss - siltstone		
						627/191.16			
48°	190.67	191.35	0.68				Sandstone - medium grey, fine grained with minor interbeds of dark grey siltstone, minor thin calcite filled fractures, minor shearing along bedding.	0.68	
	191.35	191.41	0.06				Core loss - sandstone		
							Box 63		
53°	191.41	192.71	1.30				Siltstone dark grey, listric surfaces top 20cm broken and sheared minor interbeds of light to medium grey fine grained sandstone with thin coaly laminations.	1.30	
51°	192.71	199.44	6.73				Sandstone - light grey, fine grained with thin coaly laminations	0.33	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	41 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey with minor interbeds of light grey sandstone minor calcite filled fractures 15° to core axis.	0.68	
						637/194.21			
55°							Sandstone - light to medium grey, fine grained with interbeds of dark grey siltstone.	0.34	
							Box 64		
51°							Sandstone - same as above, slight shearing, turbidities as in rip up clasts, calcite filled fractures along bedding, scattered thin iron stone bands throughout.	2.70	
						647/197.26			
							Box 65		
52°							Sandstone - same as above, slight shearing and core is slight broken	2.68	
	199.44	199.54	0.10				Core loss - sandstone		
							Box 66		
	199.54	202.71	3.17				Sandstone - same as above, sheared calcite filled fractures perpendicular to bedding.	0.27	
						657/200.30			
50°							Sandstone - same as above, calcite filled fractures perpendicular to bedding at top.	2.40	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	42 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 67		
							Sandstone - same as above, light to medium grey, fine grained with interbeds of dark grey siltstone.	0.50	
	202.71	202.82	0.11				Core loss - sandstone		
						667/203.35			
55°	202.82	207.10	4.28				Sandstone - same as above, goes from fine grained to medium grained downwards	2.28	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	43 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 68		
54°							Sandstone - light grey, fine grained with minor dark grey siltstone core slightly broken. Micro structures (2-3mm displacement in siltstone caused by fracturing perpendicular to bedding. Accompanied by calcite filling of fractures. Block faulting in miniature). Minor load casting as well. Cross-beds right side up.	0.27	
							Sandstone/Siltstone - interbeds sandstone light to medium grey, fine grained siltstone dark grey.	0.52	
						677/206.40			
53°							Sandstone/Siltstone - same as above, much turbidity in sandstone, many calcite filled fractures near top of interval perpendicular to bedding, thin claystone bands near base of interval.	1.21	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	44 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 68		
							Seam B-9		
53°	207.10	207.76	0.66	053			Coal - dull with bright bands, sheared core slightly broken	0.66	
							towards base.		
							Box 69		
					2547				
	207.76	208.40	0.64	051			Coal - dull with bright bands, decrease in density caused by	0.64	
							inclusion of claystone along shears. Core slightly broken.		
	208.40	208.94	0.54	043			~~Core loss - coal~~		
						687/209.45			
52°	208.94	210.54	1.20	095			~~Coal - dull with bright bands sheared with minor claystone along~~	1.20	
					2548		shears. Core badly broken.		
	210.54	210.48	0.34	027			Coal - dull with bright band, core badly broken and crushed in	0.34	
							places. Appears boney at base. Also has higher claystone		
							content in bottom 20cm.		
	210.48	211.30	0.82	169			Lost Core - boney coal		
	211.30	212.62	1.32	1.04			Lost Core - coal		

474-0010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	45 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 70		
	212.62	212.82	0.20	016			Claystone - dark grey with carbonaceous claystone and coal as	0.20	
					2549		well, whole interval badly crushed and sheared.		
	212.82	212.94	0.12	009			Claystone - carbonaceous core loss		
						697/212.50			
45°	212.94	213.14	0.20	014	2550		Coal - dull with bright, core badly broken, sheared boney in part.	0.20	
	213.14	213.22	0.08	006			Core loss - coal		
	213.22	213.38	0.16	011	1551		Siltstone - dark grey, badly sheared and crushed	0.16	
	213.38	213.54	0.16	011			Core loss - siltstone		
	213.54	213.82	0.28	020	1552		Coal - dull with bright bands, boney in parts badly broken and	0.78	
							sheared.		
	213.82	214.10	0.28	013			Claystone - dark grey, with minor coaly laminae, core broken	7	
					1553				
						707/215.55			
40°							Claystone - dark grey, badly sheared, few minor thin coaly	0.21	
							laminations.		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	46 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)
TOTAL DEPTH	235 (M)				
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC
CORE SIZE	HQ				

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							~~Box 70 (continued)~~		
	214.10	214.38	0.28	024			Core loss - coal		
	214.38	214.50	0.12	010	1554		Coal - dull to bright, sheared and cleated, boney in part, broken and blocky.	0.12	
60°	214.50	216.88	2.38				Siltstone - dark grey, with interbeds of dark grey claystone	0.63	
							Box 70 contains 4.04m of core		
							Box 71 contains 2.51m of core		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	47 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID N E	UTM 6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE Vertical (-90)	TOTAL DEPTH 235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY TC	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 71		
57°							Siltstone - dark grey, with interbeds of medium grey, fine grained sandstone, slight shearing along bedding core broken in places. Scattered coaly inclusions, calcite filled fractures perpendicular to bedding as well iron stone nodules.	1.75	
	216.88	217.97	1.09				Core loss - siltstone and sandstone		
						717/213.60			
	217.97	219.66	1.69				Siltstone - same as above, 3 cm of claystone at base with thin coaly laminations.	0.76	
							Box 72		
60°							Siltstone - same as above	0.93	
	219.66	219.80	0.14				Claystone - dark grey, with thin coaly laminations.	0.14	
	219.80	220.30	0.50	43	1555		Coal - boney with carbonaceous claystone, core badly broken and squeezed.		
	220.30	220.64	0.34			725/221.04	Core loss - rock		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	48 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 72		
	220.64	224.06	3.42				Siltstone - dark grey, badly sheared with calcite filling, core badly broken towards base. Iron stone nodules.	1.05	
							Box 73		
55°							Siltstone - dark grey, same as above	1.95	
						736/224.39			
							Siltstone - same as above	0.42	
	224.06	225.52	1.46				Claystone - dark grey with minor thin coaly laminations sheared and broken.	0.57	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	49 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 74		
							Claystone - dark grey, sheared with thin coaly laminations.	0.32	
							Carbonaceous claystone - dark grey, sheared badly broken and shattered.	0.13	
							Claystone - dark grey, badly sheared and broken	0.32	
							Carbonaceous claystone - dark grey with coaly laminations badly broken and sheared.	0.12	
	225.52	225.85	0.33				Core loss - claystone		
57°	225.85	226.28	0.43				Claystone - dark grey, sheared with thin coaly laminations.	0.43	
	226.28	226.48	0.20	0.17			Coal - boney sheared and broken	0.20	
	226.48	226.56	0.08				Rock loss		
	226.56	227.94	1.38				Claystone - dark grey, with thin coaly laminations, sheared and broken in places.	0.96	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	50 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 75		
							Claystone - dark grey, sheared	0.10	
							Carbonaceous claystone - dark grey, sheared and pulverized	0.22	
	227.94	229.22	1.28				Sandstone/Siltstone - dark grey, gradational contact with underlying medium grey fine grained sandstone.	0.10	
							Sandstone - medium grey fine grained	0.35	
						751/228.96			
30°							Sandstone - same as above, turbidities, minor thin calcite filled fractures parallel to bedding.	0.83	
	229.22	230.53	1.31				Siltstone - dark grey, sheared	0.48	
							Ironstone - dark grey brown, hard with coaly fragments with calcite coating.	0.33	

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-11	51 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 75		
							Siltstone - same as above, with minor interbeds of dark grey claystone, sheared, thin coaly laminations.	0.30	
							Box 76		
							Siltstone - same as above	0.20	
	230.53	231.01	48				Ironstone - dark grey brown hard, minor small coaly fragments (reducing environment)		
	231.01	232.69	1.68				Claystone - dark grey with minor carbonaceous claystone with coaly laminations, sheared	0.40	
						762/232.32			
30°							Claystone - same as above, thin coaly laminations, sheared along bedding.	1.28	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-11	52 OF 52

DATE BEGUN	March 17, 1981	DATE FINISHED	March 18, 1981	MINE GRID	N E	UTM	6,066,420 N 649,050 E
ELEV. COLLAR		BEARING		HOLE ANGLE	Vertical (-90)	TOTAL DEPTH	235 (M)
COAL LICENCE	3200	CONTRACTOR	D.W. COates	LOGGED BY	TC	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Box 77		
	232.69	235.83	3.14				Siltstone - dark grey with minor interbeds of dark grey claystone	0.72	
							core sheared, thin discontinuous coaly laminations,		
							core broken in places.		
						770/234.76			
42°							Siltstone - same as above, also minor calcite	1.90	
							Box 78		
35°							Siltstone - same as above, dark grey	0.52	
						777/236.89			
							T.D. 236.89		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		21/3	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-12	D. W. COATES	90		142	HQ		N22/6500N	3196	0	45

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1362.3	6,064,837.23 N	651,091.74 E	N	E	

GENERAL COMMENTS

Rods became stuck-had to blow them off.

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100					X	X				

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B.C.		117.25-118.00	40°	0.66	0.66/0.00	33	2529						
													HOLE NUMBER MUD 81-12

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	1 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

S.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1		
							Overburden		
						44.81			
							Overburden		
							Top of Box 2		
52°	45.79	50.58	479				Sandstone - medium to fine grained - well broken up core	207	
							fractured - heavy iron staining, interbedded		
							- core loss		
						47.86			
							Sandstone - same as above	044	
							Top of Box 3		
							Sandstone- very broken - iron staining throughout	100	
						4939			
							Sandstone - interbedded fine to medium grained - same as above	115	
							bedding not apparent		
							core loss		
						5091			
							Sandstone - same as above - becoming silty	013	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	2 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 4		
60°	50.58	51.46	0.88				Siltstone - interbedded with very fine sand stringers - lack of	088	
							features - core extremely broken up		
	51.46	52.16	070				Siltstone - core loss - 'Bits & Pieces'		
						5274			
	52.16	52.64	048				Siltstone-iron staining, very broken, less sand	048	
	52.64	53.34	070				Claystone - core loss		
	53.34	53.74	040			5335	Claystone - completely broken - silty - core loss	010	
							Top of Box 5		
							Claystone - same as above - completely shattered odd coal	030	
							- stringer - core loss		
	53.74	54.14	040				Sandstone - medium grained similar to soil profile	040	
							- silty unsorted		
							- fracture ° BCA 40°		
						5487			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	3 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	54.14	55.12	098				Siltstone - High clay content, friable, very broken	098	
	55.12	55.52	040				Siltstone - core loss		
							Top of Box 6		
	55.52	59.10	358				Siltstone - massive claystone - no features	071	
						57.00			
							Siltstone - broken up soft - friable	174	
							- a little sand		
							- fracture in core - BCA 20°		
							Top of Box 7		
50°							Siltstone - slight bedding - few features	113	
	59.10	59.60	050				Siltstone - core loss		
						6006			
	59.60	61.34	174				Claystone - friable	114	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	4 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 8		
							Claystone - friable, ground up - carbonaceous	060	
	61.34	61.79	045				Claystone - core loss		
	61.79	65.27	348				Siltstone - no features - broken - slightly	083	
						6309			
							Siltstone - same as above	87	
							Top of Box 9		
							Siltstone - same as above		
50°	65.27	67.17	190				Sandstone - medium grained - no cross bedding observed	128	
							- bedding varies BCA 60° - 50° - 40°		
							- interbedded silt laminated and coal whisps		
							- core loss		
						6615			

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	5 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 9		
							Sandstone - Silty, 'dirty' coal bits	062	
						67.37			
	67.17	67.74	057				Siltstone	007	
							Top of Box 10		
							Siltstone - moderately broken up, Fe stained - coaly on core	050	
							- fracture planes, core breaks on a BCA 60°		
50°	67.74	68.28	054				Sandstone - medium interlaminated with silt bands	054	
							- laminated due to change in grain size		
							- BCA maybe localized - calcite on fractured planes		
							- core loss		
	68.28	76.30	802				Siltstone - plain soft friable	025	
						6920			
							Siltstone - same as above, coarse - great deal of plant debris	094	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	6 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 11		
							Siltstone - same as above	205	
							- same very fine sand stringers interlaminated at		
							37 cm from top - fracture BCA 30° and 45°		
							- no slickensides		
						75.25			
							Siltstone - same as above	064	
							Top of Box 12		
							Siltstone - sandy stringers, fracture slickensides - calcite	254	
							- BCA 5°		
							- core moderately broken		
60°							- sandy towards bottom		
						75.30			
							Top of Box 13		
							Siltstone - 40 cm core shattered	160	
	76.30	76.70	40				Siltstone - core loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	7 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
55°	76.70	78.40	170				Sandstone - medium grained - dirty interlaminated and interbedded	080	
							- with silts		
							- coal on fractures of core		
							- coal whisps and stringers		
							Top of Box 14		
							Sandstone - same as above	033	
						78.35			
55°							Sandstone - coal stringers and silt debris - medium grained	57	
	78.47	79.90	150				Siltstone - nothing note worthy	150	
							- core slightly broken - carbonaceous		
	79.90	80.40	50				Siltstone - core loss		
							Top of Box 15		
	80.40	81.10	070				Siltstone - core loss		
						81.40			
55°									
	81.10	86.07	497				Sandstone - core broken up - fine grained interlaminated - slight	217	
							- cross bedding, soft sediment deformation, no laminations		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	8 of 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							bottom 72 cm		
							Top of Box 16		
50°							Sandstone - interlaminated some cross bedding, mostly massive	053	
							- cross bedding toward bottom - coarser sands		
						8445			
							Sandstone - includes above description	227	
							- siltstone clast throughout 2 mm		
							Top of Box 17		
	86.07	87.12	105				Siltstone - sandy interlaminated	064	
						87.50			
55°							Siltstone - rip up clasts - quite sandy bottom interbedded sands	041	
							- broken up core		
	87.12	87.50	038				Siltstone - core loss		
50°	87.50	90.91	341				Sandstone - coarse - 'dirty' - silt clasts	156	
							- coaly bits - BCA 40° fracture		
							- slickensides - coaly planes		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	9 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID N E	UTM 650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE Vertical	TOTAL DEPTH 142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY A. Karnapko	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 18		
50°							Sandstone - coarse cross bedding dominant interbedded - coarse	108	
							to medium		
						90.54			
							Sandstone - same as above	077	
	90.91	92.63	172				Conglomerate - pebbly 2 mm - well sorted	078	
							- some coaly stringers		
							Top of Box 19		
							Conglomerate - same as above	094	
68°	92.63	95.86	333				Sandstone - medium to coarse interlaminated cross bedding	032	
						93.59			
							Sandstone - very coarse - conglomerate pebbles - moderately	148	
							- sorting		
							- odd coal stringer		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
81-12	10 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 20		
							Sandstone - same as above	153	
						96.64			
	95.96	96.91	095				Conglomerate - 2 mm pebbles, irregular moderately sorted	095	
							- change in grain size		
							Top of Box 21		
45°	96.91	101.75	484				Sandstone - medium to coarse interlaminated or bedding	179	
							- pebble intervals - similar to above conglomerate		
							- fines downward		
						99.69			
							Sandstone - medium - fine grained - cross bedding	087	
							Top of Box 22		
45°							Sandstone - medium to fine grained - silt clasts	218	
							- larger broken '2 cm' silt blocks		
							- core broken toward bottom		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	11 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	101.75	102.16	041				Sandstone - core loss		
						102.74			
	102.16	103.77	161				Sandstone - same as above - laminated	037	
							Top of Box 23		
40°							Sandstone - same as above - odd coal split	124	
							- medium to coarse grained		
	103.77	106.37	260				Conglomerate - pebbles 1 mm coarse sand	133	
							- moderate sorting		
							Top of Box 24		
						105.74			
50°							Conglomerate - same as above	127	
	106.37	107.63	126				Sandstone - fine - medium grained interlaminated silt stringers	126	
							- silty near bottom		
							- core broken last 40 cm		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	12 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	107.63	108.08	045				Sandstone - core loss		
							Top of Box 25		
	108.08	109.25	117				Sandstone - same as above, interlaminated with silt	048	
						108.84			
							Sandstone - same as above	069	
	109.25	110.18	093				Siltstone - clayey - odd calcite stringer	093	
							- core broken up		
	110.18	110.68	050				Siltstone - core loss		
							Top of Box 26		
	110.68	111.36	068				Siltstone - clayey - broken up	068	
	111.36	112.26	090				Siltstone - core loss		
						111.84			
	112.26	114.94	268				Siltstone - broken - fair amount of coaly material and plant	134	
							debris		

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	13 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 27		
60°							Siltstone - very fine sands interlaminated BCA for bedding	134	
							greatly varied		
						114.94			
	114.94	117.25	231				Claystone - silty in places	103	
							Top of Box 28		
							Claystone - silty	128	
						117.98			
	117.25	117.52	027	0.22	2529		Coal - shattered - crushed	027	
							- flaky and soft - indicating movement		
							- no comment on coal because its quality has been destroyed		
							by movement		
	117.52	118.00	048				Coal - core loss		
	118.00	120.33	233				Siltstone - sandier towards bottom, interlaminated sands	068	
							- odd coal stringers		
							- some plant material		

474-6010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	14 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 29		
50°							Siltstone - fine grained sandstone, siltstone/sandstone 50/50	165	
						121.03			
	120.33	120.59	026				Claystone - core loss		
60°	120.59	126.22	563				Sandstone - very coarse cross bedding - poorly sorted	109	
							Top of Box 30		
60°							Sandstone - coarse to medium, odd pebble	183	
							- poorly sorted, odd coal stringer		
						124.08	Sandstone - same as above	083	
							Top of Box 31		
							Sandstone - 80 cm coarse. same as above	188	
							- very broken core. fining to bottom		
							- laminated		

474-6010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	15 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	126.22	127.05	083				Sandstone - core loss		
						127.13			
	127.05	129.66	261				Sandstone - same as above	029	
							Top of Box 32		
							Sandstone - medium - fine grained, odd pebble	232	
							- somewhat broken		
	129.66	130.34	068				Sandstone - core loss		
						130.18			
							Top of Box 33		
55°	130.34	132.20	186				Sandstone - medium-fine - mainly massive	186	
	132.20	132.61	041				Sandstone - core loss - broken up		
						133.23			
	132.61	137.04	443				Sandstone - same as above	073	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	16 of 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID	N E	UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 34		
							Sandstone - massive - fine grained	220	
						136.28			
							Sandstone - same as above	052	
							Top of Box 35		
							Sandstone - same as above	098	
60°	137.04	137.64	060				Siltstone - interlaminated interbedded sands	060	
	137.64	140.08	244				Sandstone - fine grained massive	102	
						139.33			
							Sandstone - same as above	025	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-12	17 OF 17

DATE BEGUN	March 18, 1981	DATE FINISHED	March 19, 1981	MINE GRID N E		UTM	650950 N 6064740 E
ELEV. COLLAR	1400	BEARING		HOLE ANGLE	Vertical	TOTAL DEPTH	142.37
COAL LICENCE	3196	CONTRACTOR	D. W. Coates	LOGGED BY	A. Karnapke	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 36		
65°	140.08	141.25	117				Sandstone - same as above interbedded siltstone - massive sand	117	
70°	141.25	141.73	048				Siltstone - interbedded sands fine grained laminations	048	
							- soft sediment deformation		
60°	141.73	142.09	036				Sandstone - fine grained laminated	036	
							- core broken up		
	142.09	142.27	0.18				Siltstone - core loss		
	142.27	142.37	010				Siltstone - nothing of interest	010	
						142.37			
							THE END		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman	03/21/81	03/22/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-13	D. W. Coates	90°	--	108	HQ		N22/8500 N	3199	7	3

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1597.1	6,066,997.70 N 649,751.27 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		14.16 - 14.82	23°	0.61	0.61/0.00	100	2530		KH	4.51	1592.59		
B11		23.51 - 24.40	10°	0.83	0.83/0.00	100	2541						
B10		51.42 - 51.99	5	0.55	0.55/0.00	100	2540						
B9	1517.7	72.76 - 79.38	10	6.46	5.47/0.99	98	2533-39						
		81.55 - 81.91	10	0.36	0.36/0.00	100	--						
B8		87.70 - 88.12	10	0.41	0.41/0.00	100	2532						
B7	1495.0	101.58-102.15	10	0.43	0.43/0.00	87	2531						HOLE NUMBER MUD 81-13

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	1 OF 28

DATE BEGUN	March 21, 1981	DATE FINISHED	March 22, 1981	MINE GRID	N E	UTM	6,066,928 N 49,657 E
ELEV. COLLAR	n 1622	BEARING	N/A	HOLE ANGLE	-90°	TOTAL DEPTH	108.94
COAL LICENCE	3199	CONTRACTOR	Coates	LOGGED BY	D.C. Hope	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						ft/m			
							TOP OF BOX 1		
	3.05	5.60	2.55			10/3.05			
85							Siltstone - medium to dark gray, laminated, rusty yellow with thinning X-laminated, occasional sandstone beds. Rare coaly splints @ 1.02-1.09 from top of granularsandstone bed. 15 frac/m along bedding.	1.36	
						17/5.18			
							Siltstone: S.A.A. badly broken. Core severely broken and carbonaceous in basal 35 cm.	0.95	
			0.24				Lost core - siltstone		
							TOP OF BOX 2		
65	5.60	6.26					Sandstone: medium gray, fine to medium grain, gradational basally varies from massive at top to laminated at base. Rare coal splints	0.66	
	6.26	9.20	2.94				Siltstone: medium gray, laminated to X-laminated with fine grain sandstone (10%). Occasional coal splints - S.S.D.	0.62	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	2 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone: same as above, core badly broken	0.10	
			0.81				Lost core. siltstone		
							Siltstone: S.A.A. becomes sandy, basally. At base turbated	1.41	
							soft sediment deformation		
							TOP OF BOX 3		
75	9.20	13.26	4.06				Sandstone: light gray, fine grain, X-laminated, soft sediment	0.30	
							deformation, bioturbation		
						34/10.36			
70							Sandstone: S.A.A. - occasional carbonaceous laminae. 4 frac/m	2.38	
							along bedding.		
							TOP OF BOX 4		
							Sandstone - S.A.A. with 20% siltstone laminae	0.67	
						44/13.41			
70							Sandstone - S.A.A. with 40% siltstone laminae	0.71	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	3 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N . E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	13.26	13.72	0.46				Siltstone: medium to dark gray, massive	0.46	
	13.72	14.11	0.39				Claystone: dark gray, massive, heavily broken core	0.25	
	14.11	14.16	0.05				Lost Rock		
							Claystone - same as above	0.14	
							* - SEAM B12 - *		
	14.16	14.62	0.46	0.43			Coal: lustrous to bright, faint banding	0.46	
					2530		TOP OF BOX 5		
	14.62	14.87	0.20	0.18			Coal: bright, vertical cleats, Rubbly core		
	14.82	15.29	0.47				Claystone: dark gray, massive	0.47	
	15.29	15.53	0.24				Lost core - claystone		
	15.53	15.75	0.22				Coal:bony, dull, heavily broken core		
					54/16.46				
	15.75	15.92	0.17				Claystone: dark gray, carbon to coal, slightly soft, basal 5 cm is rubbly.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	4 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	15.92	16.06	0.14				Coal: bright, hard, slightly rubbly		
	16.06	16.13	0.07				Claystone: carbonaceous		
	16.13	16.17	0.04				Coal: pulverized, bright		
60	16.17	18.75	2.58				Sandstone: bright to medium gray, fine to medium grained, in part finely laminated. X-laminea; S.S.D., tin coaly splints	1.03	
							TOP OF BOX 6		
75							Sandstone: light gray, fine to very fine grain gradational basally. X-laminae - soft sediment deformation	0.90	
							Siltstone: medium gray, massive, rare coal splints 6 frac/m @ 85° to core axis	0.65	
	18.75	18.91	0.16				Coal: stoney, core is broken at base * potential core loss	0.16	
						65/19.81			
	18.91	19.18	0.27				Rock loss		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	5 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80	19.18	23.39	4.21				Siltstone: light to medium gray, Laminated with sandstone	1.05	
							increasing in sandstone basally, occasional coal splints		
							at top. 6 frac/m along bedding.		
							TOP OF BOX 7		
90							Sandstone: light gray, very fine to medium grain, X-laminated	1.98	
to 65							S.S.D., turbated, fines basally. 3 frac/m along bedding.		
						75/22.86			
90							Siltstone: medium to dark gray, laminae, gradational from above	0.80	
							soft sediment deformation, low angle cross-laminations.		
							TOP OF BOX 8		
							Siltstone: medium to dark gray, massive	0.38	
	23.39	23.51	0.12				Claystone: dark gray, platy, fracturing, carbonaceous	0.12	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	6 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							----- B 11 -----		
	23.51	23.76	0.25	0.23			Coal: dull with 20% bright bands		
	23.76	24.06	0.30	0.28			Coal: bright, banded, friable		
	24.06	24.26	0.20	0.19	2541		Coal: dull to 20% bright bands		
	24.26	24.40	0.14	0.13			Coal: bright, friable, slightly rubbly core		
	24.40	24.55	0.15				Claystone: dark gray, massive, carbonaceous to coaly		
	24.55	24.62	0.07				Coal: stony (shaly) badly broken core, soft		
	24.62	25.55	0.93				Siltstone: medium to dark gray, massive	0.19	
						85/25.91			
							Siltstone: medium gray, massive, rare coalified material	0.74	
							6 frac/m at 70° to core axis		
							TOP OF BOX 9		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	7 OF 28

DATE BEGUN -	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
70	25.55	26.04	0.49				Claystone: dark gray, coaly, faintly bedded. 12 frac/m along bedding	0.49	
70	26.04	27.22	1.18				Siltstone: medium gray, faintly laminated with 10% light gray fine grained sandstone	1.18	
	27.22	27.35	0.13				Coal: badly broken core, stoney coal on top with crushed bright coal at base.	0.13	
	27.35	27.46	0.11				Coal loss		
90	27.18	28.17	0.99				Sandstone: light gray, fine to medium grain, flaser bedded S.S.D coarsens basally. 8 frac/m at 75 to 90° to core axis.	0.53	
						95/28.96			
							Sandstone: S.A.A. fines basally to siltstone below	0.46	
							TOP OF BOX 10		
	28.17	30.99	2.82				Siltstone: medium to dark gray, massive, rare coal splints 8 frac/m at 80 to 90° to core axis.	1.00	
							Siltstone: S.A.A., broken core, fractured at 0° to core axis.	0.31	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	8 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - S.A.A. not fractured along core axis.	0.12	
70							Sandstone: light gray, medium grain, well sorted, high angle	0.20	
							X-laminae. BCA underlying siltstone at 70° to CA		
70							Siltstone: medium to dark gray. contains 10% light gray	1.02	
							uniformly fine grain sandstone as laminations. S.S.D.		
						105/32.00			
							Siltstone: - same as above	0.05	
							TOP OF BOX 11		
							Siltstone - same as above	0.13	
	30.99	31.04	0.05				Coal: badly broken boney coal	0.05	
	31.04	31.14	0.10				Siltstone: dark gray, massive	0.12	
	31.14	31.19	0.05				Coal: badly broken, small chips of dull to bright coal	0.05	

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	9 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75	31.19	36.57	5.38				Siltstone/sandstone: Inter-laminated, medium to dark gray	2.62	
							siltstone with light gray, fine to medium grain sandstone.		
							Coarsens basally 80%/20%. cross-laminae. 6 frac/m		
							at 80 to 90° to core axis, soft sediment deformation		
							TOP OF BOX 12		
							Siltstone/sandstone - same as above, 80/20	0.21	
						115/35.05			
70							Siltstone/sandstone - S.A.A. 70/30 at top, grades to 20/80	2.55	
							basally. Turbated zones		
	36.57	40.04	3.47				Sandstone: light gray, massive appearance, medium grain	0.10	
							TOP OF BOX 13		
70							Sandstone: light gray, fine to medium grain, with 15% siltstone/	0.41	
							sandstone, laminae, S.S.D - X-laminae. 4 frac/m at 80 to		
							90° to core axis.		

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	10 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						125/38.10			
70							Sandstone - same as above	1.83	
						131/39.93			
							Sandstone - same as above	0.44	
							TOP OF BOX 14		
80							Sandstone - S.A.A. - siltstone/claystone laminae increase to 40%	0.69	
75	40.04	46.23	6.19				Siltstone: dark gray with 10% sandstone laminae , S.S.D. -	0.64	
							X-laminae, 4 frac/m at 75 to 90° to core axis		
						137/41.76			
							Siltstone - same as above	2.50	
							TOP OF BOX 15		
75							Siltstone - same as above	1.46	

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	11 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							Siltstone - S.A.A. Moderately badly broken core, zone	1.21
							fractures at 0 and 90° to core axis	
							TOP OF BOX 16	
							Siltstone - same as above	0.12
							Siltstone - S.A.A. Sound core again, 1 frac/m at 80 to 90° to	1.26
							core axis	
	46.23	48.75	2.52				Sandstone; Salt and pepper, coarse grain, faintly laminated	0.63
							and color banded. Poorly developed slickenslides on	
							fracture planes.	
						157/47.86		
							Sandstone - same as above	0.77
							TOP OF BOX 17	
70							Sandstone - same as above	1.12

474-8010

HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	12 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	48.75	49.35	0.60				Claystone: dark gray, massive	0.60
	49.35	49.65	0.30				Sandstone: light gray, fine grain, X-laminae with siltstone (20%), soft sediment deformation.	0.30
	49.65	49.90	0.25				Siltstone: dark gray, massive, moderately badly broken core	0.25
	49.90	50.12	0.22				Lost core: siltstone	
						167/50.90		
	50.12	50.55	0.43				Siltstone - same as above	0.43
							TOP OF BOX 18	
	50.55	51.42	0.82				Claystone, dark gray, massive, rare carbonaceous and coaly splints	0.87
							- SEAM B 10 -	
85	51.42	51.75	0.33	0.32			Coal: dull to bright, sound core	
	51.75	51.93	0.18	0.17			Coal: boney, dull to bright, slightly heavy coal Lower 12 cm badly broken core	
					2540			

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	13 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID - N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m.
	51.93	51.96	0.03	0.03			Coal: bright	
	51.96	51.99	0.03	0.03			Coal: stoney	
	51.99	55.13	3.14				Claystone: dark gray, badly broken core, rubbly pieces from 2 cm to 10 cm, massive appearance	0.65
						176/53.64		
							Claystone: dark gray, silty, massive	0.29
							TOP OF BOX 19	
85							Claystone: dark gray, carbonaceous to coaly, contains a small amount of silty zones. 6 frac/m at 85° to core axis	1.46
							Siltstone: medium grain, massive, rare coal splints	0.48
							Claystone: medium to dark gray, rubbly broken core	0.25
	55.13	55.29	0.15				Coal: dull with 40% bright bands	0.15
	55.29	55.72	0.43				Claystone: medium to dark gray, rubbly broken core	0.24

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	14 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							TOP OF BOX 20	
							Claystone - S.A.A. becoming silty	0.19
						186/56.69		
70	55.72	60.83	5.11				Siltstone: medium to dark gray with light gray fine grain sandstone laminae S.S.D. x-laminae. Rare coaly claystone partings and zones near top, becomes sandy basally. 1 to 2 frac/m along laminae	2.60
							TOP OF BOX 21	
							Siltstone - same as above	0.86
						197/60.05		
75							Siltstone - same as above	1.65
70	60.83	68.14	7.31				Sandstone: light gray, fine to medium grain, 10% siltstone laminae S.S.D., X-laminae	0.37
							TOP OF BOX 22	
							Sandstone: S.A.A. 5 frac/m along laminae	1.05
						207/63.09		
70							Sandstone: same as above	1.83

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	15 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							TOP OF BOX 23	
70							Sandstone - S.A.A. - siltstone increase to 40%	1.25
						217/66.14		
80							Sandstone - S.A.A.: siltstone decrease to 10%, calcite filled vugs at 25 cm below top. 1 frac/m 18 85° to core axis	1.52
							TOP OF BOX 24	
							Sandstone - S.A.A. 0% siltstone, faintly laminated	1.29
80	68.14	69.21	1.07				Siltstone: medium to dark gray, contains 20% light gray very fine grain sandstone laminae. 2 frac/m along laminae. X-laminae, soft sediment deformation	0.26
						227/69.19		
							Siltstone - S.A.A. with 30% sandstone laminae	0.81
	69.21	70.96	1.75				Sandstone: light gray, medium gray, faint laminae and color banding, clean, well sorted. 2 to 4 frac/m at 90° to C.A.	0.46

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	16 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							TOP OF BOX 25	
							Sandstone - same as above	1.29
70	70.96	72.66	1.70				Siltstone: medium to dark gray, dominantly massive, rare very fine to fine grain light sandstone laminae.	0.50
						237/72.24		
70							Siltstone: medium grain, laminae with very fine to fine grain light gray sandstone. X-laminae, S.S.D flazar bedding, 5 frac/m along bedding	1.02
							TOP OF BOX 26	
							Siltstone: same as above	0.18
	72.66	72.76	0.10				Claystone: coaly	0.10
	72.76	72.79	0.03	0.03			Coal: stony Excellent core. 8 frac/m at 80 to 90° to C.A.	
	72.79	73.48	0.69	0.65	2539		Coal: bright, banded	

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	17 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	73.48	73.53	0.05	0.04			Coal: boney	
	73.53	73.81	0.28	0.26	2538		Claystone: carbonaceous to coaly	
	73.81	73.94	0.13	0.12			Coal: boney, dull to lustrous	
	73.94	74.54	0.60	0.56			Coal: dull to lustrous, rare sooty, bright, and irridescent surfaces	
					2537			
						249/75.29		
	74.54	74.76	0.22	0.21			Coal: boney, dull with occasional bright splints	
	74.76	74.96	0.20	0.19			Coal: stoney, dull	
	74.96	75.18	0.22	0.21			Coal: dull to bright sound core, 6 frac/m at 90° to C.A.	
	75.18	75.24	0.06	0.06			Coal: boney, dull	
							TOP OF BOX 27	
	75.24	75.72	0.48	0.47			Coal: lustrous to bright sound core	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	18 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
80	75.72	75.76	0.04	0.04			Coal: stoney, dull	
					2537			
	75.76	75.83	0.07	0.02			Coal: lustrous	
	75.83	75.94	0.11	0.11			Coal: stoney, dull	
	75.94	76.52	0.58	0.58			Coal: dull to bright, occasional band. Sound core	
85								
	76.52	76.59	0.07	0.07	2536		Claystone: dark gray, massive	
	76.59	76.64	0.05	0.05			Coal: dull, rusty weathering on broken fracture surface	
	76.64	76.81	0.17	0.17			Coal: boney, dull to lustrous, rusting of fracture surface	
	76.81	76.94	0.13	0.13			Coal: strong, dull	
	76.94	77.08	0.14	0.14			Coal: bright, banded, friable	
	77.08	77.17	0.09	0.09			Coal: boney, dull	
					2535			
	77.17	77.58	0.41	0.41			Coal: bright, banded, friable	
						257/78.38		

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HOLE NUMBER

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	19 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	77.58	77.99	0.41	0.41			Coal: lustrous with bright bands	
							TOP OF BOX 28	
	77.99	78.25	0.26	0.26			Coal: bright, banded, sound core	
90	78.25	78.35	0.10	0.10	2534		Claystone: dark gray, massive	
	78.35	78.84	0.49	0.49			Coal: bright, rare bands of boney coal	
	78.84	78.97	0.13	0.13			Coal: bright, platey to crumbly, moderately soft	
					2533			
	78.97	79.08	0.11	0.11			Coal: boney, dull with thin bright splints	
85	79.08	79.13	0.05				Claystone: with coaly partings	
	79.13	79.17	0.04				Coal: bright, core is broken into small blocks	
80	79.17	79.21	0.04				Claystone: dark gray	
	79.21	79.28	0.07				Coal: boney, broken core, pieces from 1 to 5 cm across	
	79.28	79.38	0.10				Lost core: boney coal	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	20 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY in
	79.38	81.55	2.27				Claystone: dark gray, slightly silty, rare thin coaly partings	1.23
							massive.	
						267/81.38		
							Claystone: same as above	0.16
							TOP OF BOX 29	
							Claystone: same as above	0.78
80								
	81.55	81.91	0.36				Coal: bright, banded, friable. core is slightly rubbly and	
							moderately soft (possible core loss - small amount)	
	81.91	82.92	1.01				Claystone: dark gray, massive, carbonaceous to coaly at top,	1.01
							grades to silty at base.	
80	82.92	83.60	0.68				Siltstone: medium gray, massive at top, grades to sandy and	0.68
							laminated at base.	
							TOP OF BOX 30	
	83.60	84.28	0.68				Sandstone: light gray, very fine to medium grain , laminated with	0.08
							10% siltstone	

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HOLE NUMBER

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	21 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
						277/84.43		
85							Sandstone: light gray, fine to medium grain, laminated, color	0.60
							banding with dark gray carbonaceous zones, grades to silty	
							and very fine sandstone at base.	
90	84.28	87.11	2.83				Siltstone: medium to dark gray, laminated soft sediment	2.17
							deformation, 7 frac/m at 90° to core axis	
							TOP OF BOX 31	
							Siltstone - same as above	0.30
						282/87.48		
							Siltstone - dark gray, massive, rare coal splints	0.38
	87.11	87.29	0.18				Claystone: dark gray, carbonaceous to coaly	
	87.29	87.35	0.06	0.06			Coal: stoney, dull with bright bands	
	87.35	87.70	0.25				Claystone: dark gray, massive, carbonaceous	
	87.70	87.90	0.20	0.20			Coal: dull with lustrous bands	

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HOLE NUMBER

PETRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	22 OF 28

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N
ELEV. COLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
COAL LICENCE	CONTRACTOR	LOGGED BY	CORE SIZE

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	87.90	87.97	0.07	0.07			Coal: stoney, dull	
					2532			
	87.97	88.12	0.15	0.15			Coal: bright, banded, friable	
	88.12	88.34	0.22				Claystone: dark gray, carbonaceous to coaly	
	88.34	88.43	0.09	0.09			Coal: stoney, dull with thin bright bands	
	88.43	88.50	0.07				Claystone: dark gray, carbonaceous to coaly	
	88.50	88.54	0.04	.04			Coal: bright. Shattered core	
	88.54	88.81	0.27				Claystone: dark gray, coaly	
	88.81	88.92	0.11	0.11			Coal: bright, banded	
	88.92	89.04	0.12				Claystone: carbonaceous to coaly, dark gray	
	89.04	89.11	0.07	0.07			Coal: stoney, dull, sooty	
	89.11	89.16	0.05				Claystone: carbonaceous to coaly, dark gray	
	89.16	89.23	0.07	0.07			Coal: bright, banded	

474-8010

HOLE NUMBER

TRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	23 OF 28

ATE GUN	DATE FINISHED	MINE GRID N E	UTM N
EV. LLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
AL ENCE	CONTRACTOR	LOGGED BY	CORE SIZE

C A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	89.23	89.28	0.05				Claystone: dark gray, carbonaceous	
	89.28	89.30	0.02	0.02			Coal: bright, friable	
							TOP OF BOX 32	
	89.30	89.38	0.08	0.08			Coal: boney, dull with bright bands	
	89.38	89.45	0.07				Claystone: dark gray, carbonaceous	
	89.45	89.49	0.04	0.04			Coal: bright, banded	
	89.49	89.69	0.20				Claystone: dark gray, carbonaceous to coaly	
						297/90.53		
	89.69	90.39	0.70				Claystone: medium to dark gray, coaly zones and splints	0.70
	90.39	90.45	0.06	0.06			Coal: bright, friable, ground core	
	90.45	90.70	0.25				Claystone: medium gray, massive	

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HOLE NUMBER

TRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	24 OF 28

ATE GUN	DATE FINISHED	MINE GRID N E	UTM N
EV. OLLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
AL ENCE	CONTRACTOR	LOGGED BY	CORE SIZE

C A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	90.70	90.74	0.04	0.04			Coal: bright, boney	
70°	90.74	90.82	0.08				Claystone: coaly, dark gray	
	90.82	90.86	0.04	0.04			Coal: bright, shattered core	
	90.86	91.98	1.12				Claystone: medium to dark gray, occasional carbonaceous laminae and coaly splints	1.12
							TOP OF BOX 33	
	91.98	92.70	0.72				Siltstone: medium to dark gray, massive at top, becomes faintly laminated with light gray, very fine grain sandstone basally grading from above. 4 frac/m at 70 to 80 to C.A.	0.72
						307/93.57		
65	92.70	92.96	0.26				Sandstone: light gray, fine grain, contains 10% siltstone laminae, slickensides on fracture surfaces, lensitic calcite infilling, rare small vugs	0.26
	92.96	101.22	8.26				Siltstone: medium to dark gray, massive 5 frac/m at 90° to C.A.	1.81

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HOLE NUMBER

TRO CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	25 OF 28

TE GUN	DATE FINISHED	MINE GRID N E	UTM N
EV. LLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
AL ENCE	CONTRACTOR	LOGGED BY	CORE SIZE

G A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
							TOP OF BOX 34	
							Siltstone: same as above	0.98
						317/96.62		
							Siltstone: same as above 6 frac/m at 90° to core axis	1.78
							TOP OF BOX 35	
							Siltstone: same as above	1.24
						327/99.64		
							Siltstone: same as above	1.50
							TOP OF BOX 36	
							Siltstone: same as above	0.95
	101.22	101.29	0.07				Claystone: dark gray, carbonaceous with coaly splints	0.07
	101.29	101.36	0.07				Coal: lustrous with bright bands	0.07

TRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	26 of 28

TE GUN	DATE FINISHED	MINE GRID N E	UTM N
EV. LLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
AL ENCE	CONTRACTOR	LOGGED BY	CORE SIZE

C A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	101.36	101.58	0.22				Claystone: dark gray, carbonaceous	0.22
	101.58	101.68	0.10	0.09			Coal: boney, dull with slickensides throughout Core is broken into thin plates, crumbly	
	101.68	101.73	0.05	0.05			Lost core: coal	
	101.73	101.83	0.10	0.09	2531		Coal: bright	
						337/102.72		
	101.83	102.13	0.30	0.27			Coal: bright, rubbly core, blocky to platey, fractured	
	102.13	102.15	0.12	0.12			Lost core: coal	
	102.15	103.76	1.61				Claystone: dark gray, carbonaceous to coaly 6 frac/m at 80 to 90° to core axis.	0.96
							TOP OF BOX 37	
							Claystone: same as above	0.65
	103.76	103.87	0.11				Coal: stoney, dull with bright bands (thin). Sound core	
	103.87	104.07	0.20				Coal: bright, banded. Sound core	

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HOLE NUMBER

TRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	27 OF 28

ATE GUN	DATE FINISHED	MINE GRID N E	UTM N
EV. LLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
AL ENCE	CONTRACTOR	LOGGED BY	CORE SIZE

C A	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	104.07	104.13	0.06				Coal: stoney, dull with bright bands	
	104.13	104.16	0.03				Claystone: dark gray, coaly	
	104.16	104.31	0.15				Coal: stoney, dull to sooty with thin bright splints	
	104.31	104.50	0.19				Coal: boney, dull with thin coaly splints	
	104.50	104.57	0.07				Coal: dull, powdered	
	104.57	104.67	0.10				Claystone: dark gray, soft, coaly	
						3 47/105	77	
	104.67	105.00	0.33				Claystone: dark gray, carbonaceous to coaly, top 13 cm rubbly, broken core.	
	105.00	105.35	0.35				Coal: dull to bright, pulverized core	
	105.35	105.54	0.19				Claystone: dark gray, carbonaceous to coaly, badly broken core	
							TOP OF BOX 38	

4 8010

HOLE NUMBER

TRO-CANADA

CORE LOG · COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-13	28 OF 28

ATE GUN	DATE FINISHED	MINE GRID N E	UTM N
EV. LLAR	BEARING	HOLE ANGLE	TOTAL DEPTH
AL ENCE	CONTRACTOR	LOGGED BY	CORE SIZE

C A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m
	105.54	105.67	0.13				Coal: boney to stoney, dull with bright bands, badly broken core	
	105.67	105.79	0.12				Claystone: dark gray, carbonaceous to coaly, becomes silty basally	0.12
85	105.79	107.04	1.25				Sandstone: light gray, very fine to fine grain, laminated to X-laminated with 40% medium gray siltstone. Soft sediment deformation, rare coal splints, 4 frac/m along bedding	1.11
						357/108.81		
65°							Sandstone: same as above	1.14
							TOP OF BOX 39	
	107.04	108.94	1.90				Siltstone: medium to dark gray, massive at 1.18 to 1.38 m from top. denclitic calcite infill	1.90
						367/111.86	TOTAL DEPTH	

4-8010

HOLE NUMBER

PR-MONKMAN 81(3)A

PETRO-CANADA

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 547

Monkman Coal Project

Appendix E

1981 Diamond Hole Core Logs

Part 3 of 3

CORE FILE

Appendix E

Part 3

Holes MUD81-14 to MUD81-17

MND81-01 and MND81-02

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		10/6/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	D.B. THICKNESS
MUD 81-14	Coates	90	--	238.9	HQ		N22 / 8000	3200	Flowing	4

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1626.32	6,066,293.81 N	649,633.32 E	N	E	

GENERAL COMMENTS

No geophysical log below 144m due to caving in hole.

GEOPHYSICAL DATA

SCALE	DEN	GRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X	X		X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B7		6.88 - 7.50	12	0.62	0.54/0.08	68	1556		Kg	175	1451.32		faulted into Kh
B7		8.10 - 8.77	12	0.67	0.62/0.05	91	1558						
B7	1616.3	9.35 - 10.04	12	0.69	0.69/0.00	100	1560						
B5		26.10 - 27.23	15	1.09	0.99/0.10	85	1564						
B4		81.64 - 84.58	15	2.80	2.36/0.44	74	1565-67						
B4		85.54 - 87.86	15	2.02	1.56/0.46	53	1570-72						
B4	1535.3	88.98 - 90.98	15	1.79	1.42/0.37	100	1573-75						
B3		124.17-125.45	40	0.89	0.89/0.00	82	1577						
B3	1499.4	126.14-126.96	40	0.63	0.63/0.00	100	1579						
													HOLE NUMBER MUD 81-14

473-8010

PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
81-14	1 OF 44

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM 6,066,304.97 N 649,633.01 E
ELEV. COLLAR 1628.19	BEARING	HOLE ANGLE Vertical	TOTAL DEPTH 238.83m
COAL LICENCE	CONTRACTOR D. W. Coates	LOGGED BY Tom Covert, John Moorehouse, Frank Gigliotti	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1		
	4.11	4.17					Overburden - sandstone fragments	0.06	
80°	4.17	6.61					Siltstone - medium grey, core badly broken, limonite staining	1.89	
							minor coaly inclusions, thin fine grained, light		
							grey sandstone bands, coaly plant debris.		
						16/4.88			
							Siltstone - same as above	0.55	
	6.61	6.81					Soft clay - badly broken siltstone, possibly fault gauge	0.20	
							Top of Box 2		
	6.81	6.88	7	0.07			Claystone - brown, highly broken		
	6.88	7.08	20	0.20			Coal loss		
	7.08	7.33	25	0.25			Coal - high vitrain content, some durain, minor fusain bands		
	7.33	7.41	8	0.08	1556		Claystone - dark grey, carbonaceous, very friable		
	7.41	7.50	9	0.09			Coal - dull and bright bands		
	7.50	7.51	1	0.01			Claystone - dark grey, carbonaceous		
	7.51	7.63	12	0.12			Claystone - grey brown, minor coaly stringers, not well indurated		
	7.63	7.91	28	0.27			Claystone - dark grey, well indurated		
					1557				

474-8010

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	7.91	8.02	11	0.11			Claystone - same as above		
	8.02	8.07	5	0.05			Claystone - carbonaceous and very coaly, friable		
	8.07	8.10	3	0.03			Rock loss		
	8.10	8.28	18	0.18			Coal - dull lustrous, occasional fusain bands, core somewhat broken		
	8.28	8.41	13	0.13			Coal - dull lustrous, core very broken at top		
	8.41	8.43	2	0.02			Stoney coal		
	8.43	8.44	1	0.01			Clyst		
	8.44	8.46	2	0.02	1558		Stoney coal		
	8.46	8.65	19	0.19			Coal - dull to dull lustrous, occasional fusain bands, core somewhat broken.		
	8.65	8.71	6	0.06			Coal loss		
	8.71	8.77	6	0.06			Coal - pulverized		
	8.77	8.83	6	0.06			Claystone - very friable, coaly		
	8.83	8.97	14	0.14			Claystone - dark grey-brown, not well indurated		
	8.97	9.00	3	0.03			Claystone - pulverized with coal bits		
	9.00	9.15	15	0.15			Rock loss		
	9.15	9.25	10	0.10	1559		Claystone - dark grey-brown		
	9.25	9.31	6	0.06			Rock loss		
	9.31	9.35	4	0.04			Coal & Claystone - broken bits, predominately claystone		
	9.35	9.45	10	0.10			Coal - bright		
	9.45	9.68	23	0.22			Coal - bright and dull banded, predominately bright		

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	9.68	9.80	12	0.12			Coal - bright, hard		
	9.80	9.84	4	0.04			Coal - dull, soft and easily broken		
					1560		Top of Box 3		
	9.94	9.93	9	0.09			Coal - dull to dull lustrous, soft and easily broken		
	9.93	9.94	1	0.01			Claystone - dark grey, friable		
	9.94	10.01	7	0.07			Coal - same as above, claystone split, friable		
	10.01	10.04	3	0.03			Coal - pulverized		
	10.04	10.12	8	0.08			Rock loss		
	10.12	10.31	19	0.19	1561		Claystone - dark grey-brown, abundant plant fragment		
	10.31	10.48	17	0.17	1562		Coal - dull and bright banded, core broken at base		
	10.48	10.58	10	0.10			Claystone - core somewhat broken, thin coal split (1cm max.) at		
							lower middle		
	10.58	10.61	3	0.03			Claystone - dark grey, coaly		
	10.61	10.63	2	0.02			Coal - very friable		
	10.63	10.74	11	0.11			Claystone - soft at top, dark grey-brown, plant fragment		

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	10.74	11.06	32	0.31			Sandstone - very fine grained at top, light grey with dark grey laminations, soft sediment deformation		
						/10.97			
75°	11.06	11.98	92				Sandstone - fine to medium grained light grey, dark laminations, occasional coal stringers, zone of fine grained thin lamination, cross lamination, sandstone near base		
	11.98	12.48	50				Siltstone - medium to dark grey, thin lamination, occasional coaly bands and light grey laminations		
	12.48	12.65	17				Sandstone - fine grained, light grey, thin laminations (dark grey)		
	12.65	17.02	4.37				Top of Box 4		
							Siltstone - medium to dark grey, minor fine grained sandstone, minor coaly debris and plant remains, core slightly broken in places	1.42	
						46/14.02			
78°							Siltstone - same as above, minor ironstone nodules	1.25	

474A-8108

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 5		
							Siltstone - same as above, minor interbedded dark grey claystone, slight shearing (listric surfaces), plant fossils and other coaly plant debris, core broken in places	1.70	
						57/17.38			
	17.02	17.62	.60				Claystone - dark grey, core slightly broken, carbonaceous and coaly plant debris and very thin coaly laminations, thin calcite film	.60	
86°	17.62	19.36	1.74				Siltstone - medium grey, minor interbedded fine grained light grey sandstone	.36	
							Top of Box 6		
							Siltstone - same as above, core broken in places, discontinuous coaly lens, minor interbedded fine grained sandstone	1.38	
	19.36	19.96	.60				Core Loss - Rock	.60	
80°	19.96	20.06	.10				Claystone - dark grey carbonaceous, coaly lamination	10	
						67/20.43			
	20.06	20.25	.19				Core Loss - Rock	13	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	20.25	20.40	.15				Claystone - same as above, core badly broken, listric surfaces	15	
	20.40	23.11	2.71				Siltstone - medium grey, carbonaceous plant debris, pyrite	105	
							nodules, coaly fragments and discontinuous lamination		
							Top of Box 7		
							Siltstone - same as above, lots of carbonaceous plant debris,	1.66	
							discontinuous coaly lamination, listric surfaces,		
							calcite filled tension fractures, ironstone nodules,		
							turbidites, minor interbedded light grey fine grained		
							sandstone, core slightly broken, sandstone intervals		
							show turbidity features in the form of rip up		
							clasts		
						77/23.48			
	23.11	23.17	0.06	0.05			Coal - coal, dull		
	23.17	23.22	0.05	0.04			bony		
	23.22	23.51	0.29	0.26			coal, dull with bright bands		
	23.51	23.61	10	9			Claystone - carbonaceous, dark grey with coaly lamination		
62°	23.61	23.86	25	22			Siltstone - medium grey with minor dark grey claystone and		
							scattered coaly lamination (basal 15cm is claystone)		
	23.86	24.01	15	13			Claystone - dark grey, coaly		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 8		
	24.01	24.30	29	0.26			Claystone - dark grey, somewhat broken		
	24.30	24.37	7	0.06			Coal - dull banded, core broken		
	24.37	24.48	11	0.10			Coal Loss		
	24.48	24.52	4	0.04			Claystone - dark grey, carbonaceous, coal bands		
	24.52	24.57	5	0.05			Claystone - as above, very broken		
	24.57	24.76	19	0.17			Rock Loss		
						82/24.99			
	24.76	24.84	8	0.07			Coal - dull		
	24.84	24.90	6	0.05			Coal - dull as above. Bitumen (rainbow) stain		
	24.90	24.95	5	0.05	1563		Coal - very broken, some claystone bits		
	24.95	24.99	4	0.04			Bone coal - vitrain stringers		
	24.99	25.14	15	0.14			Claystone - dark grey		
	25.14	25.20	6	0.06			Claystone - very broken, some very coaly, some coal bits		
	25.20	25.25	5	0.05			Claystone - dark grey, sheared		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER	SHEET
81-14	8 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	25.25	25.29	4	0.04			Claystone - not well consolidated		
	25 29	25.48	19	0.18			Rock Loss		
	25.48	25.53	5	0.05			Claystone - pulverized, sheared, occasional stone coal		
	25.53	25.80	27	0.25			Rock Loss (carbonaceous claystone and stoney coal)		
72°	25.80	25.92	12	0.11			Siltstone - sandy		
	25.92	26.10	18	0.17			Rock Loss		
	26.10	26.14	4	0.04			Coal - dull, sheared and pulverized		
						87/26.52			
	26.14	26.36	22	0.21			Coal - dull, sheared and broken		
	26.36	26.43	7	0.07			Coal - dull, sheared and very broken		
	26.43	26.68	25	0.23			Coal - dull becoming dull with bright bands at base. Core broken		
	26.68	26.73	5	0.05			Coal - dull with bright bands, highly broken		
	26.73	26.84	11	0.10	1564		Bone Coal - very thin claystone band at base		
	26.84	26.88	4	0.04			Coal - pulverized		
	26.88	26.95	7	0.07			Bone Coal - vitrain bands at top, core somewhat broken		
	26.95	27.00	5	0.05			Stone Coal - somewhat sheared and broken		
	27.00	27.05	5	0.05			Rock Loss		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	27.05	27.12	7	0.07			Coal - pulverized		
	27.12	27.23	11	0.11			Coal Loss		
	27.23	27.43	20	0.19			Claystone - medium grey, silty, plant fragments, core somewhat broken		
							Top of Box 9		
	27.43	27.63	20				Core Loss - rock		
						92/28.05			
	27.63	29.83	2.20				Claystone - dark grey with minor medium grey siltstone, core broken in places, thin coaly laminations, minor calcite filled fractures along bedding (thin), slight shearing	2.20	
79°	29.83	34.51	4.68				Siltstone - core broken, medium grey	.33	
							Top of Box 10		
							Siltstone - medium grey, very minor carbonaceous fragments	.52	
						102/31.10			
76°							Siltstone - same as above, slightly broken in places, core slightly broken	2.05	
							Top of Box 11		
							Siltstone - medium grey, core slightly broken, minor carbonaceous plant fragments	1.00	

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-14

SHEET 10 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						102/34.15			
60°							Siltstone - same as above, minor interbedded light grey sandstone,	.78	
							percentage sandstone increases down the hole, minor		
							calcite filled fractures along bedding, turbidity,		
							rip up clasts, minor discontinuous coaly		
							laminations		
	34.51	34.61	10				Core Loss - Rock		
	34.61	38.22	3.61				Sandstone - light to medium grey fine grained minor medium grey	.89	
							siltstone, small scale cross bedding, minor rip		
							up clasts, thin fractures filled with iron staining		
							Top of Box 12		
							Sandstone - light to medium grey , fine grained, core slightly	1.38	
							broken in places, turbidites in the form of rip up		
							clasts, small scale load casting		
						122/37.20			
55°							Sandstone - same as above, ironstone nodule, few thin coaly	1.10	
							fragments and discontinuous coaly laminations, minor		
							turbidity		
							Top of Box 13		
							Sandstone - same as above, increase in grain size towards base	.24	
	38.22	40.63	2.41				Claystone - medium grey, silty in places, core slightly broken in	1.71	
							places, breaks easily into small blocky fragments,		
							listric surfaces		

474A-8106

HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
81-14	11 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						132/40.24			
73°							Claystone - same as above	.70	
	40.63	40.86	.23				Core loss - rock		
							Top of Box 14		
	40.86	41.13	.27				Claystone - silty medium to dark grey, slightly sheared, core broken, slight shearing	.27	
	41.13	41.25	.08				Ironstone - brown well oxidized with limonite coating	.08	
	41.25	41.32	.07				Coal - dull with bright bands	.07	
	41.32	41.40	.08				Ironstone - dark brown with a lot of calcite stringers	.08	
	41.40	41.50	.10			37/41.77	Coal and Ironstone - badly broken and sheared (possible lost core)	.10	
	41.50	41.70	.20				Core loss - rock	.20	
	41.70	42.15	.45				Siltstone - medium grey interbedded dark grey claystone, thin coaly laminae, core broken in places, scattered coal fragments, slight shearing	.45	

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
81-14	12 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65°	42.15	46.45	4.30				Sandstone - light - medium grey, fine grained, minor interbedded	1.50	
							medium grey siltstone, possible small fault at top of		
							interval core appears crushed, lot of calcite filled		
							fractures, sheared, coaly fragments, carbonaceous		
							P.F. scattered thin calcite filled fractures		
							throughout		
							Top of Box 15		
82°							Sandstone - interbedded siltstone same as above, minor shearing	.90	
							turbidities in the form of rip up clasts 5 cm ironstone		
							band 30 cm from top of box, thin coaly laminae thin		
							calcite filled fractures throughout		
						147/44.82			
							Sandstone - siltstone, same as above	1.70	
							Top of Box 16		
							Sandstone - siltstone same as above % of siltstone increases	.20	
							downhole		
	46.45	46.95	.50				Siltstone - medium - dark grey minor interbedded light grey fine	.50	
							sandstone, discontinuous coaly laminae, minor rip up		
							clasts		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER	SHEET
81-14	13 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	46.95	47.01	.06				Coal - pulverized, sheared (possible loss of core)	.06	
	47.01	51.57	4.56				Siltstone - medium - dark grey basically same as above	.56	
						157/47.87			
70°							Siltstone - same as above, badly broken near top of interval, sheared with calcite filled fractures, possible a small displacement	1.45	
							Top of Box 17		
68°							Siltstone - medium - dark grey minor interbedded light grey fine grained sandstone minor small scale load casting	1.60	
						167/50.91			
							Siltstone - same as above, core badly broken and crushed, COAL CHIPS	.95	
	51.57	51.67	.10				Core Loss - Rock		
							Top of Box 18		
	51.67	54.31	2.64				Siltstone - same as above, a lot of calcite filled fractures and limonite stains at top minor interbedded light medium grey fine grained sandstone	2.00	
						177/53.96			

474A-8106

HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
64°							Siltstone - same as above	.64	
							Top of Box 19		
	54.31	54.40	.09				Core loss - rock		
65°	54.40	65.12	10.72				Siltstone - same as above, slight shearing	2.32	
						187/57.01			
							Siltstone - same as above	.34	
							Top of Box 20		
65°							Siltstone - same as above, rip up clasts and load casting	2.65	
							small scale cross bedding		
						197/60.06			
							Top of Box 21		
70°							Siltstone - medium-dark grey minor interbedded light grey fine	2.70	
							sandstone, minor listric surfaces along coal lamin-		
							ations scattered carbonaceous plant debris, minor		
							load casts		
							Top of Box 22		
							Siltstone - same as above	.34	

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						207/63.11			
64°							Siltstone - same as above, bioturbation, possible worm burrows	2.37	
	65.12	65.17	.05				Core loss - rock		
							Top of Box 23		
	65.17	67.96	2.79				Siltstone - same as above, turbidities, load casting, rip up clasts	.63	
						216/65.85			
78°							Siltstone - same as above, small scale cross bedded	2.16	
	67.96	68.01	.05				Core loss - rock		
							Top of Box 24		
	68.01	70.70	2.69				Siltstone - same as above, slight listric surfaces	.84	
						226/68.90			
69°							Siltstone - same as above	1.85	
	70.70	70.74	.04				Core loss - rock		
							Top of Box 25		
	70.74	73.40	2.66				Siltstone - same as above, slight shearing with listric, calcite	1.16	
						2.36/71.95	film along shears		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
72°							Siltstone - same as above, minor coaly plant fragments, turbidities	1.50	
	73.40	73.48	.08				Core loss - rock	0.08	
							Top of Box 26		
	73.48	76.14	2.66				Siltstone - same as above, core slightly broken	1.46	
						246/75			
							Siltstone - same as above, core badly broken at top of interval,	1.20	
							good possibility of lost core, slight shearing minor		
							thin coaly laminae, coal fragments		
							Top of Box 27		
	76.14	76.65	.51				Claystone - silty medium-dark grey, slight shearing with listric	.51	
							surfaces, core slightly broken		
	76.65	76.83	.18				Coal and Carbonaceous Claystone - badly crushed, broken, sheared	.18	
	76.83	76.95	.12				Core loss - Coal	.12	
	76.95	77.17	.22				Claystone - medium-dark grey core badly broken and crushed	.22	
	77.17	77.20					Core loss - rock	.03	
	77.20	80.64					Siltstone - medium-dark grey, carbonaceous plant debris	.79	
						256/78.05			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
72°							Siltstone - same as above, sheared calcite film along shear plane, parallel to bedding, core broken at bottom	.90	
							Top of Box 28		
							Siltstone - argillaceous with a 22 cm band of ironstone at the top, core is broken in places	1.75	
	80.64	80.76	.12				Core loss - rock	.12	
	80.76	81.04	.28				Claystone - medium dark grey badly sheared and crushed	.28	
	81.04	81.24	.20			266/81.0	Core loss - rock	.20	
75°	81.24	81.64	.40				Claystone - dark grey core intact	.40	
	81.64	81.78	.14	.14			Coal - badly crushed broken and sheared, minor pyrite film along shear planes		
							Top of Box 29		
	81.78	82.42	.64	0.62			Coal - dull, lustrous occasional bright bands, core somewhat broken and sheared		
	82.42	82.45	.03	0.03			Coal - as above, highly broken		

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	82.45	82.54	.09	0.09			Coal - some boney coal, 1 cm claystone split		
	82.54	82.56	.02	0.02			Coal - very friable and sheared		
	82.56	82.71	.15	0.14			Coal - highly sheared, contains occasional claystone splits		
							(1 cm)		
					1565				
	82.71	82.75	.04	0.04			Claystone - dark grey		
	82.75	82.82	.07	0.07			Coal - highly sheared, dull, contains clay splits		
	82.82	82.86	.04	0.04			Claystone - highly sheared, coaly		
	82.86	83.00	.14	0.13			Rock loss		
					1566				
	83.00	83.12	.12	0.17			Stoney coal		
	83.12	83.13	.01	0.01			Claystone - dark grey		
	83.13	83.25	.12	0.11			Stoney coal		
	83.25	83.27	.02	0.02			Coal - dull lustrous		
	83.27	83.35	.08	0.08			Coal - dull		
	83.35	83.43	.08	0.07			Coal - as above		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	83.43	83.63	20	0.19			Coal - dull		
					1567	273/83.21			
	83.63	83.68	5	0.05			Coal - dull, highly broken		
	83.68	83.90	22	0.21			Coal loss		
	83.90	84.06	16	0.15			Coal - as above, occasional bright pieces		
	84.06	84.48	42	0.39			Coal loss		
	84.48	84.58	10	0.09			Coal - pulverized, occasional claystone bits		
	84.58	84.92	34	0.31			Rock loss		
	84.92	84.97	5	0.05			Claystone - highly broken		
					1568				
	84.97	85.13	16	0.15			Claystone - grey brown core broken and sheared coaly stringers		
						276/84.15			
	85.13	85.27	14	0.13			Claystone - as above, sheared and broken		
	85.27	85.29	2	0.02			Boney coal		
	85.29	85.31	2	0.02	1569		Coal - pulverized		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	85.31	85.36	5	0.05	1569		Coal - bright and dull banded		
	85.36	85.51	15	0.14			Claystone - dark-grey sheared and broken		
	85.51	85.54	3	0.03			Claystone - coaly and highly broken		
	85.54	85.60	6	0.05			Coal - boney on top, claystone split near base		
	85.60	85.63	3	0.03	1570		Coal - pulverized		
	85.63	85.86	23	0.20			Coal loss		
	85.86	86.20	4	0.30			Coal - dull, sheared, fusain bands near centre. Vitrain bands at base, claystone fragments near top - somewhat broken		
	86.20	86.22	2	0.02			Coal - highly broken and sheared		
	86.22	86.24	2	0.02			Claystone - with coal bands		
	86.24	86.30	6	0.05			Coal - bright sheared, dull bands		
	86.30	86.37	7	0.06			Coal - pulverized, clay bands		
	86.37	86.63	26	0.23			Coal loss		
	86.63	86.65	2	0.02			Coal - highly sheared and broken		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	86.65	86.67	2	0.02			Claystone - sheared		
					1571				
	86.67	87.06	39	0.34			Claystone - dark grey, sheared		
	87.06	87.15	9	0.08			Rock loss		
	87.15	87.31	16	0.14			Coal - highly broken and sheared predominently dull		
					1572				
	87.31	87.81	50	0.42			Coal loss		
	87.81	87.86	5	0.04			Coal - dull lustrous, sheared		
	87.86	87.97	11	0.09			Claystone - dark grey, coaly towards base		
	87.97	88.15	18	0.15			Rock loss		
	88.15	88.23	8	0.07			Coal - dull, sheared with bright bands and clay bands		
	88.23	88.25	2	0.02			Claystone		
					1585				
	88.25	88.30	5	0.04			Coal - pulverized at base, sheared		
55°	88.30	88.57	27	0.22			Claystone		
70°	88.57	88.59	2	0.02			Claystone - sheared and highly broken		

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HOLE NUMBER 81-14

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	88.59	88.65	6	0.05			Coal - dull, very highly broken		
						286/37.17			
					1585				
							Top of Box 31		
30°	88.65	88.98	33	0.17			Claystone - dark-grey broken and sheared		
	88.98	89.23	25	0.20			Coal - dull, sheared 1 cm clay band near top, core broken		
	89.23	89.55	32	0.26			Coal - core intact, sheared, occasional rock fragments		
					1573				
	89.55	89.67	12	0.10			Coal - pulverized		
	89.67	89.73	6	0.05			Coal - dull		
	89.73	89.90	17	0.14			Coal - pulverized		
75°	89.90	90.28	38	0.37	1574		Claystone - silty at base		
	90.28	90.38	10	0.10			Coal - pulverized		
	90.38	90.47	9	0.09			Coal - dull, lustrous with bright bands		
					1575				
	90.47	90.63	16	0.15			Coal - with occasional stoney bands sheared and somewhat broken		
						296/90.22			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	90.63	90.98	35	0.33			Coal - dull, sheared and broken, pulverized in places claystone		
							partings near base		
							Top of Box 32		
	90.98	91.56	58	0.54			Claystone - dark grey, sheared, broken at base		
	91.56	91.70	14	0.13			Rock loss		
	91.70	91.73	3	0.03			Coal - highly broken		
	91.73	91.86	13	0.12			Coal loss		
	91.86	91.89	3	0.03			Claystone - highly broken		
	91.89	91.97	8	0.07			Claystone - pulverized, contains coaly bits		
	91.97	92.07	10	0.09			Claystone - broken		
	92.07	92.09	2	0.02			Rock loss		
	92.09	92.14	5	0.05			Coal - pulverized in part		
	92.14	92.29	15	0.14			Coal loss		
	92.29	92.48	19	0.17			Claystone - silty, broken		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	92.48	92.61	13	0.12			Core loss, possibly coaly or carbonaceous interbedded in siltstone		
60°	92.61	92.74	13	0.11			Claystone - silty		
	92.74	92.84	10	0.09			Rock loss		
	92.84	92.90	6	0.05			Claystone - carbonaceous, highly sheared		
	92.90	92.98	8	0.07			Rock loss, carbonaceous claystone, possibly some coal		
	92.98	93.02	4	0.03			Claystone - coal band at top and bottom sheared		
	93.02	93.11	9	0.08			Claystone - silty, very fine grained sandstone, near base		
	93.11	93.35	24	0.20			Coal - broken at top, sheared throughout, bright to dull-bright banded		
						306/93.27			
	93.35	93.48	13	0.11			Coal - as above, highly broken		
	93.48	93.57	9	0.07			Coal - as above, broken		
	93.57	93.62	5	0.04			Coal - as above		
	93.62	93.66	4	0.03			Coal - dull, very hard (20- 30% ash)		
	93.66	93.85	19	0.16			Stoney coal - (near boney), sheared		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	93.85	93.94	9	0.07			Rock loss		
	93.94	94.06	12	0.10			Stoney coal (near boney), highly broken and sheared		
	94.06	94.18	12	0.10			Coal - dull lustrous		
							Top of Box 33		
50°	94.18	94.76	58	0.44			Coal - dull, pulverized at base		
					1576				
	94.76	94.81	5	0.04			Claystone - highly broken and sheared, carbonaceous and coaly		
	94.81	94.86	5	0.04			Coal - pulverized with stoney coal pieces		
	94.86	95.41	.55				Claystone - coal band at top, fissile	.10	
50°							Claystone - dark-grey brown, sheared silty towards base	.45	
	95.41	96.06	.65				Siltstone - dark-medium grey, clayey in part, minor calcite fractures, occasional plant fragments	.65	
	96.06	96.40	.34				Core loss - rock		
						316/96.32			
	96.40	97.04	.64				Claystone - dark grey, sheared, minor calcite, fractures broken at base	.45	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - sheared, friable, soft, coal pieces	.03	
							Claystone - slightly silty	.16	
	97.04	97.17	.13				Siltstone - dark-medium grey, sheared	0.13	
							Top of Box 34		
	97.17	98.37	1.20				Claystone - medium-dark grey, slightly broken, silty in places, thin calcite fractures scattered throughout, slight shearing	1.20	
	98.37	98.50	0.13				Core loss - rock		
	98.50	99.00	0.50				Coal and carbonaceous claystone - just like powder, pulverized, sheared (possible core loss)	.50	
	99.00	99.15	.15				Core loss - coal	.15	
	99.15	102.90	3.75				Siltstone - medium-dark grey, copious carbonaceous fragments, plant fragments	.30	
						326/99.39			
60°							Siltstone - dark grey with interbeds light grey, fine grained sandstone, turbidities, rip up clasts, load casts, slight shearing	.70	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 35		
65°							Siltstone - same as above, interbeds light grey fine grained	2.30	
							sandstone, slight shearing cross bedding (75% siltstones,		
							25% sandstone)		
						336/102.44			
							Siltstone - same as above	.45	
	102.90	103.06	.16				Core loss - rock		
							Top of Box 36		
	103.06	103.50	.44				Siltstone - same as above, % sandstone increases downhole	.44	
55°	103.50	109.71	6.21				Sandstone - with interbeds siltstone, sandstone is light-medium	2.00	
							grey, fine-medium grained minor thin carbonaceous laminae		
							throughout, some shearing, calcite film along fracture		
							surfaces up to .5 cm thickness of fracture with well developed		
							calcite crystals in places		
						346/105.49			
							Sandstone - same as above	.20	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 37		
55°							Sandstone - medium grained, medium grey, core is badly broken, with many calcite filled fractures, maximum fracture width is 4 cm (possible fault zone, small displacement, carbonaceous laminaes, some shearing)	2.55	
							Top of Box 38		
							Sandstone - same as above	.30	
						3567/108.54			
66°							Sandstone - same as above with calcite filled fractures throughout	1.16	
	109.71	109.83	.12				Siltstone - badly crushed and sheared, medium grey	.12	
	109.83	109.90	.07				Core loss - rock	.07	
62°	109.90	110.68	.78				Siltstone - core is intact, medium grey, slight shearing calcite filled fractures at top of interval, sheared along bedding, discontinuous coaly laminaes minor light grey fine grained sandstone with load casting	.78	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	110.68	113.85	3.17				Sandstone - light grey fine grained	.40	
							Top of Box 39		
60°							Sandstone - medium grey fine grained minor carbonaceous laminae		
							small scale cross bedding	.52	
						366/111.59			
60°							Sandstone - same as above, minor shearing with calcite film along	2.25	
							shear planes		
	113.85	113.89	.04				Core loss - rock	0.04	
							Top of Box 40		
	113.89	117.69	3.80				Sandstone - same as above	.76	
						376/114.64			
58°							Sandstone - same as above minor interbedded dark grey siltstone	1.98	
							Top of Box 41		
							Sandstone - same as above, slight shearing, minor calcite filled	1.06	
							fractures along bedding, minor discontinuous coaly laminae,		
							interbedded dark grey siltstone		
						386/117.68			

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SHEET 30 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
55°	117.69	122.01	4.32				Siltstone - 60% sandstone 40% interbedded, discontinuous coaly	1.54	
							turbidities, rip up clasts small scale load casts		
							Top of Box 42		
55°							Siltstone - 60% sandstone 40% same as above, slight shearing,	1.50	
							carbonaceous laminaes, minor coaly fragments, turbidities		
							with rip up clasts		
						396/120.73			
40°							Siltstone - 60% sandstone 40% same as above	1.28	
							Top of Box 43		
	122.01	123.07	1.06				Sandstone/Siltstone - interbeds (2 cm) interlaminated, small	1.06	
							fold feature, fold axis perpendicular to core axis		
							occasional calcite fractures 1 cm coal band near base		
	123.07	123.41	.34				Claystone - dark, sheared, frequent coal bands broken at base,	.34	
							very coaly at base		
	123.41	123.68	.27				Core loss - rock		
						406/123.75			
	123.68	123.90	22	0.14			Claystone - dark grey sheared occasional coal bands broken @ base		
	123.90	124.17	27	0.18			Rock loss		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	124.17	124.45	.28	0.18			Coal - dull, occasional bright bands, somewhat broken, very broken at base		
	124.45	124.68	.23	0.16			Coal Loss		
	124.68	125.27	.59	0.42			Coal - dull, bright banded at top, bright banded in middle, dull to dull banded at base		
					1577				
							Top of Box 44		
	125.27	125.45	.18	0.13			Coal - dull banded		
						411/125.27			
50°	125.45	126.10	.65	0.50	1578		Claystone - very silty, occasional coal par tings		
	126.10	126.14	.04	0.03			Rock Loss		
	126.14	126.59	.45	0.34			Coal - minor claystone near top, dull banded, abundant vitrain near base, core broken		
	126.59	126.91	.32	0.25			Coal - dull banded, displays cleat, minor iron oxide at base, core broken		
					1579				
	126.91	126.96	.05	0.04			Coal - dull, some parts were boney, core highly broken		
						416/			
	126.96	128.76	1.80				Sandstone - fine grained, light grey, silty with sandstone rip-up clasts in middle, some clayey zones	.80	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 45		
60							Sandstone - medium grey, fine to medium grained, coaly laminations	1.00	
	128.76	128.98	.32				Claystone - dark grey carbonaceous with sheared and broken coaly laminations	.32	
	128.98	129.46	.48					.48	
	129.46	129.49	.03				Coal - pulverized, sheared, possible core loss	.03	
	129.49	130.57	.15				Claystone - dark grey carbonaceous plant fragments with debris, coaly laminations	.15	
						426/129.88			
			.55				Claystone - dark grey, sheared, calcite film along shear planes, core broken, minor coaly laminations, minor carbonaceous claystone bands	.55	
							Top of Box 46		
							Claystone - carbonaceous, dark grey, sheared, with coaly lamination, core partially broken (possible lost core)	.10	
60°							Claystone - medium grey, slight shearing, carbonaceous plant fragments	.13	
	130.57	133.04	2.47				Sandstone - light to medium grey, fine to medium grained with interbedded medium grey siltstone (20%), with carbonaceous laminations and coaly laminations	2.20	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						436/132.93			
60°							Sandstone - same as above	.27	
							Top of Box 47		
63°	133.04	135.14	2.10				Siltstone - medium to dark grey, minor medium grey fine grained	2.10	
							sandstone, ironstone nodules, carbonaceous laminations		
	135.14	135.87	.73				Sandstone - medium grey, fine grained, carbonaceous laminations,	.73	
							turbidites in the form of rip up clasts, becoming more silty		
							at base		
							Top of Box 48		
						446/135.98			
	135.87	136.70	.83				Siltstone - medium to dark grey, scattered coaly laminations,	.83	
							slightly sheared, minor ironstone bands		
	136.70	138.48	1.78				Claystone - dark grey, badly sheared and broken (probable loss	.60	
							of core) (Rock core loss)		
						461/140.55			
58°							Claystone - same as above, core pretty well intact, thin calcite	1.18	
							filled fractures, minor siltstone towards base with		
							turbidites (rip up clasts)		
							Top of Box 49		
	138.48	147.34	8.86				Siltstone - medium to dark grey with minor interbeds of dark grey	1.89	
							claystone, minor listrics		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
					471/143.60				
61°							Siltstone - dark grey, same as above	.85	
							Top of Box 50		
							Siltstone - same as above	.64	
						476/145.12			
							** No Geophysical log past this point **		
65°							Siltstone - basically same as above, with minor interbeds of	2.08	
							light grey, fine grained sandstone, turbidites (load casts),		
							minor carbonaceous laminations		
							Top of Box 51		
							Siltstone - same as above, scattered thin calcite filled fractures	.91	
						486/148.17			
61°							Siltstone - same as above, minor turbidites and bioturbs (worm	1.81	
							burrows), minor carbonaceous laminations		
							Top of Box 52		
64°							Siltstone - medium to dark grey with minor interbeds of light grey	.68	
							sandstone becoming coarser towards bottom, turbidites, minor		
							dark grey claystone, badly broken (minor shearing)		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14 | SHEET 35 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	147.34	148.59	1.25				Sandstone - light grey fine grained turbidites, scattered calcite	.49	
							filled fractures		
						496/151.22			
							Sandstone - same as above	.76	
61°	148.59	150.28	1.69				Siltstone - medium grey, carbonaceous laminations	.78	
							Top of Box 53		
56°							Siltstone - same as above, turbidites, rip up clasts and ripple	.91	
							marks		
	150.28	150.74	.46				Claystone - dark grey, badly broken and sheared, copious calcite	.46	
							filled fractures, closely spaced, average 2mm		
						506/154.27			
	150.74	196.27	45.53				Siltstone - medium to dark grey, sheared, thin coaly stringers,	1.23	
							minor thin calcite filled fractures		
							Top of Box 54		
55°							Siltstone - same as above, sheared calcite filled fractures,	.64	
							carbonaceous laminations and fractures parallel to bedding		
						512/156.10			
55°							Siltstone - dark grey, same as above, turbidites, minor	1.24	
							carbonaceous laminations		
						516/157.32			
							Siltstone - same as above, listrics	.81	

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PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
81-14	36 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 55		
50°							Siltstone - dark grey, carbonaceous laminations, listrics with	2.27	
							calcite film		
						526/160.36			
45°							Siltstone - same as above, turbidites, listrics with calcite on	.46	
							surfaces		
							Top of Box 56		
							Siltstone - same as above, minor turbidites, sheared , calcite	2.49	
							filled fractures parallel to bedding and also at 90°		
						536/163.41			
							Top of Box 57		
31°							Siltstone - same as above, sheared with calcite film	2.75	
							Top of Box 58		
							Siltstone - dark grey, listric surfaces	.14	
						546/166.46			
15°							Siltstone - same as above, calcite filled fractures, small scale	2.49	
							step faulting (interval between steps = 1-2mm), turbidites		
							and carbonaceous laminations, core broken		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 59		
							Siltstone - same as above, abundant calcite filled fractures	.54	
						556/169.51			
35°							Siltstone - same as above, listrics, calcite filled fractures	2.06	
							up to 1cm in thickness		
							Top of Box 60		
							Siltstone - same as above, listrics, broken, calcite filled	.87	
							fractures		
						566/172.56			
10°							Siltstone - dark grey, same as above, badly sheared, carbonaceous	1.60	
							laminations, calcite filled fractures		
							Top of Box 61		
							Siltstone - same as above, dark gray, calcite filled fractures,	1.38	
							turbidities, carbonaceous laminations		
14°							Siltstone - dark grey, same as above, discontinuous coaly	1.37	
							stringers, carbonaceous plant fragments, thick calcite		
							fractures midway through interval (1.2cm wide)		
							Top of Box 62		
							Siltstone - same as above, sheared, lower portion has very closely	1.64	
							spaced calcite filled fractures		
						586/178.66			

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HOLE NUMBER

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-14 | SHEET 38 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
38°							Siltstone - same as above, top half of the interval has closely	1.02	
							spaced calcite filled fractures		
							Top of Box 63		
34°							Siltstone - same as above, dark grey, minor calcite filled	1.92	
							fractures		
						596/181.71			
42°							Siltstone - same as above	.83	
							Top of Box 64		
41°							Siltstone - same as above, thick calcite filled fractures	2.13	
							parallel to bedding (1.3cm width)		
						606/184.76		.58	
38°							Siltstone - same as above		
							Top of Box 65		
28°							Siltstone - same as above, slight listrics, calcite filled	2.40	
							fractures parallel to bedding		
						616/187.80			
							Siltstone - same as above	.15	
							Top of Box 66		
32°							Siltstone - same as above, abundant calcite filled fractures,	2.73	
							partially broken, some shearing		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 67		
							Siltstone -same as above, badly broken	.13	
						626/190.85			
12°							Siltstone - same as above, turbidites, slight shearing, calcite filled fractures	2.29	
							Top of Box 68		
							Siltstone - same as above, sheared, calcite filled fractures, broken	.38	
						636/193.90			
30°							Siltstone - same as above	2.08	
							Top of Box 69		
							Siltstone - same as above, sheared, abundant calcite filled fractures, badly broken in middle (possible core loss)	.95	
						646/196.95			
							Siltstone - same as above, badly broken at top of interval	1.53	
							Top of Box 70		
20°							Siltstone - same as above, abundant thin calcite filled fractures sheared, turbated	1.61	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						656/200			
							Siltstone - same as above, highly fractured with calcite	.82	
							filling		
	196.27	196.34	.07				Coal - pulverized, sheared (probable core loss)	.07	
	196.34	237.47	41.13				Siltstone - same as above, highly fractured and broken with	.20	
							filling		
							Top of Box 71		
55°							Siltstone - same as above, abundant calcite filled fractures at	1.88	
							top of interval		
						666/203.05			
							Siltstone - same as above, sheared and broken		
							Top of Box 72		
21°							Siltstone - same as above	2.25	
						676/206.10			
							Siltstone - same as above	.31	
							Top of Box 73		
6°							Siltstone - same as above	2.67	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

SHEET 41 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						686/209.15			
							Top of Box 74		
15°							Siltstone - same as above, occasional thin calcite filled	2.79	
							fractures		
							Top of Box 75		
							Siltstone - same as above	.15	
						696/212.19			
9°							Siltstone - same as above, scattered calcite filled fractures	2.43	
							Top of Box 76		
							Siltstone - same as above	.58	
						706/215.24			
26°							Siltstone - same as above, some shearing along bedding plane	1.96	
							Top of Box 77		
							Siltstone - same as above, discontinuous coaly laminations	.84	
						716/218.29			
29°							Siltstone - same as above	1.86	
							Top of Box 78		
							Siltstone - same as above	1.25	

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HOLE NUMBER

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						726/221.34			
21°							Siltstone - same as above, calcite filled fractures 1.6cm	1.43	
							Top of Box 79		
27°							Siltstone - same as above	1.51	
						736/224.39			
24°							Siltstone - same as above, discontinuous coaly stringers	1.14	
							Top of Box 80		
							Siltstone - same as above	1.88	
						746/227.44			
25°							Siltstone - same as above	.79	
							Top of Box 81		
27°							Siltstone - same as above	2.12	
						756/230.49			
							Siltstone -same as above	.60	
							Top of Box 82		
28°							Siltstone - same as above	2.43	
						766/233.54			
							Siltstone - same as above	.15	

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 83		
14°							Siltstone - same as above, scattered calcite filled fractures	2.74	
							Top of Box 84		
							Siltstone - same as above	.12	
						776/236.58			
17°							Siltstone - same as above	2.58	
							Top of Box 85		
							Siltstone - same as above	.34	
						786/239.63			
32°							Siltstone - same as above, coaly stringers, scattered calcite filled fractures	2.38	
							Top of Box 86		
						796/242.68			
20°							Siltstone - same as above, scattered coaly stringers	1.30	
	237.47	238.00	.53				Carbonaceous shale - dark grey with coaly bands sheared, shearing is parallel to bedding (1cm), core broken	.53	
30°	238.00	238.45	.45				Siltstone - dark grey, coaly stringers, carbonaceous plant fragments	.45	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-14

SHEET 44 OF 44

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	238.45	238.83	.38				Claystone - carbonaceous dark grey, sheared with thin bright	.16	
							coal bands, carbonaceous plant fragments		
							Top of Box 87		
							Claystone - same as above	.22	
	238.83	238.93	.10				Coal - badly broken	.10	

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		15/6/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-15	Coates	90	--	263.0	HQ		N22 / 6500	3196	20	10

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1547.79	6,064,785.56 N	650,028.24 E	N	E	93 I 10

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY: Eric Panchy

DATE OF INTERPRETATION:

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		168.55-169.05	42	0.37	0.37/0.00	11	1598		Kb	6	1541.79		
							-		Kh	151.17	1396.62		
B11		182.40-183.05	23	0.57	0.57/0.00	89	1600						
B10		211.32-211.63	15	0.30	0.30/0.00	90							
B9	1305.4	234.97-242.42	25	5.57	4.37/1.20	60	1580-84						
B8		256.57-257.09	30	0.45	0.45/0.00	56	--						
													HOLE NUMBER MUD 81-15

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PETRO CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD81-15	1 OF 43

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE Vertical	TOTAL DEPTH 263.66 m
COAL LICENCE	CONTRACTOR	LOGGED BY T. Covert, F. Gigliotti J. Moorhouse	CORE SIZE HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1		
39°	9.16	10.98	1.82				Sandstone - fine grained, light grey, interbedded with dark grey	1.82	
							siltstone (15%) soft sediment deformations, worm		
							burrows, rip up clasts, cross-bedded, right side up		
							oxidized		
						36/10.98			
35°	10.98	13.87	2.89				Siltstone - dark grey, interbedded with light grey, fine grained	0.87	
							sandstone (35%) broken, soft sediment deformations,		
							cross-bedded, some breakage parallels bedding,		
							oxidized		
							Top of Box 2		
							Siltstone - dark grey, badly broken, oxidized, minor shearing	0.85	
						41/12.50			
33°							Siltstone - dark grey, interbedded with light grey fine grained	1.44	
							sandstone 10-50% on average the sandstone is 35% of		
							the rock soft sediment deformations, rip up clasts,		
							occasional ironstone and pyrite infillings, cross-		
							bedded, rip up clasts, worm burrows, shearing parallels		

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PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							bedding broken, calcite filled fractures, calcite film along shear planes		
	13.87	13.95	0.08				CORE LOSS - siltstone	0.08	
						46/14.02			
38°	13.95	18.94	4.99				Siltstone - same as above, slighty broken	0.28	
							Top of Box 3		
							Siltstone - same as above, slightly broken	2.31	
						56/17.07			
							Top of Box 4		
34°							Siltstone - same as above, lower portion of interval is broken	2.13	
						61/18.60			
							Siltstone - same as above, sheared	0.27	
							Top of Box 5		
	18.94	19.64	0.70				CORE LOSS - siltstone	0.70	
37°	19.64	23.57	3.93				Siltstone - same as above, badly broken and sheared	1.15	
						68/20.73			

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PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
32°							Siltstone - same as above, broken and sheared	1.30	
							Top of Box 6		
36°							Siltstone - same as above, sheared and broken	0.53	
						74/22.56			
							Siltstone - same as above, badly broken and sheared	0.95	
	23.57	25.67	2.10				CORE LOSS - siltstone	2.10	
						84/25.61			
	25.67	26.18	0.51				Siltstone - same as above, badly broken and sheared	0.51	
							Top of Box 7		
	26.18	28.01	1.83				CORE LOSS - siltstone	1.83	
	28.01	28.41	0.40				Siltstone - same as above, sheared and broken	0.40	
						93/28.35			
	28.41	30.89	2.48				CORE LOSS - siltstone	2.48	
	30.89	34.90	4.01				Siltstone - same as above, sheared and broken	1.26	
						106/32.32			
37°							Siltstone - same as above, badly broken and sheared	0.48	

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 8		
42^0							Siltstone - same as above, badly broken and sheared	1.27	
						111/38.84			
							Siltstone - same as above, badly sheared and broken	1.00	
							Top of Box 9		
	34.90	35.09	0.19				Core loss (Siltstone)	0.19	
	35.09	37.16	2.07				Siltstone - same as above - badly sheared and broken	0.34	
						116/35.37			
37^0							Siltstone - same as above, badly sheared and broken	1.73	
	37.16	37.26	0.10				Core loss (siltstone)	0.10	
						122/37.20			
46^0	37.26	39.99	2.73				Siltstone - same as above, sheared	0.32	
							Top of Box 10		
44^0							Siltstone - same as above, slight shring	0.50	
						126/38.41			

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
42^0							Siltstone - same as above, sheared and badly broken in places	1.91	
							Top of Box 11		
	39.99	40.34	0.35				Core loss (Siltstone)	0.35	
40^0	40.34	43.10	2.76				Siltstone - same as above, badly sheared and broken	0.79	
						136/41.46			
39^0							Siltstone - same as above, sheared and broken	1.72	

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PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 12		
45°							Siltstone - same as above, badly sheared and broken	0.25	
	43.10	43.24	0.14				CORE LOSS - siltstone	0.14	
						142/43.29			
44°	43.24	45.74	2.50				Siltstone - same as above, sheared, bottom 23 cm is badly broken	2.28	
							Top of Box 13		
							Siltstone - same as above, badly sheared and broken	0.22	
	45.74	46.05	0.31				CORE LOSS - siltstone	0.31	
						152/46.34			
48°	46.05	55.24	9.19				Siltstone - same as above, broken in places, badly sheared	2.34	
							Top of Box 14		
37°							Siltstone - same as above, sheared	2.11	
						166/50.61			
							Siltstone - same as above, sheared and badly broken	0.40	

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PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 15		
43°							Siltstone - same as above, partially broken, very sheared	2.66	
							Top of Box 16		
							Siltstone - same as above, sheared and broken	0.08	
						176/53.66			
41°							Siltstone - same as above, sheared, badly broken	1.60	
	55.24	55.29	0.05				Bentonite - blueish grey, core squeezed and sheared	0.05	
	55.29	55.56	0.27				CORE LOSS - bentonite	0.27	
	55.56	56.26	0.70				Siltstone - same as above, core slightly broken	0.70	
	56.26	56.36	0.10				CORE LOSS - siltstone	0.10	
							Top of Box 17		
42°	56.36	58.66	2.30				Siltstone - dark grey, interbedded with light grey, fine grained sandstone (20%), sheared parallel to bedding, calcite film along shear planes, minor turbidites features	0.39	

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PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						186/56.71			
48°							Siltstone - same as above, highly sheared	1.91	
	58.66	58.88	0.22				CORE LOSS - siltstone	0.22	
							Top of Box 18		
						193/58.84			
54°	58.88	60.00	1.12				Siltstone - same as above, cross-bedded, calcite filled fractures, sheared	1.12	
	60.00	60.41	0.41			98/60.37	CORE LOSS - siltstone	0.41	
40°	60.41	61.31	0.90				Siltstone - same as above, sheared, turbidites	0.90	
	61.31	61.44	0.13				CORE LOSS - siltstone	0.13	
							Top of Box 19		
58°	61.44	64.75	3.31				Sandstone - light grey, fine grained, interbedded with dark grey siltstone (45%), turbidites (load casts), calcite filled fractures sheared parallel to bedding, small displacements, cross-bedded	1.40	
						206/62.80			
50°							Sandstone - same as above, load casts	1.15	

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HOLE NUMBER MUD81-15

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 20		
39°							Sandstone - same as above, calcite filled fractures perpendicular to bedding, coaly stringer, sheared	0.76	
						213/64.94			
	64.75	68.75	4.01				Siltstone - dark grey, interbedded with fine grained, light grey sandstone (40%)slightly convoluted bedding, calcite filled fractures, sheared	1.44	
							Top of Box 21		
54°							Siltstone - same as above, slight displacements, slightly convolute bedding, calcite filled fractures perpendiuclar to bedding, calcite film along sheared planes (parallel to bedding	1.51	
						223/67.99			
36°							Siltstone - same as above, calcite filled fractures	1.06	
							Top of Box 22		
51°	68.76	72.81	4.05				Siltstone - same as above, slightly convolute bedding, sheared calcite filled fractures perpendicular to bedding and forms a film along sheared planes (sandstone approximately 50%)	2.00	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						233/71.04			
48°							Siltstone - same as above, convoluted	0.66	
							Top of Box 23		
45°							Siltstone - same as above, slightly convoluted, slight displacements, sheared	1.39	
	72.81	73.09	0.28				CORE LOSS - siltstone	0.28	
	73.09	73.40	0.31				Bentonite - interbedded with sheared dark grey siltstones, calcite filled fractures, displacements		
	73.40	73.50	0.10			242/73.78	CORE LOSS - bentonite	0.10	
	73.50	74.36	0.86				Siltstone - dark grey, interbedded with light grey fine grained sandstone (20%) sheared, convolute bedding, calcite filled fractures, small displacements	0.35	
							Top of Box 24		
19°							Siltstone - same as above, small displacements, sheared calcite filled fractures	0.51	
	74.36	74.49	0.13				Bentonite - interbedded with dark grey siltstone	0.13	
	74.49	75.12	0.63				CORE LOSS - siltstone and bentonite	0.63	

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HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
12°	75.12	76.04	0.92				Siltstone - dark grey, interbedded with fine grained light grey	0.92	
							sandstone (20%) sheared, convoluted, small displacements		
	76.04	76.45	0.41				CORE LOSS - siltstone	0.41	
							Top of Box 25		
	76.45	83.37	6.92				Siltstone - same as above	0.08	
						252/76.83			
0°							Siltstone - same as above, (sandstone approximately 40%) slightly	1.28	
							convolute calcite filled fractures		
						256/78.05			
17°							Siltstone - same as above, calcite filled fractures	1.26	
							Top of Box 26		
15°							Siltstone - same as above, cross-bedded, beds are right side up,	1.71	
							calcite filled fractures, slightly convolute bedding		
							slight displacements, sheared		
						266/81.10			
23°							Siltstone - same as above, (sandstone approximately 50%), slightly	0.91	
							convolute bedding, sheared, calcite filled fractures		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 27		
29°							Siltstone - same as above, (sandstone approximately 20%), some	1.68	
							convolute bedding, badly sheared and broken in places,		
							calcite filled fractures, up to .6 cm thick		
						275/83.84			
	83.37	83.52	0.15				CORE LOSS - siltstone	0.15	
17°	83.52	84.12	0.60				Siltstone - same as above	0.60	
	84.12	84.44	0.32				CORE LOSS - siltstone	0.32	
							Top of Box 28		
0°	84.44	89.08	4.64				Sandstone - light grey, fine grained interbedded with siltstone	2.44	
							(30%), very convoluted in places, sheared, broken,		
							calcite filled fractures discontinuous coal stringers		
							at base (.9 cm), proximal to a fault		
						286/87.20			
							Top of Box 29		
0° to							Sandstone - same as above, sheared, broken, near a fault, convoluted	2.20	
17°							abundant calcite filled fractures, coaly stringers		
	89.08	89.24	0.16				CORE LOSS - sandstone	0.16	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 30		
28°	89.24	96.99	7.75				Sandstone - same as above, (siltstone approximately 50%), convoluted	0.68	
to							displacements, sheared		
87°						296/90.24			
							Sandstone - same as above, convoluted, sheared, coal stringers	1.78	
							Top of Box 31		
							Sandstone - same as above, very convoluted	1.32	
						306/93.29			
30°							Sandstone - same as above, convoluted, sheared	1.37	
							Top of Box 32		
43°							Sandstone - same as above, coal stringers, worm burrows, sheared,	1.69	
							calcite filled fractures, much less altered than the		
							stuff above		
						316/96.34			
34°							Sandstone - same as above	0.91	
	96.99	97.13	0.14				CORE LOSS - sandstone	0.14	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 33		
	97.13	99.36	2.23				Sandstone - same as above, sheared, broken, cross-bedded	0.17	
						320/97.56			
34° to 89°							Sandstone - same as above, bedding is convoluted in places, sheared, small displacements (1 cm)	2.06	
	99.36	99.69	0.33				CORE LOSS - sandstone	0.33	
							Top of Box 34		
	99.69	104.70	5.01				Sandstone - same as above	0.66	
						330/100.61			
23°							Sandstone - same as above, sheared, calcite film along sheared planes, broken in places	1.97	
							Top of Box 35		
						336/102.44			
22°							Sandstone - same as above, sheared, cross-bedded, right side up	2.38	
	104.70	104.80	0.10				CORE LOSS - sandstone	0.10	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 36		
	104.80	111.97	7.17				Sandstone - same as above, sheared, calcite crystals up to 5 mm in length on fractured surfaces	0.57	
						346/105.49			
21°							Sandstone - same as above, load casts	2.00	
							Top of Box 37		
22°							Sandstone - same as above, cross-bedded, right side up	0.47	
						354/107.93			
							Sandstone - same as above, load casts, cross-bedded	1.13	
						356/108.54			
24°							Sandstone - same as above, cross-bedded	0.70	
							Top of Box 38		
							Sandstone - same as above, some turbidites	0.25	
						362/110.37			
27°							Sandstone - same as above, sheared, calcite filled fractures, calcite film along sheared planes, parallel to bedding, fractures are perpendicular to bedding, broken	1.28	
						366/111.59			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
11°							Sandstone - same as above, broken, sheared, cross-bedded, small displacements	0.77	
	111.97	112.12	0.15				CORE LOSS - sandstone	0.15	
							Top of Box 39		
	112.12	112.88	0.76				Sandstone - same as above, turbidites, calcite filled fractures, broken	0.29	
						370/112.80			
							Sandstone - same as above, sheared, calcite filled fractures, convoluted, a small fold is present, small displacements	0.40	
							Top of Box 40		
							Sandstone - same as above	0.07	
	112.88	113.83	0.95		376/	114.63	CORE LOSS - sandstone	0.95	
22°	113.83	116.02	2.19				Sandstone - same as above, sheared, cross-bedded, right side up	1.25	
						380/115.85			
28°							Sandstone - same as above, sheared, turbidites	0.94	
	116.02	116.16	0.14				CORE LOSS - sandstone	0.14	
							Top of Box 41		
28°	116.16	120.98	4.82				Sandstone - same as above, sheared, turbidites, calcite filled fractures	0.75	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						386/117.68			
29°							Sandstone - same as above, sheared, calcite filled fractures	1.79	
							Top of Box 42		
23°							Sandstone - same as above, turbidites, load casts	0.40	
						393/119.82			
28°							Sandstone - same as above, calcite film along sheared planes, parallel to bedding, cross-bedded, load casts, right side up	1.88	
	120.98	121.21	0.23				CORE LOSS - sandstone	0.23	
							Top of Box 43		
31°	121.21	123.69	2.48				Sandstone - same as above, cross-bedded, sheared, calcite along sheared planes	0.63	
						402/122.56			
29°							Sandstone - same as above, turbidites, cross-bedded, calcite filled fractures	1.85	
	123.69	124.09	0.40				CORE LOSS - sandstone	0.40	
							Top of Box 44		
33°	124.09	128.92	4.83				Sandstone - same as above, sheared, calcite filled fractures perpendicular to bedding	0.80	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						412/125.61			
37°							Sandstone - same as above, small displacements (3 mm), cross-bedded	1.58	
							Top of Box 45		
							Sandstone - same as above, slight displacements	0.20	
						417/127.13			
27°							Sandstone - same as above, slight displacements, calcite filled fractures perpendicular to bedding, calcite film along sheared planes, sheared	2.25	
							Top of Box 46		
24°	128.92	130.99	2.07				Siltstone - dark grey, interbedded with light grey fine grained sandstone (30%) sheared, calcite film along sheared planes	0.48	
						426/129.88			
24°							Siltstone - same as above, sheared, calcite film along sheared planes, bentonite begins to appear near base	1.59	
	130.99	131.21	0.22				CORE LOSS - siltstone	0.22	
	131.21	131.52	0.31				Bentonite - interbedded with dark grey siltstone, broken, probable core loss	0.11	
						433/132.01			
							CORE LOSS - bentonite	0.11	
							Bentonite - same as above	0.09	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
23°	131.52	133.91	2.39				Siltstone - dark grey, interbedded with light grey fine grained	0.08	
							sandstone (30%) calcite filled fractures perpendicular		
							to bedding, sheared parallel to bedding		
							Top of Box 47		
25°							Siltstone - same as above, slightly convoluted, slight displace-	2.07	
							ments, load casts, calcite filled fractures perpend-		
							icular to bedding		
41°							Siltstone - dark grey, interbedded with bentonite	0.15	
	133.91	134.19	0.28				CORE LOSS - bentonite	0.09	
							Bentonite - cream colured	0.03	
							CORE LOSS - bentonite	0.16	
42°	134.19	141.78	7.59				Siltstone - dark grey, interbedded with light grey fine grained	0.34	
							sandstone (45%) coal stringers		
							Top of Box 48		
40°							Siltstone - same as above, load casts, cross-bedded, calcite	0.40	
							filled fractures, rip up clasts		
						443/135.06			
17°							Siltstone - same as above, some convoluted bedding, calcite	2.24	
							filled fractures, cross-bedding, fractures perpendicular		
							to bedding, sheared lower portion of interval is		
							broken		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 49		
						449/136.86			
2°							Siltstone - same as above, convolute bedding, calcite filled fractures, broken, probably near a fault	1.56	
						456/139.02			
							CORE LOSS - siltstone	0.30	
							Siltstone - same as above, sheared, broken, convolute, calcite filled fractures	0.63	
							CORE LOSS - siltstone	0.26	
							Top of Box 50		
39°							Siltstone - same as above, convolute, small displacements (1 cm) calcite filled fractures	1.86	
	141.78	142.69	0.91				Sandstone - light grey fine grained interbedded with dark siltstone (15%), sheared, slightly convolute, calcite filled fractures	0.30	
						466/142.07			
24°							Sandstone - same as above, slightly convolute, calcite filled fractures	0.29	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 51		
29°							Sandstone - same as above, siltstone (30%) cross-bedded, small displacements	0.32	
	142.69	143.38	0.69				Siltstone - dark grey, sheared, calcite film along sheared planes	0.69	
31°	143.38	144.97	1.59				Sandstone - light grey fine grained interbedded with dark siltstone (50%) rip up clasts, sheared, calcite filled fractures turbidites, cross-bedded	1.59	
							Top of Box 52		
	144.97	147.41	2.44				Siltstone - dark grey, interbedded with light grey fine grained sandstone (10%) small displacements, calcite filled fractures	0.11	
						476/145.12			
26°							Siltstone - same as above, interbedded with sandstone (35%), sheared, calcite filled fractures, some are perpendicular to bedding, small displacements	2.33	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 53		
30°	147.41	149.23	1.82				Sandstone - light grey, fine grained with interbeds of dark grey claystone and siltstone, minor thin coaly laminations, thin calcite filled fractures, perpendicular to bedding, minor shearing	0.70	
						486/148.17			
35°							Sandstone - same as above, soft sediment deformations, load casts beds appear to be right side up	1.12	
	149.23	149.93	0.70				Sandstone - very coarse grained, conglomeratic, color medium grey, grain size varies from barley to large pebbles (1-2 cm in diameter), grains are subrounded to rounded, are mainly composed of grey, black and green chert and minor quartz, ground m ss is a mixture of carbonate and silica, scattered calcite filled fractures throughout, contact is sharp, possible time lapse between deposition of sandstone and sandstone/siltstone although no oxidized surfaces seen in either rock type at contact.	0.70	
							Top of Box 54		
	149.93	151.17	1.24				Sandstone - same as above	1.22	
						496/151.22			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
45°							Sandstone - medium grey, fine grained	0.02	
	151.17	151.18	0.01				Claystone - medium grey, soft, sheared	0.01	
	151.18	151.23	0.05				Coal - dull with thin bright bands, badly broken and sheared, conchoidal fracture	0.05	
	151.23	151.44	0.21				CORE LOSS - coal	0.21	
	151.44	151.84	0.40				Claystone - carbonaceous, soft with thin coaly laminations, sheared	0.05	
							Claystone - medium to dark grey, soft, minor thin coaly laminations	0.35	
45°	151.84	153.37	1.53				Siltstone - dark grey, with minor coaly laminations and calcite filled fractures parallel to bedding	0.66	
							Top of Box 55		
							Siltstone - same as above, with 5 cm of iron staining stone at base of interval	0.87	
	153.37	153.59	0.22				Claystone - carbonaceous in part, medium to dark grey, badly sheared and broken (very possible core loss area)	0.22	
	153.59	154.05	0.46				Siltstone - dark grey, minor thin discontinuous coaly laminations (7 cm claystone band in middle of interval)	0.46	
	154.05	155.07	1.02				Siltstone - medium grey, fine grained	0.16	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						506/154.27			
45°							Sandstone - same as above, minor thin calcite filled fractures	0.76	
							and thin siltstone bands		
							Top of Box 56		
43°							Sandstone - same as above	0.10	
	155.07	157.32	2.25				Siltstone - dark grey, sheared with minor medium grey fine grained	2.25	
							sandstone and dark grey claystone, calcite filled		
							fractures scattered throughout		
						516/157.32			
	157.32	158.10	0.78				Sandstone - medium grey fine grained with minor dark grey silt-	0.32	
							stone		
							Top of Box 57		
40°							Sandstone - same as above, minor interbeds of medium to dark grey	0.46	
							siltstone, slight shearing, carbonaceous laminations		
							throughout		
						518/157.93			
	158.10	158.24	0.14				CORE LOSS - sandstone	0.14	
30°	158.24	163.40	5.16				Sandstone - same as above, soft sediment deformations in form of	2.08	
							rip up clasts, sheared along bedding		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 58		
							Sandstone - same as above	0.14	
						526/160.37			
40°							Sandstone - same as above, bedding becoming very contorted and	2.48	
							convoluted, from 160.50 m to 161.0 m bedding is near		
							vertical 5-15° BCA, carbonaceous laminations through-		
							out, calcite filled fractures parallel and perpendi-		
							cular to bedding		
							Top of Box 59		
30°							Sandstone - same as above, still badly sheared with calcite filled	0.46	
							fractures, core broken		
	163.40	163.50	0.10				CORE LOSS - sandstone	0.10	
						536/163.41			
38°	163.50	164.84	1.34				Sandstone - same as above, core broken in places	1.34	
	164.84	165.03	0.19				CORE LOSS - sandstone	0.19	
						541/164.94			
40°	165.03	166.60	1.57				Sandstone - same as above, core broken in places	0.55	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 60		
28°							Sandstone - same as above, minor medium grey siltstone and clay-	1.02	
							stone, thin calcite filled fractures throughout mainly		
							perpendicular to bedding		
						546/166.46			
	166.60	166.70	0.10				CORE LOSS - sandstone	0.10	
	166.70	168.10	1.40				Sandstone - same as above, core broken slight coarsening towards	1.40	
							base		
							Top of Box 61		
48°	168.10	168.55	0.45	0.33			Claystone - medium to dark grey, silty in part, shearing	0.37	
							Claystone - carbonaceous dark grey brown streak	0.08	
	168.55	168.61	0.06	0.04	1598		Coal	0.06	
	168.61	169.05	0.44	0.33			CORE LOSS - coal	0.44	
						554/168.90			
	169.05	169.18	0.13	0.10			Claystone - carbonaceous, dark grey brown streak	0.13	
15°	169.18	169.82	0.64	0.17			Sandstone - medium grey, fine grained	0.64	
	169.82	171.62	1.80	0.47			Siltstone - medium to dark grey, minor sandstone interbeds,	1.22	
							shearing, scattered coaly fragments		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 62		
							Siltstone - same as above	0.58	
						563/171.65			
	171.65	172.42	0.80	0.21			Claystone - dark grey, badly sheared and broken carbonaceous in	0.80	
							places, fern fossils and other carbonaceous plant		
							remains		
						566/172.56			
	172.42	172.75	0.33	0.09			CORE LOSS - claystone	0.33	
	172.75	173.00	0.25	0.06			Claystone - same as above	0.25	
	173.00	173.38	0.38	0.10	1599		Coal - dull with bright bands, badly sheared and broken	0.38	
	173.38	173.42	0.04	0.01			CORE LOSS - coal	0.04	
	173.42	173.72	0.30	0.08			Claystone - dark grey, carbonaceous, badly sheared and broken,	0.30	
							thin coaly laminations throughout		
	173.72	173.95	0.23	0.06			CORE LOSS - claystone	0.23	
							Top of Box 63		
	173.95	174.15	0.20	0.05			Claystone - same as above	0.20	
	174.15	175.73	1.58	0.71			Claystone - medium to dark grey, sheared minor coaly laminations,	0.78	
							slightly carbonaceous, coaly fragments		
						573/174.70			
40°							Claystone - same as above	0.80	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	175.73	176.98	1.25				Siltstone - medium to dark grey, minor thin discontinuous coaly laminations and carbonaceous debris	0.50	
							Top of Box 64		
							Siltstone - same as above, calcite filled fractures, minor shearing minor interbeds of medium grey fine grained sandstone	0.75	
	176.98	177.41	0.43				CORE LOSS - siltstone	0.43	
						582/177.44			
42°	177.41	177.91	0.50				Siltstone - same as above	0.50	
40°	177.91	178.86	0.95				Claystone - dark grey, minor thin coaly laminations and carbonaceous plant remains, core slightly broken	0.65	
							Claystone - carbonaceous, dark grey, badly broken and sheared with thin coaly laminations	0.30	
						586/178.66			
	178.86	179.11	0.25				CORE LOSS - claystone	0.25	
43°	179.11	180.66	1.55				Siltstone - medium to dark grey, becomes sandy at base	0.23	
							Top of Box 65		
55°							Siltstone - same as above, with minor interbeds of medium grey, fine grained sandstone, minor shearing, discontinuous coaly laminations	1.32	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
52°	180.66	181.46	0.80	0.54			Sandstone - light to medium grey, fine grained, thin bands of	0.80	
							dark grey siltstone, scattered thin carbonaceous		
							laminations, minor turbidites, rip up clasts		
	181.46	182.36	0.90	0.60			Siltstone - medium to dark grey, thin calcite filled fractures	0.45	
							perpendicular to bedding		
						596/181.71			
							Top of Box 66		
60°							Siltstone - dark grey, slightly sheared, thin coaly laminations,	0.45	
							slightly broken		
	182.36	182.40	0.04	0.03			Claystone - carbonaceous, dark grey with coaly laminations	0.04	
	182.40	182.95	0.55	0.43	1600		Coal - dull with bright bands, core broken and sheared	0.55	
	182.95	183.05	0.10	0.09			CORE LOSS - coal	0.10	
	183.05	183.11	0.06	0.05			Claystone - carbonaceous, dark grey with coaly laminations	0.06	
	183.11	183.28	0.17	0.15			Siltstone - medium to dark grey, minor thin coaly laminations	0.17	
	183.28	183.66	0.38	0.33			Claystone - carbonaceous, dark grey, sheared, with thin bright	0.38	
							coaly laminations		
74°	183.66	184.09	0.43				Siltstone - medium to dark grey, carbonaceous laminations	0.43	
							throughout		

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PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	184.09	184.29	0.20				Claystone - dark grey, carbonaceous with thin coaly laminations	0.20	
							listric surfaces, core badly broken		
	184.29	184.37	0.08				CORE LOSS - claystone	0.80	
	184.37	184.91	0.54				Siltstone - dark grey with thin coaly laminations and	0.54	
							carbonaceous plant fragments, slight shearing		
							Top of Box 67		
						606/184.71			
	184.91	184.99	0.08				CORE LOSS - siltstone	0.08	
58°	184.99	186.29	1.30				Siltstone - same as above, copious coaly fragments and discontinu-	1.30	
							ous coaly laminations, badly sheared calcite filled		
							fractures along bedding		
67°	186.29	186.99	0.70				Sandstone - light grey medium grained, carbonaceous laminations	0.70	
							throughout		
	186.99	188.08	1.09				Siltstone - dark grey with thin coaly laminations, slight shearing	0.60	
							iron staining stone nodules at top of interval		
							Top of Box 68		
							Siltstone - same as above	0.34	
						616/187.76			
							Siltstone - same as above, 2 cm of badly sheared carbonaceous	0.15	
							slitstone at base		

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HOLE NUMBER MUD81-15

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
68°	188.08	189.28	1.20				Sandstone - light grey, medium grained, carbonaceous laminations	1.20	
							and thin calcite filled fractures, also coaly fragments		
	189.28	189.36	0.08				Coal/Carbonaceous Claystone - badly sheared and crushed	0.08	
	189.36	189.53	0.17				CORE LOSS - coal and carbonaceous claystone	0.17	
	189.53	193.04	3.51				Siltstone - dark grey with coaly laminations and fragments 28 cm	0.84	
							of siltstone in middle of interval		
							Top of Box 69		
							Siltstone - dark grey, scattered coaly laminations with slight	0.56	
							shearing		
						626/190.81			
70°							Siltstone - same as above, with loads of light grey fine grained	1.95	
							sandstone, bioturbidites in sandstone, worm burrows		
							also turbidites in form of load casts and rip up clasts		
							Top of Box 70		
							Siltstone - same as above	0.16	
75°	193.04	195.41	2.37				Sandstone - light grey , medium grained, minor coaly laminations	0.27	
						636/193.86			

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PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above, minor interbeds of dark grey siltstone	2.10	
							with coaly fragments, turbidites in siltstone, load		
							casts and rip up clasts		
							Top of Box 71		
	195.41	195.94	0.53				Siltstone - dark grey with minor interbeds of light grey sandstone	0.53	
							minor coaly fragments and laminations, also scattered		
							thin calcite filled fractures		
	195.94	201.98	6.04				Sandstone - medium grey, fine grained	0.22	
						646/196.90			
75°							Sandstone - medium grey, fine grained with bands of dark grey	1.85	
							siltstone turbidites		
							Top of Box 72		
76°							Sandstone - same as above	1.14	
						656/199.95			
							Sandstone - same as above, but coarsening downward to medium	1.63	
							grained		

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HOLE NUMBER MUD81-15

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 73		
							~~Sandstone - same as above~~	1.20	
						666/203.			
	201.98	203.02	1.04				CORE LOSS - sandstone	1.04	
85°	203.02	209.02	6.00				Siltstone - dark grey with interbeds of fine grained light grey	1.48	
							sandstone, minor small scale cross-beds and iron		
							staining, stone nodules		
							Top of Box 74		
							Siltstone - same as above, slight shearing, thin iron staining,	1.32	
							stone bands throughout		
						676/206.05			
86°							Siltstone - same as above, thin coaly laminations which are	1.48	
							discontinuous		
							Top of Box 75		
82°							Siltstone - same as above, minor interbeds of light grey fine	1.72	
							grained sandstone with carbonaceous laminations, core		
							slightly broken		
						686/209.10			
	209.02	211.24	2.22				Claystone - dark grey, carbonaceous in part, thin coal bands and	1.02	
							laminations		

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PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 76		
75°							Claystone - same as above, with interbeds of light grey fine grained sandstone, carbonaceous towards bottom	1.20	
	211.24	211.32					CORE LOSS - claystone	0.08	
	211.32	211.60					Coal - dull with bright bands, sheared and broken, bottom part of interval crushed as well	0.28	
	211.60	211.63					CORE LOSS - coal	0.03	
	211.63	211.67					Claystone - carbonaceous with thin coaly laminations, sheared and broken	0.04	
	211.67	211.84	0.17				Siltstone - dark grey with thin coaly laminations	0.17	
	211.84	211.87	0.03				Coal - crushed and pulverized	0.03	
	211.87	212.71	0.84				Siltstone - dark grey with discontinuous coaly laminations and thin bands, 6 cm of claystone at bottom, carbonaceous	0.28	
						696/212.20			
80°							Siltstone - same as above, sheared	0.56	
							Top of Box 77		
	212.71	214.91	2.20				Claystone - dark grey with interbeds (15-20%) of dark grey siltstone, sheared along bedding, thin coaly laminations and bands, claystone is carbonaceous	2.20	
						706/215.25			
	214.91	215.20	0.29				CORE LOSS - claystone	0.29	
80°	215.20	215.48	0.28				Claystone - same as above	0.28	

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HOLE NUMBER MUD81-15

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 78		
55°	215.48	218.28	2.80				Siltstone - dark grey, minor interbeds of dark grey claystone at top, minor calcite filled fractures, thin coaly laminations, slight shearing (becoming sandy towards base).	2.62	
						716/218.30			
							Top of Box 79		
							Siltstone - same as above	0.18	
60°	218.28	220.88	2.60				Sandstone - light grey fine grained with interbeds of dark grey siltstone and thin iron staining, stone bands, turbidites in form of rip up clasts and load casts, bottom 55 cm interval badly broken and "shot" full of thin calcite filled fractures	2.60	
	220.88	221.11	0.23				CORE LOSS - sandstone	0.23	
							Top of Box 80		
	221.11	225.27	4.16				Sandstone - same as above	0.33	
						726/221.35			
40°							Sandstone - same as above, sheared along bedding, carbonaceous plant fragments	2.26	

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 81		
34°							Sandstone - same as above, carbonaceous plant fragments and	0.77	
							laminations, sheared		
						736/224.39			
43°							Sandstone - same as above, turbidites, rip up clasts	0.80	
	225.27	226.15	0.88				Siltstone - dark grey, sheared, coaly laminations and thin bands,	0.88	
							slight shearing, carbonaceous plant fragments, minor		
							interbeds of light grey, fine grained siltstone, core		
							slightly broken		
	226.15	226.32	0.17				CORE LOSS - siltstone	0.17	
							Top of Box 82		
	226.32	228.04	1.72				Siltstone - same as above, 25 cm of light grey, fine grained	1.25	
							sandstone in middle of interval		
						746/227.44			
							Siltstone - same as above	0.47	
60°	228.04	230.60	2.56				Sandstone - light grey, fine grained, minor interbeds of dark	0.76	
							grey siltstone, carbonaceous laminations throughout		
							Top of Box 83		
52°							Sandstone - same as above, turbidites, carbonaceous laminations,	1.80	
							calcite filled fractures, carbonaceous plant fragments,		
							% of siltstone increases towards bottom of interval		
							(30% maximum)		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						756/230.49			
	230.60	230.71	0.11				CORE LOSS - siltstone	0.11	
45°	230.71	234.04	3.33				Siltstone - dark grey with minor interbeds of light grey sandstone sheared with calcite film along shear planes, parallel to bedding, coaly plant debris	0.80	
							Top of Box 84		
							Siltstone - same as above, coaly plant fragments, minor interbeds of fine grained light grey sandstone, 30 cm band of dark grey carbonaceous claystone in lower 1/3 of interval	2.08	
						766/233.54			
							Siltstone - same as above	0.45	
							Top of Box 85		
64°	234.04	234.97	0.93	0.84			Siltstone/Claystone - thin interbeds (3-4 cm), some fine grained sandstone		
	234.97	235.04	0.07	0.06			Coal/Sandstone - dull banded coal with thin (1 cm maximum) fine grained sandstone bands and fragments	0.07	
	235.04	235.07	0.03	0.03			Coal - dull banded with occasional fine grained sandstone fragments	0.03	
	235.07	235.30	0.23	0.21	1580		Coal - dull banded, occasional claystone chip, core very broken (breaks very easily) some sheared surfaces	0.23	
	235.30	235.51	0.21	0.19			Coal - 2 cm high ash band at top, remainder is predominately dull/dull banded, sheared surfaces, core somewhat broken	0.21	

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	235.51	235.54	0.03	0.03			Coal - very highly broken, frequent claystone bits, some boney coal	0.03	
	235.54	235.73	0.19	0.17			Rock loss	0.19	
	235.73	235.79	0.06	0.05			Claystone - dark grey, coal bands	0.06	
	235.79	235.85	0.06	0.05			Boney coal	0.06	
	235.85	236.22	0.37	0.33	1580		Coal loss, boney coal	0.37	
	236.22	236.25	0.03	0.03			Claystone - coal bands, pyrite nodule at base	0.03	
	236.25	236.75	0.50	0.45			Rock loss	0.50	
	236.75	236.79	0.04	0.04			Boney coal - coal band at base	0.04	
	236.79	236.99	0.20	0.18			Coal - dull, occasional thin claystone splits, some hairline calcite fractures, core very broken	0.20	
53°	236.99	237.06	0.07	0.06			Coal - core intact, high ash (calcite) at top and base, boney in middle	0.07	
	237.06	237.19	0.13	0.10			Coal - dull, broken, breaks very easily	0.13	
	237.19	237.25	0.06	0.05			Coal - pulverized	0.06	
	237.25	237.41	0.16	0.13			Coal - highly broken, sheared	0.16	
						7767 236.59			

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HOLE NUMBER MUD81-15

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 86		
30°	237.41	237.57	0.16	0.08			Coal - near boney, sheared, core intact	0.16	
	237.57	237.93	0.36	0.18			Coal - dull, highly broken to pulverized, especially at base	0.36	
	237.93	238.06	0.13	0.07			Boney coal - dull and sheared at base	0.13	
	238.06	238.09	0.03	0.02	1581		Coal - pulverized	0.03	
	238.09	238.17	0.08	0.04			Coal - dull, sheared, lower portion is somewhat higher in ash, core broken, this higher ash coal is "Denison C2-C3" work.	0.08	
	238.17	238.28	0.11	0.06			Coal - dull, sheared, broken	0.11	
	238.28	238.41	0.13	0.07			Coal - dull, highly broken to pulverized, this is "Denison C-1 coal"	0.13	
	238.41	238.58	0.17	0.09			Coal - pulverized	0.17	
	238.58	238.68	0.10	0.05			Coal - pulverized, stoney bits	0.10	
	238.68	239.14	0.46	0.23			Rock loss	0.46	
50°	239.14	239.20	0.06	0.05	1582		Claystone - dark grey, sheared, coal stringers	0.06	
	239.20	239.29	0.09	0.07			Coal - dull lustrous, broken and pulverized	0.09	
	239.29	239.59	0.30	0.23			Coal loss	0.30	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						786/239.57			
	239.59	239.63	0.04	0.03			Boney coal	0.04	
	239.63	239.97	0.34	0.26	1583		Coal - dull lustrous, occasional bright zones, coal very highly broken	0.34	
	239.97	239.99	0.02	0.02			Coal - bright, sheared	0.02	
	239.99	240.02	0.03	0.02			Coal - near stoney	0.03	
	240.02	240.11	0.09	0.07			Coal - mainly bright, some dull lustrous core very highly broken and pulverized in part	0.09	
							Top of Box 87		
	240.11	241.20	1.09	0.83			Coal - dull lustrous, completely broken and pulverized	1.09	
	241.20	241.87	0.67	0.51			Coal loss	0.67	
						796/242.68			
	241.87	241.93	0.06	0.05			Claystone - dark grey, sheared, coaly top	0.06	
	241.93	242.15	0.22	0.17			Rock loss	0.22	
	242.15	242.24	0.09	0.07			Coal - bright and dull pieces, core highly broken	0.09	
	242.24	242.42	0.18	0.14			Coal loss	0.18	
	242.42	242.50	0.08	0.06			Claystone - dark grey, coaly, highly broken	0.08	
	242.50	243.25	0.75	0.06			Rock loss	0.75	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	243.25	243.29	0.04	0.03			Stoney coal - coal bands, core highly broken	0.04	
					1584				
	243.29	243.31	0.02	0.02			Stoney coal - nearly claystone, broken	0.02	
	243.31	243.35	0.04	0.03			Claystone - dark grey, coal bands	0.04	
	243.35	243.40	0.05	0.04			Siltstone - dark grey/brown, plant fragments, occasional coal stringers	0.05	
65°	243.40	245.48	2.08				Sandstone - fine grained, light grey, thin laminations, sheared and somewhat broken	0.51	
							Top of Box 88		
65°							Sandstone - medium grey, medium grained, minor discontinuous carbonaceous laminations becomes lighter grey and finds downward	1.57	
	245.48	248.61	3.13				Siltstone - dark grey, minor coaly fragments and thin coaly bands	0.28	
						806/245.73			
52°							Siltstone - same as above, with interbeds of light grey fine grained sandstone, bedding locally slightly convoluted coaly plant fragments, turbidites in sandstone, rip up clasts and load casts	0.87	

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HOLE NUMBER MUD81-15

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 89		
							Siltstone - same as above, minor interbeds of light grey fine grained sandstone, some shearing along bedding	1.98	
	248.61	248.77	0.16				Core loss - siltstone	0.16	
						816/248.78			
	248.77	249.58	0.81				Siltstone - same as above, minor interbeds of dark grey claystone with coaly laminations and light grey fine grained sandstone	0.62	
							Top of Box 90		
							Siltstone - same as above	0.19	
	249.58	249.88	0.30				Claystone - carbonaceous, dark grey with coaly laminations, sheared	0.30	
	249.88	250.08	0.20				Coal - dull with bright bands, sheared and crushed	0.20	
	250.08	250.35	0.27				Core loss - coal	0.27	
	250.35	250.39	0.04				Claystone - carbonaceous, dark grey with thin coaly laminations	0.04	
54°	250.39	251.79	1.40				Siltstone - dark grey with thin coaly bands and discontinuous laminations	1.40	
						826/251.83			

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 91		
55°	251.79	254.67	2.88				Sandstone - light to medium grey, fine grained with interbeds of of dark grey siltstone, thin discontinuous coaly laminations and fragments, scattered calcite filled fractures	2.88	
							Top of Box 92		
	254.67	255.95	1.28				Siltstone - dark grey with scattered small coaly fragments	0.10	
						836/254.88			
60°							Siltstone - same as above	1.18	
	255.95	256.33	0.38				Claystone - dark grey, carbonaceous, slightly sheared, thin coaly laminations, badly broken	0.38	
	256.33	256.57	0.24				CORE LOSS - claystone	0.24	
	256.57	256.74	0.17				Coal - boney, broken and sheared	0.17	
	256.74	256.81	0.07				CORE LOSS - coal	0.07	
	256.81	256.96	0.15				Coal - sheared	0.15	
	256.96	257.09	0.13				CORE LOSS - coal	0.13	
	257.09	257.18	0.09				Claystone - carbonaceous, sheared, dark grey	0.09	
	257.18	257.87	0.69				Siltstone - dark grey, argillaceous sheared	0.50	

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER: MUD81-15

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 93		
							Siltstone - same as above, grades into claystone at bottom of	0.07	
							interval		
						846/257.93			
							Siltstone - same as above	0.12	
50°	257.87	259.29	1.42				Claystone - carbonaceous dark grey with thin coaly bands and	1.42	
							laminations, bottom 1/3 of interval is crushed and		
							broken		
	259.29	260.02	0.73			854/260.37	CORE LOSS - claystone	0.73	
	260.02	263.00	2.98				Siltstone - dark grey with interbeds of dark grey claystone,	0.48	
							discontinuous coaly laminations and fragments, sheared		
							Top of Box 94		
							Siltstone - same as above, dark grey, sheared at top	2.50	
						865/263.66	TOTAL DEPTH		

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HOLE NUMBER: MUD81-15

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		19/6/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-16	Coates	90	--	194.2	HQ		022 / 9500	4522	23	4.0

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1530.80	6,065,456.27 N 646,322.04 E	N E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x	x		x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B12		17.30-18.44	5	1.14	1.08/0.06	74	1601						
B11		33.57-34.10	5	0.53	0.53/0.00	99	--						
B10		48.00-49.00	10	0.98	1.00/0.00		--						
B9		61.88-63.40	15	1.36	1.33/0.03	93	1586						
B8		72.68-74.47	10	1.77	1.05/0.72	100	1587-91						
B7		119.79-123.17	18	3.21	2.68/0.53	93	1592-96						
B6(u)		144.76-147.40	10	2.64	2.61/0.03	81	1597						HOLE NUMBER MUD 81-16

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD 81-16	1 OF 47

DATE BEGUN	June 16/31	DATE FINISHED		MINE GRID	N E	UTM	N E
ELEV. COLLAR		BEARING		HOLE ANGLE	-65°	TOTAL DEPTH	194.17 m
COAL LICENCE		CONTRACTOR	Coates	LOGGED BY	E.P.	CORE SIZE	HQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 1		
							GATES FORMATION		
	4.79	9.99	5.20				Sandstone - light grey, fine grain, iron stained, heavily broken	8	
							due to drilling (drill marks).		
86°							Sandstone - light grey, fine grain, laminated, small scale planar	61	
							cross-beds, 5% dark grey siltstone laminate, iron stain on		
							break, rare carbonaceous plant fragments.		
							Sandstone - same as above, heavily broken	25	
							Sandstone - light grey, fine grain, laminated, cross-beds, 5%		
							dark grey siltstone laminated, iron stained, slightly broken at	90	
							top.		
							Sandstone - same as above, heavily broken, iron stain.	70	
							TOP OF BOX 2		
							Sandstone - light grey, fine grain to very fine grain, soft	52	
							sediment deformation, thinly bedded, slightly broken, iron stains		
						7.29/26	on break		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85°							Sandstone/siltstone - light grey, fine grain, sandstone inter-	200	
							laminated with dark grey siltstone, small scale cross-beds, soft		
							sediment deformation (slump to load clasts), several fractures		
							perpendicular to beds, no infill, iron stain on breaks, slightly		
							broken. Sandstone 80%, siltstone 20%.		
							TOP OF BOX 3		
							Sandstone/siltstone - same as above.	14	
	9.99	10.35	.36				Siltstone - dark grey, soft sediment deformation, wavy beds.	36	
80°	10.35	15.73	5.38				Sandstone - light grey, fine grain, laminated, small scale cross-	55	
							beds, fracture perpendicular to bedding, iron stain on fracture.		
							5% dark grey siltstone interlaminated.		
						10.97/36			
							Sandstone/siltstone - light grey, fine grain sandstone inter-	33	
							laminated with dark siltstone, minor small scale cross-beds.		
							Sandstone 80%, siltstone 20%.		
							Sandstone - light grey, fine grain, planar cross-beds, light and	137	
							dark grey colour banding, several hairline CaCo2 filled fractures		
							perpendicular to beds, iron stain.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 4		
							Sandstone - same as above, basal 13cm heavily broken, iron stain.	135	
						14.02/46			
80°							Sandstone - same as above, (light grey, fine grain, cross-beds.)	136	
							TOP OF BOX 5		
							Sandstone - light grey, fine grain, cross-beds, becoming silty	11	
							at base, carbonaceous plant fragments at base.		
							Siltstone - dark grey, massive, broken.	5	
							Sandstone - light grey, very fine grain, 5% siltstone bands,		
							fracture at tip infilled with CaCo2, iron stained, heavily		
							broken in basal 5 cm.		
80°	15.73	17.30	1.57				Siltstone - dark grey, carbonceous, pyrite stringers throughout,	127	
							massive, plant fragments throughout, broken in spots with listric		
							surfaces.		
						17.06/56			
							Siltstone - same as above, broken.	30	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	17.30	17.40	.10	0.10			Coal - dull, heavily broken abundant pyrite flecks.	10	
	17.40	17.57	.17	0.17			Coal - dull banded, approximately 10% bright bands, abundant pyrite flecks.	17	
							TOP OF BOX 6		
	17.57	17.85	.28	0.28	1601		Coal - dull 5-10% bright.	28	
	17.85	18.05	.20	0.20			Coal - dull, heavily broken.	20	
	18.05	18.11	.06	0.06			Claystone - dark grey.	6	
	18.11	18.14	.03	0.03			Coal - dull, heavily broken.	3	
	18.14	18.44	.30	0.30			Core Loss - coal.	30	
85°	18.44	19.26	.82	0.81			Siltstone - dark grey, 5% light grey, very fine grain sandstone, laminated, minor cross-beds, very minor soft sediment deformation.	62	
							Siltstone - same as above, heavily broken	20	
	19.26	19.30	.04				Core Loss - rock.	4	
	19.30	19.42	.12				Coal - pulverized.	12	
	19.42	19.55	.13				Core Loss - coal.	13	
	19.55	19.65	.10				Claystone - dark grey, carbonaceous, slickensides at top and throughout on breaks.	10	

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	19.65	20.11	.46				Siltstone - dark grey, slightly carbonaceous, plant fragments	13	
							abundant.		
						20.11 / 66			
							Siltstone - dark grey, carbonaceous, massive, slickensides at top.	33	
	20.11	20.20	.09				Core Loss - rock.	9	
	20.20	20.23	.03				Coal - dull, pulverized.	3	
	20.23	20.28	.05				Core Loss - coal.	5	
	20.28	20.33	.05				Siltstone - dark grey, carbonaceous, broken.	5	
							TOP OF BOX 7		
	20.33	20.36	.03				Claystone - dark grey, very carbonaceous, broken.	3	
	20.36	20.47	.11				Siltstone - dark grey, massive.	11	
	20.47	20.55	.08				Core Loss - rock.	8	
	20.55	20.65	.10				Claystone - dark grey, very carbonaceous, broken.	10	
	20.65	20.73	.08				Stoney Coal - broken.	8	
	20.73	20.90	.17				Core Loss - rock.	17	
80°	20.90	21.70	.80				Siltstone - dark grey, carbonaceous plant remains, rootlets.	80	
	21.70	21.75	.05				Core Loss - rock.	5	
	21.75	22.15	.40				Coal - dull banded, broken, approximately 10 to 15% bright.	40	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	22.15	23.14	.99				Siltstone - dark grey, thinly bedded, abundant plant fragments,	73	
							slightly carbonaceous, minor small scale ripples.		
						23.16/76			
							Siltstone - same as above, slightly broken.	20	
							TOP OF BOX 8		
							Siltstone - same as above.	6	
	23.14	23.49	.06				Claystone - dark grey, carbonaceous, coaly plant fragments,	35	
							massive, broken.		
	23.49	23.55	.35				Core Loss - coal.	6	
	23.44	24.05	.06				Core Loss - rock.	48	
	24.03	24.45	.48				Siltstone/sandstone, medium grey, very fine grain sandstone grading		
							down to siltstone, ripple marks, rootlets, siltstone content	42	
							increase down hole 70 to 80%. Siltstone 50%, sandstone 50%.		
	24.45	24.55	.07				Core Loss - rock.	7	
	24.55	24.60	.05				Coal - dull.	5	
	24.60	24.69	.09				Claystone - dark grey, carbonaceous, abundant plant fragments.	9	
	24.69	24.82	.13				Core Loss - rock.	13	
	24.82	25.96	1.14				Sandstone/Siltstone - medium grey, very fine grain sandstone	114	
							thinly interbedded with siltstone, coal lenses, plant fragments,	114	
							soft sediment deformation features (load cast - slump) 50/50%		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						26.21/86			
	25.96	25.99	.03				Claystone - dark grey, carbonaceous, broken.	3	
	25.99	26.04	.05				Coal - broken.	5	
	26.04	26.13	.11				Core Loss - rock.	11	
	26.13	27.25	1.12				Siltstone - light to medium grey, abundant carbonaceous plant	20	
							fragments, extremely argillaceous in top 5 cm.		
							TOP OF BOX 9		
80°							Siltstone - medium grey, approximately 15 to 20% very fine grain	92	
							sandstone lenses, ripple marks, conuolute beds, rare rootlet,		
							generally massive.		
	27.25	27.89	.64				Claystone - dark grey, carbonaceous, abundant plant fragments,	64	
							silty in spots.		
	27.89	28.87	.98				Siltstone - medium grey, generally massive, 5% sandstone lenses.	98	
	28.87	29.07	.20				Sandstone/siltstone - light grey, very fine grain sandstone	20	
							interbedded with dark grey siltstone, load features, soft		
							sediment deformation, conuoluted beds. Sandstone 80%, siltstone		
							20%.		
						29.26/96			
	29.07	29.20	.13				Sandstone - light grey, fine grain, soft sediment deformation.	13	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	8 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 10		
	29.20	30.45	1.25				Sandstone/siltstone - light grey, fine grain sandstone, inter-	125	
							laminated with dark siltstone, minor small scale cross-beds in		
							places, convoluted beds, soft sediment deformation, siltstone		
							content increases to approximately 75% near base, fracture with		
							CaCo2 infilling at 15° BCA at top, several thin hairlike		
							fractures parallel with main fracture. Sandstone 50%, siltstone		
							50%.		
	30.45	30.76	.31				Siltstone - dark grey, few very fine grain sandstone lenses,	31	
							massive.		
	30.76	31.08	.32				Claystone - dark grey, rare plant fragments.	32	
	31.08	31.16	.08				Core Loss - rock.	8	
	31.16	33.57	2.41				Siltstone - dark grey, massive, slightly borken.	75	
							TOP OF BOX 11		
							Siltstone - same as above - fractured 10° BCA, CaCo2 infilling,	20	
							heavily broken at top.		
						32.20 ~~106~~			
85°							Siltstone - dark grey, thinly bedded, becoming carbonaceous	146	
							towards base, hairlike CaCo2 fractures at top parallel to beds,		
							slightly broken.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	33.57	33.83	.26	0.26			Coal - dull approximately 5% bright.	26	
	33.83	34.08	.25	0.25			Coal - dull,broken.	25	
	34.08	34.10	.02	0.02			Core Loss - coal.	2	
	34.10	34.24	.14	0.14			Core Loss - rock.	14	
						34.42 / 113			
	34.24	34.62	.38				Siltstone - dark grey, approximately 10% very fine grain sandstone	38	
							lenses, abundant plant remains, few coal lenses near base.		
	34.62	34.64	.02				Claystone - dark grey, very carbonaceous, heavily broken.	2	
							TOP OF BOX 12		
	34.64	35.59	.93				Siltstone - dark grey, massive, rare plant remain, fracture with	93	
							$CaCo_2$ infilling about 10° BCA in top 62 cm, moderately to heavily		
							broken in spots.		
	35.57	35.66	.09				Coal - pulverized.		
	35.66	35.89	.23				Siltstone/sandstone - dark grey siltstone interlaminted with	23	
							very fine grain, light grey sandstone, cross-beds in spots, rare		
							coaly lense, fracture at base at 20° BCA. Siltstone 50%, sand-		
							stone 50%.		
	35.89	36.14	.25				Sandstone - light grey, very fine grain to fine grain, ripples,	25	
							minor cross-beds, rootlets, becoming siltstone at base.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	36.14	36.29	.15				Siltstone - dark grey, carbonaceous at base.	15	
	36.29	36.93	.64				Claystone - dark grey, carbonaceous, coaly stringer, slightly broken.	15	
							Claystone - dark grey, slightly carbonaceous, abundant plant remains, silty in spots.	49	
	37.00	37.36	.36				Siltstone - dark grey, abundant plant remains, massive.	36	
							TOP OF BOX 13		
						37.80/124			
80°	37.36	41.37	4.01				Sandstone/siltstone - light grey, very fine grain sandstone, interlaminated with dark grey siltstone, ripple marks, minor cross-beds, soft sediment deformation, few coal lenses throughout, fracture 70 cm from base at 20°BCA, iron stain on fracture, plant remains. Sandstone 60%, siltstone 40%.	255	
							TOP OF BOX 14		
							Sandstone/siltstone - same as above.	50	
						40.85/134			
							Sandstone/siltstone - same as above.	96	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	41.37	41.77	.40				Siltstone - dark grey, slightly carbonaceous, broken at base.	40	
	41.77	41.82	.05				Claystone - dark grey, very carbonaceous.	5	
	41.82	41.85	.03				Coal - pulverized.	3	
	41.85	42.23	.38				Claystone - dark grey, carbonaceous, abundant plant remains, becoming siltstone at base, coal lenses throughout.	38	
	42.23	43.45	1.22				Siltstone - dark grey, massive, abundant plant fragments.	20	
							TOP OF BOX 15		
							Siltstone - same as above.	102	
						43.90 ~~144~~			
	43.45	43.60	.15				Claystone - dark grey, carbonaceous, coal fragments, moderately broken.	15	
	43.60	43.75	.15				Core Loss - rock.	15	
	43.75	44.20	.45				Siltstone - dark grey, massive, few coal lenses, plant fragments, broken.	45	
83°	44.20	47.73	3.53				Sandstone/siltstone - light grey, very fine grain sandstone, interlaminated with dark grey siltstone, minor cross-beds, ripple marks, soft sediment deformation. Sandstone 40%, siltstone 60%.	90	

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 16		
							Sandstone - light grey, fine grain, minor small scale cross-beds,	140	
							approximately 10% dark grey siltstone laminations, rare plant		
							fragments, siltstone content increase at base.		
						46.94 / 154			
							Siltstone/sandstone - dark grey, siltstone interlaminated with	123	
							20% very fine grain sandstone, small scale cross-beds, some soft		
							sediment deformation (load cast - slump), several fractures		
							parallel to core axis, rare calcite (CaCo2) infilling. Siltstone		
							80%, sandstone 20%.		
							TOP OF BOX 17		
	47.73	48.05	.32				Core Loss - rock.	32	
	48.05	48.09	.04				Sandstone - light grey, fine grain, conuolute bed, laminated,	4	
							carbonaceous at base.		
	48.09	48.36	.27				Coal - dull banded approximately 15% bright bands, several	27	
							fusain lenses, slightly borken.		
	48.36	48.63	.27				Claystone - dark grey, very carbonaceous, massive, becoming	27	
							siltstone at base.		

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	48.63	48.74	.11				Siltstone - dark grey, massive, plant remains, very carbonaceous	11	
							at base.		
	48.74	48.83	.09				Claystone - dark grey, very carbonaceous.	9	
	48.83	48.95	.12				Coal - pulverized.	12	
	48.95	50.35	1.40				Siltstone - dark grey, massive, plant remains, fracture at base	90	
							45° minor CaCo2 infilling.		
						50.29/165			
							Siltstone - same as above, fractured at top, calcite infilling,	50	
							broken.		
							TOP OF BOX 18		
	50.35	52.97	2.62				Claystone - dark grey, carbonaceous, plant remains, massive.	255	
						53.34/175			
							Claystone - same as above, broken.	7	
	52.97	53.09					Core Loss - rock.	12	
							TOP OF BOX 19		
80°	53.09	54.43					Siltstone - dark grey, massive, slightly carbonaceous in spots,	134	
							abundant plant remains.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	14 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	54.43	61.46	7.03				Sandstone/siltstone - light grey, fine grain sandstone inter-	152	
							laminated with dark grey, siltstone, small scale cross-beds,		
							ripples, soft sediment deformation (slumps). Sandstone 55%,		
							siltstone 45%.		
							TOP OF BOX 20		
						56.39/185			
85°							Sandstone/siltstone - same as above. Sandstone 50%, siltstone	270	
							50%.		
							TOP OF BOX 21		
80°							Sandstone/siltstone - same as above.	53	
							Core Loss - rock.	13	
						59.74/196			
85°							Sandstone/siltstone - same as above, broken 15 cm from top	215	
							parallel to bedding, fractured 45 cm from top at 20° BCA, few		
							small (less than 1 cm) rip-up clast (clay) scattered throughout.		
							sandstone 50%/siltstone 50%		

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	15 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 22		
74°	61.46	61.85	.39				Sandstone - very fine grained, frequently silty and clayey, inter-bedded, occasional coal strings becoming frequent at base.		
	61.85	61.88	.30				Core Loss - rock.		
64°	61.88	62.36	.48	0.43			Coal - dull, lustrous, occasional bright bands, dull banded at base. Core somewhat broken, very little loss.		
						62.79 / 206			
	62.36	62.46	.10	0.09			Core Loss - coal.		
	62.49	63.15	.69	0.62	1586		Coal - dull, lustrous with areas of bright bands. Pyrite band (less than 1 cm) approximately 25 cm above base. The pyrite overlies a thin (1 to 2 cm) zone of very highly friable coal with an abundant white mineral (possibly calcite). Core is intact with only minor breakage and no appreciable loss.		
	63.15	63.19	.30	0.03			Claystone - dark grey to brown.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	63.19	63.40	.21	0.19			Coal - dull, occasional bright gands, boney near base.		
	63.40	63.51	.11	0.10			Core Loss - rock.		
83°	63.51	64.58	.87	0.86			Claystone - dark grey to brown, some shearing, occasional coal bands, coaly carbonaceous zone (6 cm thick) 10 cm from top is broken, remainder of ore is intact.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 23		
	64.38	66.54	2.16				Siltstone - dark grey, slightly carbonaceous, abundant plant remains, massive, rare coal lense.	105	
						65.83 / 216			
							Siltstone - same as above.	111	
	66.54	67.26	.72				Sandstone/siltstone - dark grey siltstone interlaminated with very fine grain, light grey sandstone, planar beds, sandstone content increasing down, basal 35 cm fractured 10° BCA. Sandstone 70%, siltstone 30%.	72	
							TOP OF BOX 24		
	67.26	67.86	.60				Sandstone - light grey, very fine grain, cross-bed, con oluted beds (soft sediment deformation) heavily broken, pyrite flecks.	60	
	67.86	67.89	.03				Core Loss - rock.	3	
	67.89	72.24	4.35				Sandstone - same as above.	60	
						66.88 / 226			
85°							Sandstone - same as above.	140	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

SHEET 18 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 25		
							Sandstone - same as above.	165	
						71.95 ~~236~~			
80°							Sandstone - same as above, few hairlike CaCo2 filled fractures	70	
							parallel to beds.		
	72.24	72.49	.25				Core Loss - rock.	25	
	72.49	72.60	.11				Claystone - dark grey, carbonaceous, coal lenses, plant debris,	11	
							massive.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 26		
	72.60	72.68	.08				Claystone		
	72.68	73.10	.42	0.41			Coal - dull lustrous, friable at base, broken zone in top half, possible some loss.		
					1587				
	73.10	73.12	.02	0.02			Boney Coal - broken and sheared.		
	73.12	73.63	.51	0.50	1588		Siltstone - medium grey, few cm of claystone at base, possible fracture in siltstone.		
	73.63	73.94	.31	0.31	1589		Coal - dull lustrous, boney at top, frequent bright bands at base.		
	73.94	74.03	.09	0.09			Stoney Coal - minor claystone bands, some pyrite zones.		
	74.03	74.06	.03	0.03	1590		Coal/claystone - highly blended, bits of coal and rock.		
	74.06	74.16	.10	0.10			Claystone/siltstone - claystone with a silty split (approximately 2 cm) in the middle.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	74.16	74.47	.31	0.31	1591		Coal - dull lustrous, abundant bright bands in middle, boney at		
							base.		
	74.47	74.61	.14				Claystone - dark grey, very carbonaceous, sheared.	7	
							Claystone - silty, thin coal band at base.	7	
						246/75			
	74.61	76.47	1.86				Siltstone - medium grey, abundant coalified, possible fracture	54	
							especially near middle of unit.		

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	21 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 27		
							Siltstone - medium grey, massive, several rich clay bands	132	
							displaying shrinkage, fracture at top for 20cm at 10° BCA,		
							calcite filled, slightly borken.		
	76.47	80.75	4.28				Sandstone - light grey, very fine grain, very minor small scale	119	
							cross-beds in spots, otherwise appears massive.		
						78.02 / 256			
							TOP OF BOX 28		
							Sandstone - light grey, fine grain, laminated, cross-beds,	72	
							fractured 12 cm from top at 45° and 20 cm from top at 80° BCA		
							both have CaCo2 infilling.		
							Sandstone - light grey, very fine grain, cross-bed, fracture	176	
							at 20° BCA 115 cm from top.		
							Sandstone - light grey, fine grain, cross-bed, ripples, few	40	
							siltstone bands less than 1 cm thick.		
							TOP OF BOX 29		
							Sandstone - same as above.	21	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	22 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						81.07 / 266			
	80.75	82.05	1.30				Siltstone - dark grey, massive, fracture at 20° BCA, calcited	115	
							8 cm from top and 30 cm from top at 80° BCA, calcite, plant		
							remains.		
							Siltstone - same as above, heavily broken.	15	
	82.05	82.71	.66				Sandstone - light grey, fine grain, laminated, cross-bed, fracture	66	
							at 10° BCA for total length.		
	82.71	86.62	3.91				Siltstone - dark grey, massive, plant remains, top 20 cm fracture	50	
							at 10° BCA, minor calcite.		
							TOP OF BOX 30		
							Siltstone - same as above.	59	
						84.12 / 276			
							Siltstone - same as above, slightly broken, fracture at 10° BCA	210	
							in top 55 cm, fracture at 45° at 85 cm from top, 80° BCA at 110 cm		
							from top and 60° BCA 40 cm from bottom.		
							TOP OF BOX 31		
							Siltstone - same as above - broken and fracture in basal 15 cm,	72	
							calcite filled.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	86.62	86.71	.09				Claystone - dark grey, carbonaceous, very broken, listric	9	
							surfaces, calcite.		
10°	86.71	87.15	.34				Sandstone - light grey, fine grain, abundant anastomosing	14	
							calcite fractures.		
10°						87.17/286			
							Sandstone - same as above, slickensides at base, calcite.	300	
	87.15	87.85	.70				Siltstone - medium grey, massive, fracture in top 15 cm	70	
							approximately 45°, calcite, listric surfaces.		
	87.85	91.20	3.35				Sandstone - light grey, very fine grain, appears massive, plant	80	
							debris, fractured at 60° approximately 15 cm from top.		
							TOP OF BOX 38		
							Sandstone - light grey, fine grain, slightly laminated, fractured	60	
							at top approximately 20° BCA, broken 70 cm from top.		
							Sandstone - light grey, fine grain, laminated, cross-beds,	65	
							several CaCo2 filled fractures parallel to beds.		
						90.22/296			
							Sandstone - same as above.	130	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	24 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 33		
	91.20	91.85	.65				Siltstone - dark grey, massive, fracture 45° at 28 cm from top	65	
							and 0° BCA in bottom 36 cm.		
70°	91.85	92.55	.70				Sandstone - light grey, fine grain, laminated, small scale cross-	70	
							beds, fracture in basal 20 cm with calcite at 20° BCA.		
	92.55	93.90	1.35				Siltstone - dark grey, slightly carbonaceous, broken.	40	
						93.26/306			
							Siltstone - dark brey, carbonaceous, coal lenses in spots, broken.	95	
							TOP OF BOX 34		
	93.90	96.00	2.10				Sandstone/siltstone - light grey, very fine grain sandstone	210	
							laminated with dark siltstone, soft sediment deformation, broken		
							parallel to beds in places, laminations disappear towards base.		
							Sandstone 50%, siltstone 50%.		
						96.31/316			
	96.00	96.15	.15				Core Loss - rock.	15	
	96.15	96.65	.50				Siltstone - dark grey, massive, several breaks at 45° near top.	50	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 35		
80°									
	96.65	99.05	2.40				Sandstone - light grey, fine grain, laminated, cross-beds, minor	240	
							convoluted siltstone lenses, slightly broken in spots, fracture		
							along bedding 27 cm from bottom with listric surfaces and calcite.		
						99.36/326			
	99.05	100.10	1.05				Siltstone - dark grey, massive, plant remains.	35	
							TOP OF BOX 36		
							Siltstone - dark grey, massive, broken in basal 15 cm.	70	
	100.10	100.15	.05				Core Loss - rock	5	
	100.15	101.20	1.05				Sandstone - light grey, fine grain, cross-beds, laminated,	105	
							fractured 15 cm from top parallel to beds, calcite filled,		
							fractured 20 cm at 10° BCA and 70 cm from top parallel to bedding.		
	101.20	102.10	.90				Siltstone - dark grey, massive, carbonaceous plant debris,	90	
							fractured at 80° BCA 30 cm from top.		
						102.41/336			
							TOP OF BOX 37		
70°	102.10	104.73	2.63				Sandstone - light grey, fine grain, laminated, cross-beds, rare	263	
							CaCo2 filled fractured parallel to beds, approximately 10% silt-		
							stone bands, con olute bed in spots.		

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
65°	104.73	105.63	.80				Siltstone - dark grey, carbonaceous, broken parallel to beds with	20	
							listric surfaces at tip, coal lenses.		
							TOP OF BOX 38		
							Siltstone - same as above.	20	
						105.46 / 346			
							Siltstone - dark grey, massive, fracture at 45° 15 cm from top	40	
							with slickensides becoming sandstone at base.		
	105.53	107.61	2.08				Sandstone - light grey, fine grain, laminated, planar cross-beds,	193	
							several thin coal lenses, 5% siltstone bands, soft sediment		
							deformation (slump and casts).		
							TOP OF BOX 39		
							Sandstone-same as above.	15	
	107.61	107.85	.24				Core Loss - rock.	24	
	107.85	109.38	1.53				Siltstone - dark grey, carbonaceous, coal lenses throughout,	33	
							massive, broken near base parallel to bedding with CaCo2 infilling		
						108.50 / 356			
							Siltstone - same as above, carbonaceous.	120	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
80°	109.38	110.32	.94				Sandstone/siltstone - light grey, fine grain sandstone, inter-	91	
							laminated with dark grey siltstone, ripples, soft sediment		
							deformation (load casts, slumping, rolls on very small scale),		
							basal 35 cm, fractrued 10° BCA and 60° BCA, some bright flecks.		
							Sandstone 70%, siltstone 30%.		
	110.32	110.70	.38				Core Loss - rock.	38	
							TOP OF BOX 40		
	110.70	112.22	1.52				Siltstone - dark grey, slightly carbonaceous, rare plant remains,	22	
							massive.		
						111.25/365			
							Siltstone - same as above, grades to sandstone.	127	
75°	112.22	117.20	4.98				Sandstone/siltstone - light grey, fine grain sandstone inter-	113	
							laminated with dark grey siltstone, minor small scall cross-beds,		
							some small scale load casts, minor soft sediment deformation.		
							Sandstone 75%, siltstone 25%.		
							TOP OF BOX 41		
							Sandstone/siltstone - same as above. Sandstone 90%, siltstone 10%.	65	
						114.32/375			

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone/siltstone - same as above. Sandstone 90%, siltstone 10%.	112	
							Sandstone/siltstone - same as above.	87	
							TOP OF BOX 42		
77°							Sandstone/siltstone - light grey, fine grain, sandstone inter-	107	
							laminated with dark grey siltstone, small scale cross-beds, minor		
							load casting and slump, siltstone content increasing towards		
							bottom. Sandstone 60%, siltstone 40%		
						117.65 386			
	117.70	118.45	1.25				Siltstone - dark grey, plant debris, 10% fine grain sandstone	125	
							lenses, fracture 20 and 40 cm from top at 40° BCA (no calcite),		
							becoming very carbonaceous at base.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	29 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 43		
	118.45	119.25	.80				Claystone - dark grey, occasional coal bands, some broken zones,	80	
							5 cm coal zone, 7 cm above base.		
	119.25	119.37	.12	0.11			Coal - dull lustrous, 1½ cm claystone split, 3 cm from top.		
	119.37	119.38	.01	0.01			Stoney Coal	1	
	119.38	119.62	.24	0.23			Claystone - dark grey.	21	
							Claystone - dark grey, very carbonaceous.	3	
	119.62	119.77	.15	0.15			Rock Loss		
	119.77	119.79	.02	0.02			Claystone - as above, highly broken, some coal bits.	2	
	119.79	120.45	.66	0.62			Coal - dull lustrous.		
						120.70 / 396			
70°	120.45	120.68	.23	0.22			Coal - dull, core broken.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	120.68	120.72	.04	0.04	1592		Boney Coal - core somewhat broken.		
	120.72	120.87	.15	0.14			Coal - dull to dull banded with boney splits.		
	120.87	121.13	.26	0.24	1593		Rock Loss		
77°	121.13	121.17	.04	0.04			Sandstone - very fine grain, almost siltstone, claystone splits at top, abundant coal bands, light grey.		
	121.17	121.32	.15	0.15			Boney Coal - nearly stoney.		
							TOP OF BOX 44		
72°	121.32	122.40	1.08	1.03	1594		Coal - core intact, dull, dull lustrous, bright bands throughout, boney splits at top.		
	122.40	122.46	.06	0.06			Claystone - very carbonaceous, highly sheared.		
	122.46	122.47	.01	0.01			Coal - dull (actually 1¼ cm).		
	122.47	122.62	.15	0.14	1595		Claystone - dark grey.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	122.62	122.66	.04	0.04			Coal - pulverized.		
	122.66	122.80	.14	0.13			Coal - dull to dull banded.		
					1596				
	122.80	122.84	.04	0.04			Claystone		
	122.84	123.17	.33	0.31			Coal - dull, lower ½ is broken to pulverized.		
	123.17	124.61	1.44				Siltstone - medium grey, occasional colified partial fracture, 2 cm claystone at top.	42	
						123.75 / 406			
74°							Siltstone/sandstone - very fine grain sandstone inter-bedded with siltstone and occasional claystone bands. Thin laminations and inter-laminations. Interbeds less than 1 to 1-2 cm thick, one siltstone = 4 cm thick.	22	

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 45		
80°							Siltstone - dark grey, with 10% light grey, fine grain sandstone laminate, coal lenses, abundant carbonaceous plant remains, small scale planar cross-beds in places.	80	
	124.61	126.26	1.65				Sandstone/siltstone - light grey, very fine grain sandstone, interlaminated with dark grey siltstone, small scale cross-beds, ripple laminates, worm burrows in spots, some minor soft sediment deformation. Sandston 70%, siltstone 30%.	165	
	126.26	126.64	.38				Siltstone - dark grey, carbonaceous, abundant carbonaceous plant remains, numerous coal lenses, massive.	38	
						126.79 / 416			
							TOP OF BOX 46		
	126.64	127.79	1.15				Claystone - dark grey, very carbonaceous, abundant plant remains, rare coal lense, clightly broken.	115	
	127.79	127.92	.13				Core Loss - rock.	13	
	127.92	129.68	1.76				Sandstone - light grey, very fine grain, thinly bedded, 5 to 10% silty bands with some soft sediment deformation, basal 70 cm fracture at 5° BCA for total length.	170	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 47		
							Sandstone - same as above.	7	
80°						129.84/426			
	129.68	132.03	2.35				Sandstone/siltstone - light grey, fine grain sandstone inter-	235	
							laminated with dark grey, siltstone, small scale cross-beds,		
							ripple marks, soft sediment deformation (casts, slumps, rolls).		
							Sandstone 50%, siltstone 50%		
	132.03	132.11	.08				Core Loss - rock.	8	
						132.28/434			
							TOP OF BOX 48		
80°	132.11	140.88	7.97				Sandstone/siltstone - same as above, basal 60 cm fracture at 5°	270	
							BCA.		
							TOP OF BOX 48		
							Sandstone/siltstone - same as above, heavily broken.	35	
						136.33/444			
							Sandstone/siltstone - light grey, fine grain sandstone inter-	183	
							laminated with dark grey siltstone, very minor cross-beds, mainly		
							soft sediment deformation features - load casts, slumps and rolls.		
							core is highly fractured at 60 to 90 cm from top with fracture		
							ranging from 10° to 80° BCA, all are hairlike, calcite filled,		
							fracture at 105, 130 and 155 cm from top at 80° BCA.		
							Sandstone 80%, siltstone 20%.		

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	34 OF

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone/siltstone - lgiht grey, very fine grain sandstone	44	
							inter-laminated with dark grey siltstone, soft sediment defor-		
							mation and some convolute beds, fracture 15 cm from top at 45		
							and 80° BCA and at base. Sandstone 60%, siltstone 40%.		
							TOP OF BOX 50		
							Siltstone/sandstone - dark grey siltstone interlaminated with	78	
							light grey, very fine grain sandstone, soft sediment deformation,		
							rootlets. Siltstone 60%, sandstone 40%.		
						138.37/454			
							Siltstone/sandstone - siltstone content increasing down hole	187	
							same as above, core borken at 60 cm to 130 cm at 20° BCA.		
							Siltstone 75%, sandstone 25%		
	140.08	140.27	0.19				Core Loss - rock.	19	
	140.27	141.74	1.47				Siltstone - dark grey, massive, carbonaceous plant remains.	15	
							TOP OF BOX 51		
							Siltstone - dark grey, massive, plant remains.	84	
						141.42/464			
							Siltstone - same as above.	48	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

SHEET 35 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	141.74	143.18	1.44				Siltstone/sandstone - dark grey siltstone interlaminated grading	144	
							down to thin bed with medium grey, very fine grain sandstone, some		
							small scale load casting and soft sediment deformation, abundant		
							carbonaceous plant remains.siltstone 80%/sandstone 20%		

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 52		
	143.18	144.31	1.13				Claystone - dark grey, silty, possible fracture, coal stringers.	79	
						144.17 / 473			
							Claystone - as above.	34	
	144.31	144.41	.10	0.10			Stoney coal - highly broken, coal pieces.	5	
							Stoney coal	5	
	144.41	144.66	.25	0.25			Claystone - coal bands, stoney to coaly in places, 1½ cm stoney coal at base.		
	144.66	144.76	.10	0.10			Rock Loss		
	144.76	144.83	.07	0.07			Coal - pulverized, rock bits.		
	144.83	144.98	.15	0.15	1597		Coal/rock - predominately dull coal, broken to pulverized with boney, stoney pieces.		

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HOLE NUMBER

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	144.98	144.99	1	0.01			Stoney Coal		
							broken zone.		
	144.99	145.01	2	0.02			Coal - dull.		
	145.01	145.42	41	0.41			Coal - dull and dull banded but all near boney coal.		
	145.42	145.47	5	0.05			Coal - as above with white coloured rocks split.		
	145.47	145.56	9	0.09			Coal - dull lustrous but hard grading down to near bone.		
	145.56	145.66	10	0.10			Coal loss.		
							TOP OF BOX 53		
	145.66	145.68	2	0.02			Claystone.		
	145.68	145.82	14	0.14			Coal - dull lustrous, hard, near boney in part.		
	145.82	145.99	17	0.17			Coal - dull lustrous to dull banded, somewhat hard but softer than above unit.		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	145.99	146.33	34	0.34			Coal - dull to dull banded.		
					1597				
	146.33	146.48	15	0.15			Coal - dull, some near boney, highly broken and pulverized.		
	146.48	146.74	26	0.26			Core Loss - high ash coal and probably a few cm of claystone		
							near 146.60.		
	146.74	146.90	16	0.16			Coal - core intact, dull coal.		
	146.90	147.03	13	0.13			Coal Loss - relatively high ash.		
	147.03	147.40	37	0.37			Coal - dull, occasional claystone bits, highly broken and		
							pulverized.		
						147.52 / 484			
	147.40	147.47	7	0.07			Stoney Coal/claystone - some coal, core broken.		
	147.47	148.29	82				Claystone - dark grey becoming grey to brown downwards,		
							carbonaceous and coaly at top.		

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 54		
	148.29	149.04	.75				Siltstone - dark grey, abundant carbonaceous plant remains, massive, slightly carbonaceous.	75	
	149.04	150.14	1.10				Claystone - dark grey, carbonaceous, plant, coal lenses throughout, 5 cm coal band near base.	100	
	150.14	150.34	.20				Core Loss - rock.	20	
	150.34	150.73	.39				Siltstone - dark grey, massive.	39	
						150.87 / 495			
85°	150.73	153.65	2.92				Sandstone - light grey, fine grain, cross-beds, small amount of carbonaceous plant remains, grades to siltstone at base.	71	
							TOP OF BOX 55		
							Sandstone - same as above.	219	
	153.63	157.03	3.40				Siltstone - dark grey, massive, plant debris.	45	
						154.22 / 506			
							Siltstone - same as above.	25	
							TOP OF BOX 56		
							Siltstone - dark grey, massive, carbonaceous plant remains.	270	

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						157.27/516			
							TOP OF BOX 57		
	157.03	157.78	.75				Sandstone - medium grey, very fine grain, laminated, indistinct cross-beds, fracture 20 cm from top at 20°.	75	
	157.78	158.38	1.60				Siltstone - dark grey, massive, rare carbonaceous plant remains, increase in grain size to fine grain sandstone at base, few thin (less than 1 cm) sandstone lenses throughout siltstone.	160	
	159.38	158.46	.08				Core Loss - rock.	8	
						159.71/524			
	159.46	160.81	1.35				Sandstone - light grey, fine grain, laminated, planar cross-beds, broken in several spots parallel to beds.	45	
							TOP OF BOX 58		
							Sandstone - same as above, basal 40 cm has abundant claystone rip-up clasts, bedding indistinct.	90	
	160.81	160.95	.14				Claystone - dark grey, massive, top and base marked with erosional contact, top has load cast feature.	14	
	160.95	164.16	3.21				Sandstone - light grey, fine grain, massive, 8 cm from to top is 20 cm length with abundant rip-up clast up to several cm's in diameter, few small (less than 1 cm) diameter clasts scattered throughout. 10 cm band of rip-up clasts 30 cm from bottom, fracture at 20° in basal 20 cm.	155	

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	41 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						162.76 / 534			
80°							Sandstone - light grey, fine grain to medium grain, massive,	166	
							few claystone rip-up clasts scattered throughout.		
	164.16	165.14	1.28				Conglomerate - pebbles less than 1 cm, consisting of sub-rounded,	122	
							white, grey and green chert, pebbles are generaly in contact with		
							each other, matrix is fine grain sandstone, no preferred		
							orientation in pebble assemblage "orthoconglomerate", well sorted		
							pebble size range.		
							TOP OF BOX 60		
							Conglomerate - same as above.	6	
	165.44	167.10	1.66				Sandstone - light grey, fine grain to medium grain, laminated,	11,	
							planar cross-beds, colour banding in shades of grey, few pebbles		
							near top.		
						165.81 / 544			
							Sandstone - same as above, few coal bands approximately 0.5 cm	155	
							near base parallel to beds.		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	167.10	168.57	1.47				Conglomerate - (orthoconglomerate), pebbles upto 1 cm in diameter,	93	
							sub-rounded, well sorted pebble size range, consisting mainly of		
							light and dark grey, white cherts, rare claystone pebble, matrix		
							fine grain to medium grain sandstone, several thin coal bands		
							(less than 1 cm), core heavily broken in top 25 cm.		
							TOP OF BOX 61		
							Conglomerate - same as above.	54	
						168.85 / 554			
	168.57	169.47	.90				Sandstone - light grey, fine grain to medium grain, laminated,	90	
							planar cross-beds, thin coal band 40 cm from top.		
	169.47	170.38	.91				Conglomerate - same as conglomerate in Box 60. thin coal lense	91	
							throughout, pebbles up to 2 cm.		
	170.38	171.05	.67				Sandstone - light grey, coarse grain, fracture at top, calcite	30	
							infilling approximately 65° BCA, coal lenses pebble bands.		
							TOP OF BOX 62		
							Sandstone - same as above.	37	

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD 81-16	43 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	171.05	171.19	.14				Conglomerate - pebble approximately 1 cm diameter, orthoconglomerate, light and dark grey chert, subround, coarse grain sandstone matrix.	14	
	171.19	171.32	.13				Sandstone - light grey, coarse grain, claystone-siltstone rip-up clasts.	13	
	171.32	172.92	1.60				Siltstone - dark grey, massive, carbonaceous plant debris throughout.	30	
						171.90 564			
							Siltstone - same as above, basal 50 cm becoming sandstone.	130	
	172.92	175.27	2.35				Sandstone - light grey, fine grain to medium grain, laminated, cross-beds, thin pebble band near top, coal lenses throughout, 20 cm from top is a 30 cm length with abundant rip clasts, coal lenses increasing in % towards base, slightly broken.	52	
							TOP OF BOX 63		
							Sandstone - same as above.	98	
						171.95 574			
							Sandstone - same as above, becoming pebbly towards base.	85	

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	175.27	176.49	1.22				Conglomerate - orthoconglomerate, pebbles less than 2 cm in size,	85	
							sub-round, mainly white, light and dark grey chert, medium grain		
							sandstone matrix, few thin (less than 0.5 cm) coal lenses.		
							TOP OF BOX 64		
							Conglomerate - same as above.	37	
70°	176.49	176.73	.24				Sandstone - light grey, medium grain to coarse grain, laminated	24	
							and planar cross-beds.		
	176.73	177.23	.50				Conglomerate - "paraconglomerate", pebbles are not in contact	50	
							with each other, pebbles less than 1 cm in diameter, sub-round,		
							elliptical, mainly grey cherts, coarse grain sandstone matrix.		
	177.23	178.85	1.62				Sandstone - light grey, coarse grain, salt and pepper appearance,	52	
							indistinct planar cross-beds, few thin coal bands.		
						178.30 585			
							Sandstone - same as above, basal 50 cm has abundant claystone-	110	
							siltstone rip-up clasts.		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							TOP OF BOX 65		
	178.85	178.95	.10				Siltstone - dark grey, massive, medium grain sandstone at top	10	
							and pebbles mark base.		
	178.95	180.05	1.10				Conglomerate - orthoconglomerate, pebbles up to 1 cm in diameter,	110	
							sub-round, consisting of light and dark grey cherts, coarse		
							grain sandstone matrix.		
	180.05	180.73	.68				Sandstone - light grey, medium grain, cross-bed, abundant coal	68	
							lenses, pebbles at base.		
	180.73	180.95	.22				Conglomerate - same as above	7	
						181.35/595			
							Conglomerate - same as above.		
	180.95	189.85	8.90				Sandstone - medium grey, very fine grain to fine grain, laminated,	67	
							cross-beds, broken at top.		
							TOP OF BOX 66		
							Sandstone - same as above, coarsening to medium grain near base,	223	
							coal lense near base.		
						181.40/605			

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - light grey, medium grey, salt and pepper appearance,	40	
							massive, slightly broken near top.		
							TOP OF BOX 67		
							Sandstone - same as above, pebbles bands at 102 and 132 cm from	255	
							top, 12 cm thick rip-up clast zone 72 cm from base.		
						187.45/615			
							Sandstone - same as above, several pebble bands, cross-beds,	23	
							rip-up clasts scattered throughout, becoming coarse grain at		
							bottom.		
							TOP OF BOX 68		
							Sandstone - same as above.	250	
							TOP OF BOX 69		
							Sandstone - same as above.	32	
						190.50/625			
	189.85	194.17	4.32				Conglomerate - orthoconglomerate, pebbles up to 2 cm in diameter,	242	
							sub-round, consisting of light and dark grey chert, sandstone,		
							siltstone, medium grain to coarse grain sandstone matrix.		
							TOP OF BOX 70		

HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD 81-16

SHEET 47 OF 47

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Conglomerate - same as above.	75	
						193.85 / 636			
							Conglomerate - same as above.	115	
							END OF HOLE		

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HOLE NUMBER

PETRO CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
Monkman		8/9/81	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MUD 81-17	Midwest	90	--	228.9	NQ		022/10,500	3202	0	50.3

COORDINATES

COLLAR ELEV.	UTM	MINE GRID	NTS
1262.10	6,067,050.31 N 646,117.05 E	N E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	x				x	x			x	x
1:40	x									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B.C.		86.25-87.10	47	0.58	0.58/0.00	100	1621		Kb	116.3	1145.80		
									Kh	204.5	1057.6		
B12		216.70-217.95	30	1.09	1.09/0.00	97	1623						
													HOLE NUMBER MUD 81-17

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MUD81-17	1 OF 32

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE Vertical	TOTAL DEPTH 230m
COAL LICENCE	CONTRACTOR Midwest	LOGGED BY John Moorehouse and Eric Panchy	CORE SIZE NQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1		
	50.30	51.69	1.39				CORE LOSS	1.39	
	51.69	52.22	0.53				Sandstone - light grey, fine sand, contains one pyrite nodule		
							approximately 1.5cm in diameter, the first 6cm has		
							been ground and rounded by drilling, the rest is		
							unbroken, sandstone appears massive.		
	52.22	52.35	0.13				Sandstone - light grey, medium grained, re-crystallized hard	0.13	
							badly broken		
	52.35	52.50	0.15				Siltstone - light, medium grained, abundant sandstones, broken and	0.15	
							rounded by drilling		
	52.50	52.95	0.45				Sandstone - salt and pepper, cross grained, top is rounded due	0.45	
							to drilling, bottom third is heavily broken,massive		
26°	52.95	53.23	0.28				Sandstone - light grey, very fine grained, interbedded with	0.28	
							medium grained siltstones 45%, sandstones thinly		
							laminated in part, minor carbonaceous material, one		
							calcite filled fractures perpendicular to bedding		
							with BCA=30°, ripple laminated		

474-8010

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MUD81-17	2 OF 32

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						52			
	54.23	54.18	0.95				Siltstone - medium grey, massive, top 1/3 is broken	0.95	
	54.18	54.32	0.15				CORE LOSS - siltstone	0.15	
							Top of Box 2		
	54.33	55.16	0.83				Siltstone - medium grey, interbedded with light grey sandstone	0.83	
							(minor), badly broken, calcite filled fractures BCA		
							40° approximately at 90° to bedding, some pyritization		
	55.16	55.63	0.47				CORE LOSS - siltstone	0.47	
57°	55.63	59.28	3.65				Sandstone - medium grained, light grey, calcite filled fractures	0.65	
							approximately perpendicular to bedding some		
							pyritization, abundant carbonaceous stringers,		
							core slightly broken, BCA of fractures is 23°,		
							laminated.		
						55			
49°							Sandstone - same as above, abundant carbonaceous stringers in	1.10	
							upper half, calcite filled fractures approximately		
							perpendicular to bedding, BCA 54°, laminated		

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HOLE NUMBER
MUD81-17

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 3		
36°							Sandstone - same as above, core slightly broken in one place	1.90	
							cross bedded, minor carbaceous stringers at base,		
							the bottom 5cm becomes a coarse sand, BCA of calcite		
							filled fractures is 47° (minor), laminated		
	59.28	59.30	0.02			58	CORE LOSS - sandstone	0.02	
45°	59.30	60.14	0.84				Sandstone - light grey, medium coarse grained, slightly broken,		
							24cm up from the base is a highly broken 7cm coaly		
							zone, faintly laminated		
	60.14	60.16	0.02				CORE LOSS - sandstone	0.02	
							Top of Box 4		
29°	60.16	61.62	1.46				Sandstone - coarse, very coarse grained, light grey, carbonaceous	1.46	
							stringers, small calcite filled fractures approximately		
							perpendicular to bedding,BCA 67°, massive		
41°	61.62	62.00	0.38				Conglomerate - light grey, average grain size is granule, very	0.38	
							coarse sandstone matrix, contains claystone rip		
							up clasts up to 4cm long, carbonaceous stringers		
							in top 4cm contains pyrite nodules, large clasts		
							are imbricated.		

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PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	62.00	62.07	0.07				Siltstone - dark grey, slickensides, calcite filled along	0.07	
							slickensided surfaces, broken		
	62.07	62.12	0.05				CORE LOSS - siltstone	0.05	
						61			
	62.12	62.19	0.07				Claystone - silty at top, dark grey, broken, massive	0.07	
	62.19	62.29	0.10				CORE LOSS - claystone	0.10	
46°	62.29	66.40	4.11				Sandstone - very coarse grained, light grey, some granule size	0.31	
							clasts, scattered thin coaly stringers, massive		
							Top of Box 5		
55°							Sandstone - same as above, scattered coal stringers, pyrite	1.02	
							nodules, some granule size clasts, minor listric		
							calcite filled fractures with BCA, 59°, faint		
							laminations at base.		
39°							Sandstone - medium grey, light grey, scattered minor coal stringers	1.42	
							minor claystone rip up clasts, cross-bedded and right		
							side up, becomes coarse grained at base, minor		
							fracturing infilled by calcite and pyrite, laminated		
						64			
							Sandstone - light grey, coarse grained, minor coal stringers	0.34	
							faint laminations		

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HOLE NUMBER MUD 81-17

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 6		
54°		66.40					Sandstone - same as above, laminated, minor pyritization	1.02	
32°	66.40	67.77	1.37				Siltstone - medium grey, interbedded with minor light grey	1.37	
							fine grained sandstone laminated, sandstones,		
							slickensides with calcite and pyrite infilling,		
							minor calcite filled fractures perpendicular to		
							bedding with BCA 61°		
	67.77	67.96	0.19				Bentonite/Claystone - light grey, high clay content, silty, very	0.19	
							friable, broken		
	67.96	68.01	0.05				CORE LOSS - Bentonite/Claystone	0.05	
	68.01	68.24	0.23				Claystone - contains bentonite, medium grey, friable	0.13	
						67			
							Claystone - dark grey, broken	0.10	
	68.24	68.29	0.05				CORE LOSS - claystone	0.05	
							Top of Box 7		
	68.29	68.72	0.43				Claystone - same as above, badly broken, minor carbonaceous	0.43	
							material sheared, calcite and pyrite coat shear		
							surfaces		

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	68.72	68.82	0.10				CORE LOSS - claystone	0.10	
	68.82	69.14	0.32				Siltstone - medium grey, broken, fractured, BCA of fractures is	0.32	
							16°, fractures are filled with calcite and pyrite		
	69.14	69.19	0.05				CORE LOSS - siltstone	0.05	
	69.19	69.52	0.33				Claystone - carbonaceous, sheared, badly broken, dark grey to	0.33	
							black		
	69.52	69.62	0.10				CORE LOSS - claystone	0.10	
49°	69.92	70.80	1.18				Siltstone - medium grey, clayey, friable, badly broken in part,	1.18	
							abundant carbonaceous material		
	70.80	70.90	0.10				CORE LOSS - siltstone	0.10	
							Top of Box 8		
	70.90	71.01	0.11				Siltstone/Claystone - medium grey, friable, one listric surface	0.11	
						70			
	71.01	72.48	1.47				Siltstone/Claystone - same as above, broken	1.47	
	72.48	72.53	0.05				CORE LOSS - siltstone/claystone	0.05	
	72.53	73.02	0.49				Siltstone - medium grey, massive, slightly broken	0.49	
	73.02	73.04	0.02				CORE LOSS - siltstone	0.02	
	73.04	73.63	0.59				Claystone/Siltstone - carbonaceous, medium grey, friable,	0.59	
							sheared, badly broken		
	73.63	73.73	0.10				CORE LOSS - claystone/siltstone	0.10	

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 9		
	73.73	73.81	0.08				Claystone/siltstone - same as above, badly broken	0.08	
	73.81	73.91	0.10				CORE LOSS - claystone/siltstone	0.10	
						73			
	73.91	73.97	0.06				Coal - sheared, badly broken	0.06	
	73.97	74.26	0.29				CORE LOSS - coal	0.29	
	74.26	74.57	0.31				Siltstone - dark grey, massive, slightly broken	0.31	
	74.57	74.84	0.27				Siltstone/Claystone - dark grey, friable, badly broken, sheared	0.27	
35°	74.84	80.50	5.66				Siltstone - medium grey, mostly massive, faints laminations at base, sandstones, minor calcite filled fractures with BCA 49°, slightly broken, minor ironstone	1.75	
							Top of Box 10		
33°							Siltstone - same as above, laminated, sandstones, calcite filled fractures perpendicular to bedding with BCA 47°	0.39	
						76			
35°							Siltstone - same as above, lower 64cm contains rounded claystone clasts and is friable, contains scattered carbonaceous material.	2.16	

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 11		
							Siltstone - medium grey, friable, clayey, massive, slightly broken	0.76	
						79			
							Siltstone - same as above	0.60	
	80.50	81.92	1.42				Claystone - dark grey, friable, slightly broken, minor listric surfaces	1.42	
	81.92	81.97	0.05	0.03			CORE LOSS - claystone	0.05	
							Top of Box 12		
	81.97	82.17	0.20	0.14			CORE LOSS - claystone	0.20	
	82.17	82.60	0.43	0.29			Claystone - dark grey, massive, very consistent becoming carbonaceous at base broken at base with listric surface and slickensides, friable	0.43	
	82.60	82.66	0.06	0.04			CORE LOSS - coal	0.06	
	82.66	82.85	0.19	0.13			Coal - heavily broken, listric surfaces, a few claystone chips, some boney coal, dull metallic lustre	0.19	
	88.85	82.92	0.07	0.05			Coal - dull metallic lustre, trace of fusain cleat is barely noticeable	0.07	

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HOLE NUMBER MUD81-17

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						82			
					1619				
	82.92	82.98	0.06	0.04			Coal - same as above, broken at base with some listric surfaces	0.06	
	82.98	83.45	1.07	0.73			Claystone - dark grey, massive, plant material (carbonaceous)	0.47	
							rare thin vitrinite stringers		
65°	83.45	84.05	0.60	0.41			Claystone - same as above, broken at base by drilling	0.60	
	84.05	81.54	0.49	0.33			CORE LOSS - rock	0.49	
	84.54	84.70	0.16	0.11			Claystone - same as above, broken at top, listric surfaces	0.16	
	84.70	84.82	0.12	0.08			CORE LOSS - coal	0.12	
	84.82	85.05	0.23	0.16			Coal - stoney, broken at top with listric surfaces and slicken-	0.23	
							sides, trends to be boney at base, a few thin bright		
							stringers		
	85.05	85.06	0.01				Coal - stoney with silt bands in it, heavily broken at base	0.01	
	85.06	85.20	0.14	0.10			CORE LOSS - rock	0.14	
	85.20	85.32	0.12	0.08	1620		Coal - stoney with listric surfaces, some slickensides, heavily	0.12	
							broken to pulverized		
							Top of Box 13		
	85.32	85.42	0.10	0.07			CORE LOSS - coal	0.08	
	85.42	85.47	0.05	0.03			Coal - heavily broken, dull, pyrite flecks	0.05	
	85.47	85.75	0.28	0.19			CORE LOSS - rock	0.28	

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HOLE NUMBER MUD81-17

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	85.75	86.19	0.44	0.30			Claystone - dark grey, massive, rare plant remains, heavily broken in top 20 cm	0.38	
						85			
	86.19	86.25	0.06	0.04			Claystone - listric surfaces, broken	0.06	
	86.25	86.75	0.50	0.34			Coal - dull metallic, 5% bright bands, slightly broken	0.50	
	86.75	87.10	0.35	0.24	1621		Coal - same as above, dull metallic, several thin vitrinite stringers at base	0.35	
50°	87.10	87.28	0.18	0.12	1622		Sandstone - medium dark grey, fine grained, massive, heavily rooted, abundant coal stringers throughout, slightly broken	0.18	
50°	87.28	89.27	1.99				Sandstone - same as above	0.69	
							Top of Box 14		
							Sandstone - light grey, medium grained, massive, fractured, fractures have calcite and pyrite infilling, BCA of fractures 27°, slightly broken and rounded at base due to drilling	1.30	
						88			
	89.27	89.97	0.70				CORE LOSS - sandstone	0.70	

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HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
45°	89.97	91.22	1.25				Sandstone - same as above, coarse grained in places, massive,	1.25	
							minor carbonaceous stringers, minor calcite filled		
							fractures, some parallel bedding, some are		
							perpendicular to it.		
							Top of Box 15		
49°	91.22	92.64	1.42				Sandstone - medium coarse grained, planar laminated, light grey,	1.10	
							lower 10cm is intensely burrowed (by chondrites		
							according to Scott Carmichael)		
						91			
							Sandstone - same as above, intensely burrowed	0.32	
58°	92.64	93.37	0.73				Conglomerate - granule size clasts, medium sand matrix, some	0.73	
							clasts reach 10mm, light grey		
	93.37	95.33	1.96				Sandstone - light grey, medium grained, intensely burrowed	0.69	
							(chondrites) minor carbonaceous laminations		
							Top of Box 16		
50°							Sandstone - same as above, intensely burrowed in places, minor	1.27	
							conglomerate bands, cross-bedded		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						94			
49°	95.33	96.94	1.61				Sandstone - medium grained, light grey, interbedded with granule conglomerate approximately 25%, minor carbonaceous laminations, cross-bedded, right side up	1.61	
							Top of Box 17		
62°	96.94	97.21	0.27				Sandstone - fine grained, light grey, cross-bedded, carbonaceous stringers, soft sediment deformation	0.27	
55°	97.21	98.04	0.83				Sandstone/Conglomerate - very coarse sandstone, granule conglomerate, some 1cm clasts, light grey, laminated	0.83	
39°	98.04	99.03	0.99				Sandstone - light grey, medium grained, laminated	0.19	
						97			
53°							Sandstone - same as above, minor conglomerate bands, planar laminations	0.80	
	99.03	99.71	0.68				Sandstone/Conglomerate - very coarse sandstone/granule conglomerate, light grey, minor fine sand and carbonaceous clay bands, faulted calcite infillings minor coaly stringers, slightly broken	0.68	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	99.71	99.76	0.05				CORE LOSS - sandstone/conglomerate	0.05	
							Top of Box 18		
	99.76	99.96	0.20				Conglomerate - granule size, some reach 8mm, massive	0.20	
50°	99.96	109.21	9.25				Sandstone - light grey, fine sand, planar laminations, scattered small pebbles	1.25	
						100			
50°							Sandstone - same as above, planar laminations	1.41	
							Top of Box 19		
46°							Sandstone - same as above, minor coal stringer with slickensides, planar laminations	1.60	
						103			
41°							Sandstone - same as above, planar laminations, one calcite and pyrite filled fractures with BCA 37°	1.29	
							Top of Box 20		
42°							Sandstone - same as above, cross-bedded, one fractures surface is coated with pyrite BCA of fractures is 50°	1.65	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						106			
44°							Sandstone - same as above, laminated	1.15	
							Top of Box 21		
44°							Sandstone - same as above, laminated, pyrite infilling of fractures	0.90	
							fractures BCA 44°		
	109.21	109.35	0.14				Siltstone - dark grey, very hard, listric surfaces, slightly broken	0.14	
	109.35	109.40	0.05				CORE LOSS - siltstone	0.05	
55°	109.40	109.77	0.37				Sandstone - light grey, fine grained, laminated, broken	0.37	
	109.77	109.95	0.18				CORE LOSS	0.18	
						109			
	109.95	116.25	6.30				Sandstone - same as above, minor interbedded dark grey claystone, some soft sediment deformation, listric surfaces, slightly broken and claystone interbeds	1.26	
							Top of Box 22		
48°							Sandstone - same as above, faint laminations	1.78	
						112			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
47°							Sandstone - same as above, 3 minor claystone interbeds each of which is sheared and slightly broken	1.02	
							Top of Box 23		
51°							Sandstone - same as above, minor thin claystone laminations, one thin sheared claystone band near base	2.05	
						115			
51°							Sandstone - same as above, interbedded with dark grey claystone approximately 40% laminated	0.19	
63°	116.25	116.75	0.50				Claystone - dark grey, minor coal stringers, pyrite flecks and nodules at top, minor fine sand at top, soft sediment deformations	0.50	
47°	116.75	117.11	0.36				Sandstone - very fine grained, medium grey laminated, cross-bedded	0.11	
							Top of Box 24		
55°							Sandstone - same as above, laminated, pyrite crystals on fracture surfaces, fractures are perpendicular to bedding with a BCA of 47°	0.25	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	117.11	117.52	0.41				Claystone - dark grey, interbedded with very fine sandstone about 30%	0.41	
53°	117.52	117.76	0.24				Sandstone - fine grained, light grey, laminated	0.24	
	117.76	118.03	0.27				Claystone - dark grey, interbedded with minor very fine sandstone, soft sediment deformations, cross-bedded	0.27	
	118.03	119.11	1.08				Sandstone - light grey, very fine grained, laminated, one iron-stone 4.5cm long	1.08	
						118			
	119.11	119.31	0.20				Claystone - dark grey, interbedded with minor very fine sandstone, soft sediment deformations, sheared broken	0.20	
	119.31	119.42	0.11				CORE LOSS - claystone	0.11	
50°	119.42	119.92	0.50				Sandstone - light grey, very fine grained, laminated, pyrite nodules	0.29	
							Top of Box 25		
50°							Sandstone - same as above	0.21	
47°	119.92	122.11	2.19				Sandstone - light grey, very fine grained, interbedded with dark grey to black claystone (approximately 30%), laminated cross-bedded, right side up, soft sediment deformations worm burrows, minor coaly stringer, minor calcite	2.19	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							filled fractures parallel to bedding, beds range from		
							2mm to 15cm, average is approximately 6cm. This		
							description pertains to the next few boxes over		
							which there is a gradual increase in the amount of		
							claystone, slightly broken		
	122.11	122.16	0.05				CORE LOSS - sandstone	0.05	
						121			
48°	122.16	125.17	3.01				Sandstone - same as above	0.36	
							Top of Box 26		
42°							Sandstone - same as above, core slightly broken in one place	2.65	
	125.17	125.24	0.07				CORE LOSS - sandstone	0.04	
						124			
							CORE LOSS - sandstone	0.03	
52°	125.24	128.18	2.94				Sandstone - same as above	0.16	
							Top of Box 27		
51°	128.18	128.27	0.09				Sandstone - same as above, ironstone nodule, core slightly broken	2.78	
							CORE LOSS - sandstone	0.06	
						127			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 28		
							CORE LOSS - sandstone	0.03	
54°	128.27	131.24	2.97				Sandstone - same as above, pyrite nodule	2.90	
							Top of Box 29		
							Sandstone - same as above	0.07	
						130			
	131.24	131.27	0.03				CORE LOSS - sandstone	0.03	
53°	131.27	133.89	2.62				Sandstone - same as above, minor shearing parallel to bedding, slightly broken	2.62	
	133.89	133.95	0.06				CORE LOSS - same as above	0.06	
							Top of Box 30		
57°	133.95	134.26	0.31				Sandstone - same as above	0.31	
						133			
	134.26	134.29	0.03				CORE LOSS - claystone	0.03	
54°	134.29	137.21	2.92				Claystone - dark grey to black interbedded with light grey siltstone or very fine sandstone (approximately 40%) thinly bedded, beds average 3cm or less thickness, cross-bedded, right side up, soft sediment deformations minor shearing parallel to bedding, this description pertains to the next few boxes.	2.50	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 31		
60°							Claystone - same as above	0.42	
						137			
	137.21	137.24	0.03				CORE LOSS - claystone	0.03	
53°	137.24	140.25	3.01				Claystone - same as above	2.31	
							Top of Box 32		
							Claystone - same as above	0.70	
54°						140			
	140.25	140.28	0.03				CORE LOSS - claystone	0.03	
51°	140.28	143.18	2.90				Claystone - same as above	2.08	
							Top of Box 33		
55°							Claystone - same as above, slightly broken at base	0.82	
	143.18	143.25	0.07				CORE LOSS - claystone	0.07	
						143			
50°	143.25	145.16	1.91				Claystone - same as above, broken at top	1.91	
	145.16	145.21	0.05				CORE LOSS - claystone	0.05	
							Top of Box 34		
45°	145.21	146.30	1.09				Claystone - same as above	1.09	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
50°	143.25	145.16	1.91				Claystone - same as above, broken at top	1.91	
	145.16	145.21	0.05				CORE LOSS - claystone	0.05	
							Top of Box 34		
45°	145.21	146.30	1.09				Claystone - same as above	1.09	
						146			
	146.30	146.33	0.03				CORE LOSS - claystone	0.03	
57°	145.33	149.26	1.93				Claystone - same as above	1.69	
							Top of Box 35		
55°							Claystone - same as above, slightly broken	1.24	
	149.26	149.36	0.10				CORE LOSS - claystone	0.07	
						149			
							CORE LOSS - claystone	0.03	
52°	149.36	152.25	2.89				Claystone - same as above	1.56	
							Top of Box 36		
51°							Claystone - same as above	1.33	
						152			
	152.25	152.28	0.03				CORE LOSS - Claystone	0.03	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
53°	152.88	152.94	0.66				Claystone - same as above	0.66	
	152.94	152.99	0.05				Claystone - light grey, due to high possible bentonite content	0.05	
							broken		
	152.99	153.29	0.30				CORE LOSS - claystone/bentonite	0.10	
							Top of Box 37		
							CORE LOSS - claystone/bentonite	0.20	
62°	153.29	153.40	0.11				Claystone - same as above, (bentonite) broken	0.11	
55°	153.40	157.70	4.30				Claystone - dark grey to black, same as above the montmorillonite	1.60	
							rich band, interbedded with light grey siltstone/very		
							fine sandstone		
						155			
53°							Claystone - same as above	1.12	
							Top of Box 38		
55°							Claystone - same as above, broken in lower quarter	1.58	
	157.70	158.05	0.35				CORE LOSS - claystone	0.35	
						158			
53°	158.05	159.02	0.97				Claystone - same as above, broken in places, minor calcite filled	0.97	
							fractures perpendicular to bedding with BCA 50°		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	159.02	159.21	0.19				CORE LOSS - claystone	0.19	
							Top of Box 39		
45°	159.21	161.21	2.00				Claystone - same as above, calcite filled fractures perpendicular to bedding with BCA 49° (minor), broken	2.00	
	161.21	161.60	0.39				CORE LOSS - claystone	0.39	
						161			
	161.60	163.85	2.25				Claystone - same as above	0.70	
							Top of Box 40		
48°							Claystone - same as above, on small calcite filled fracture with a 7mm offset, BCA 64°, broken in places	1.55	
	163.85	164.15	0.30				CORE LOSS - claystone	0.30	
						164			
50°	164.15	166.42	2.27				Claystone - same as above	1.03	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 41		
							Claystone - same as above, slightly broken at base, trace	1.24	
							bentonite in broken stuff at base		
	166.42	167.12	0.49				CORE LOSS - claystone	0.70	
						167			
	167.12	168.47	1.35				Claystone - same as above, sheared, badly broken	1.35	
	168.45	168.77	0.30				CORE LOSS - claystone	0.30	
							Top of Box 42		
47°	168.77	170.01	1.24				Claystone - same as above, broken, minor shearing along bedding	1.24	
	170.01	170.16	0.15				CORE LOSS - claystone	0.15	
						170			
42°	170.13	173.13	2.97				Claystone - same as above, minor calcite filled fractures with	1.38	
							small offsets near middle of interval varied		
							orientations.		
							Top of Box 43		
46°							Claystone - same as above	1.59	
						173			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
48°	173.13	182.67	9.54				Siltstone - light grey, interbedded with dark grey to black	1.19	
							claystone (approximately 30%) laminated, soft		
							sediment deformations, minor cross-bedding, thinly		
							bedded, average bed is 0.5cm thick		
							Top of Box 44		
43°							Siltstone - same as above, 75cm from base is a light grey	1.72	
							claystone approximately 3cm thick		
						176			
53°							Siltstone - same as above	1.09	
							Top of Box 45		
53°							Siltstone - same as above	1.88	
						179			
47°							Siltstone - same as above	0.96	
							Top of Box 46		
47°							Siltstone - same as above	2.06	
						182			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
47°							Siltstone - same as above, broken near base	0.64	
	182.67	182.76	0.09				CORE LOSS - siltstone	0.09	
							Top of Box 47		
50°	182.76	185.03	2.27				Siltstone - same as above, slightly broken at top	2.27	
	185.03	185.08	0.05				CORE LOSS - siltstone	0.05	
						185			
45°	185.08	188.03	2.95				Siltstone - same as above, 7cm from base is an 8cm ash rich band	0.54	
							minor calcite filled fractures perpendicular to		
							bedding, BCA is 51°		
							Top of Box 48		
56°							Siltstone - same as above, calcite filled fractures perpendicular	2.41	
							to bedding BCA is 45°		
						188			
	188.03	188.08	0.05				CORE LOSS - siltstone	0.05	
46°	188.08	191.04	2.96				Siltstone - same as above	0.35	
							Top of Box 49		
52°							Siltstone - same as above, minor calcite filled fractures	2.61	
							to bedding BCA is 44°		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						191			
	191.04	191.09	0.05				CORE LOSS - siltstone	0.05	
51°	191.09	194.08	2.99				Siltstone - same as above	0.12	
							Top of Box 50		
58°							Siltstone - same as above	2.82	
							Top of Box 51		
							Siltstone - same as above	0.05	
						194			
	194.08	194.13	0.05				CORE LOSS - siltstone	0.05	
56°	194.13	197.09	2.96				Siltstone - same as above	2.66	
							Top of Box 52		
53°							Siltstone - same as above, minor calcite filled fractures	0.30	
							approximately perpendicular to bedding BCA 46°		
						197			
	197.09	197.15	0.06				CORE LOSS - siltstone	0.06	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
45°	197.15	202.26	5.11				Siltstone - same as above, 55cm from the top is a 3cm ash band,	2.37	
							minor calcite filled fractures of varying orientations		
							the ash continues above the concentrated band		
							Top of Box 53		
52°							Siltstone - same as above, calcite filled fractures approximately	0.54	
							perpendicular to bedding with BCA 38°		
						200			
48°							Siltstone - same as above, sheared parallel to bedding, badly	2.20	
							broken, calcite filled fractures some perpendicular		
							to bedding others are of other orientations.		
	202.26	202.39	0.13				CORE LOSS - siltstone	0.13	
							Top of Box 54		
53°	202.39	203.03	0.64				Siltstone - same as above, broken in the middle	0.64	
	203.03	203.09	0.06				CORE LOSS - siltstone	0.06	
						203			
49°	203.09	203.97	0.88				Siltstone - same as above, broken at base, sheared along bedding	0.88	
	203.97	204.03	0.06				CORE LOSS - siltstone	0.06	
	204.03	204.25	0.22				Conglomerate - granule to small pebble size clasts, massive,	0.22	
							maximum pebble size is 4 cm (twice as large as the next largest		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
53°	204.25	207.92	3.67				Sandstone - light grey, very fine grained, laminated, calcite filled fractures with BCA 8°	1.00	
							Top of Box 55		
43°							Sandstone - same as above	0.65	
						206			
44°							Sandstone - same as above, calcite filled fractures perpendicular to bedding with BCA 48°, minor carbonaceous remains, lower half is broken	2.02	
	207.92	207.95	0.03				CORE LOSS - sandstone	0.03	
							Top of Box 56		
46°	207.95	210.55	2.60				Sandstone - same as above	1.00	
						209			
49°							Sandstone - same as above, broken calcite filled fractures perpendicular to bedding with BCA 47°, the middle is quite porous over a 10cm interval, coarsens down-hole to medium sandstone	1.60	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	210.55	210.60	0.05				CORE LOSS - sandstone	0.05	
							Top of Box 57		
54°	210.60	215.71	4.11				Sandstone - medium grained, salt and pepper, carbonaceous and coaly laminations, cross-bedded, coarsens downhole coarse sandstone	1.40	
						212			
40°							Sandstone - coarse grained, salt and pepper, coaly laminations, laminated	1.35	
							Top of Box 58		
55°							Sandstone - same as above	1.67	
						215			
47°							Sandstone - same as above, one coal band but the coal has been ground away so thickness is unknown. 12 cm from base	0.69	
	215.71	216.07	0.36	0.31			Claystone - dark grey, abundant carbonaceous plant remains	0.36	
							Top of Box 59		
60°	216.07	216.70	0.63	0.55			Siltstone/Claystone - dark grey, laminated, abundant carbonaceous plant material, getting very carbonaceous at base	0.63	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	216.70	216.77	0.07	0.06			Coal - dull, slightly broken	0.07	
	216.77	217.47	0.70	0.61			Coal - dull, basal 5 cm is broken with listric surfaces	0.70	
					1623				
	217.47	217.50	0.03	0.03			CORE LOSS - coal	0.03	
	217.50	217.95	0.45	0.39			Coal - dull, heavily broken and sheared	0.45	
						218			
60°	217.95	218.62	0.67	0.58			Sandstone - light medium grey, very fine grained, rippled, some small scale cross-bedding, laminated	0.67	
							Top of Box 60		
60°	218.62	219.09	0.47	0.41			Claystone - dark grey, abundant coal stringers sheared parallel to bedding, slightly broken	0.47	
	219.09	219.16	0.07				CORE LOSS - claystone	0.07	
	219.16	221.42	2.26				Siltstone - medium grey, massive	1.66	
						221			
							Siltstone - same as above	0.60	
							Top of Box 61		
	221.42	222.19	0.77				Claystone - dark grey, abundant carbonaceous material, slightly broken	0.77	
	222.19	222.29	0.10				CORE LOSS - claystone	0.10	

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PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	222.29	222.73	0.44				Siltstone - medium grey, calcite filled fractures of varying orientations, hard at top, one small coal stringer	0.44	
	222.73	222.80	0.07				Claystone - dark grey, carbonaceous	0.07	
	222.80	222.88	0.08				Coal - badly broken	0.08	
	222.88	222.96	0.08				CORE LOSS - coal	0.08	
	222.96	223.04	0.08				Claystone - dark grey, abundant carbonaceous material	0.08	
	223.04	223.77	0.73				Siltstone - medium grey, fractured and hard in the middle, calcite filled fractures, no preferred orientation, massive	0.73	
	223.77	223.87	0.10				Claystone - dark grey, carbonaceous	0.10	
						224			
	223.87	223.91	0.04				CORE LOSS - claystone	0.04	
	223.91	224.04	0.13				Claystone - same as above, sheared	0.13	
	224.04	225.66	1.62				Siltstone - medium grey, massive	0.22	
							Top of Box 62		
47°							Siltstone - same as above, carbonaceous plant remains, faint laminations, slightly broken	1.40	
	225.66	225.80	0.14				CORE LOSS - siltstone	0.33	
53°	226.13	226.90	0.77				Siltstone - medium grey, becomes slightly coarser downhole	0.77	

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HOLE NUMBER MUD81-17

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MUD81-17

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						227			
	226.90	226.94	0.04				CORE LOSS - siltstone	0.04	
53°	226.94	228.60	1.66				Siltstone - same as above, laminated soft sediment deformations	0.24	
							Top of Box 63		
							Siltstone - same as above, carbonaceous plant remains are abundant, fines downhole	1.42	
	228.60	228.71	0.11				Coal - badly broken	0.11	
	228.71	228.85	0.14				CORE LOSS - coal	0.14	
							Claystone - dark grey, coaly, badly broken	0.62	
		End of Geophysical Log Coverage							
							Coal	0.12	
							Siltstone	0.31	
						230	TOTAL DEPTH		

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PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		18/7.	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MND 81-01	Midwest	90	--	214.4	NQ		F9/45,000S	4519	18.7	47.4

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1420.15	6,019,508.49 N	676,447.52 E	N	E	

GENERAL COMMENTS

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X			X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
B3		65.01-65.57	20	0.53	0.53/0.00	100	1602		Kg	133.3	1286.85		
B3		66.87-71.30	20	4.18	3.95/0.23	96	1603-06		Kmb	189.53	1230.62		
									Kbs	200.7	1219.45		
Kgt		202.49-205.68	20	2.98	2.63/0.35	100	1607-09						
Kgt		208.97-209.85	20	0.83	0.83/0.00	92	1610						
													HOLE NUMBER MND 81-01

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PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MND-81-01	1 OF 31

DATE BEGUN	DATE FINISHED July 18, 1981	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING	HOLE ANGLE Vertical	TOTAL DEPTH 214.42
COAL LICENCE NEKIK Block	CONTRACTOR Midwest for Crows Nest Resources	LOGGED BY Tom Covert, John Moorhouse, Frank Gigliotti	CORE SIZE NQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1 - Hole spudded in Lower Gates		
	0	47.41					(Casing)		
	47.41	48.09	0.68				Sandstone - light to medium grey, fine grained with interbeds of dark grey siltstone. Minor cross beds and load casts as well as soft sediment deformation	0.68	
87°	48.09	48.94	0.85				Siltstone - dark grey with minor interbeds of fine grained medium grey sandstone, minor carbonaceous plant fragments	0.85	
80°	48.94	59.55	10.61				Sandstone - light to medium grey, fine grained to medium grained coarsening downhole. Minor pyrite lenses throughout. Few discontinuous coaly laminations	0.89	
						164/50			
72°							Sandstone - same as above	0.39	
							Top of Box 2		
75°							Sandstone - same as above. Minor coaly debris and discontinuous laminations, scattered dark grey siltstone inclusions	2.60	
						174/53			
75°							Sandstone - same as above	0.25	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 3		
73°							Sandstone - same as above. Bedding becomes somewhat steeper	2.73	
							going downhole. Core slightly broken in places.		
						184/56			
							Sandstone - same as above	0.20	
							Top of Box 4		
79°							Sandstone - same as above with interbeds of dark grey siltstone,	2.75	
							minor loadcasts. Becomes fine grained downhole.		
						194/59			
							Sandstone - same as above. Carbonaceous plant debris along	0.07	
							bedding		
							Top of Box 5		
79°							Sandstone - same as above with increasing amount of dark grey	0.73	
							siltstone. Discontinuous coaly laminations and		
							carbonaceous plant debris		
57°	59.55	60.72	1.17				Siltstone - dark grey with scattered coaly intrusions and	1.17	
							carbonaceous plant debris. Fern fossils as well as		
							minor turbidites		
	60.72	61.32	0.60				Claystone - dark grey, soft with minor interbeds of dark grey	0.60	
							siltstone		
62°	61.32	61.86	0.54				Siltstone - dark grey with minor interbeds of dark grey	0.37	
							claystone		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 3 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						203/62			
							Top of Box 6		
60°							Siltstone - same as above, coaly intrusions, slightly convoluted	0.17	
							bedding		
64°	61.86	62.61	0.75				Claystone - dark grey, soft, slightly broken listric surfaces,	0.75	
							carbonaceous at top, interbeds of dark grey siltstone,		
							thin coaly laminations, pyrite band (2cm) near top		
							of interval		
37°	62.61	64.61	2.00				Siltstone - dark grey, scattered coaly inclusions and carbonaceous	2.00	
							laminations, minor interbeds of medium grey medium		
							grained sandstone, convoluted bedding towards base		
							Top of Box 7		
						213/65			
	64.61	65.01	0.40	0.38			Claystone - dark grey, coaly in places, highly broken top 4cm	0.40	
							with pieces of coal, sheared (55° core angle) coaly		
							at base		
	65.01	65.57	0.56	0.53	1602		Coal - dull, banded	0.56	
	65.57	66.87	1.30	1.22			Claystone - dark grey, coal bands near top (up to 3cm thick)	1.30	
	66.87	67.06	0.19	0.18			Coal - boney coal with clay band near middle and frequent	0.19	
							bright bands		
	67.06	67.47	0.41	0.39			Coal - dull, banded, high ash, (near Boney)	0.41	

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 4 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 8		
	67.47	67.61	0.14	0.13	1603		Coal - dull	0.14	
						223/68			
	67.61	69.75	2.14	2.01			Coal - dull with occasional bright bands, very hard (close to	2.14	
							Boney coal in hardness)		
	69.75	70.25	0.50	0.47			Coal - dull, occasional bright bands, core somewhat softer than	0.50	
							above unit. Core intact with occasional broken areas,		
							same for unit above		
							Top of Box 9		
	70.25	70.58	0.33	0.31			Coal - core somewhat broken and sheared. Coal very soft, dull	0.33	
					1604				
						233/71			
	70.58	70.66	0.08	0.08			Coal - as above with occasional claystone splits	0.08	
	70.66	70.82	0.16	0.15			Rock Loss	0.16	
	70.82	70.90	0.08	0.08	1605		Claystone - dark grey, friable, sheared	0.08	
	70.90	71.14	0.24	0.23			Coal - dull, sheared, very soft, brown streak indicating	0.24	
					1606		relatively high ash content, occasional thin claystone		
							splits		
	71.14	71.30	0.16	0.15			Coal - core broken, dull	0.16	
	71.30	71.58	0.28	0.26			Claystone - 5cm dull coal split, 5cm from base claystone is dark	0.28	
							grey, sheared and broken		
	71.58	75.58	4.00				Sandstone - fine grained, light grey, thin lamination, silty near	0.35	
							top and carbonaceous to coaly at very top		

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HOLE NUMBER

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01 | SHEET 5 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Claystone - coaly and sheared	0.04	
							Sandstone - fine grained, light grey, thin lamination, plant fossils, claystone and siltstone splits	1.11	
							Top of Box 10		
77°							Siltstone - dark grey, carbonaceous plant debris, listric surfaces with calcite film	0.18	
71°							Sandstone - medium grey, fine grained with coaly laminations	0.36	
						243/74			
71°							Sandstone - same as above	1.96	
	75.58	76.67	1.09				Siltstone - dark grey with interbeds of dark grey claystone with coal band of 2cm and thin coaly laminations throughout. Carbonaceous plant remains as well	0.34	
							Top of Box 11		
							Coal - bright with dull bands, conchoidal fracture	0.06	
85°							Claystone - dark grey, core broken in places. Bands of carbonaceous claystone with coaly laminations. Minor listrics with thin calcite film	0.69	
						253/77			
							Claystone - same as above, core broken	0.10	

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 6 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85°	76.67	77.44	0.77				Siltstone - dark grey with thin discontinuous coaly laminations	0.77	
							and minor interbeds of dark grey claystone		
	77.44	78.15	0.71				Claystone - dark grey with interbeds of carbonaceous claystone,	0.21	
							thin bright coal bands (1.2mm) and coaly laminations		
							throughout, core slightly broken		
							Coal - dull and bright banded, conchoidal fracture, core broken	0.10	
							Claystone - dark grey with thin coaly laminations and thin bands	0.40	
							of carbonaceous claystone		
81°	78.15	80.82	2.67				Siltstone - dark grey with thin discontinuous coaly laminations	0.43	
							and minor interbeds of dark grey claystone at bottom		
							of interval (7cm)		
							Sandstone - medium grey, fine grained with discontinuous	0.15	
							carbonaceous laminations, minor load casting		
							Top of Box 12		
73°							Sandstone - medium grey fine grained with carbonaceous	0.47	
							laminations throughout, minor soft sediment		
							deformation and small scale cross beds		

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER	SHEET
81-01	7 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
77°							Siltstone - medium grey with minor dark grey claystone, scattered	0.42	
							thin coaly laminations, 6cm of carbonaceous claystone		
							at bottom of interval		
						262/80			
							Coal - bright with thin bands of dark grey carbonaceous claystone,	0.10	
							core broken		
85°							Siltstone - medium grey with 8cm of dark grey claystone at top	1.10	
							with thin coaly laminations (core broken). Minor		
							bands of medium grey claystone throughout interval		
							with listric surfaces, carbonaceous plant debris		
							throughout		
85°	80.82	83.42	2.60				Sandstone - light grey, medium grained, minor discontinuous	0.60	
							carbonaceous laminations		
							Top of Box 13		
							Sandstone - same as above, turbidites throughout, scattered coaly	1.25	
							inclusions and discontinuous laminations, fining		
							downhole		
67°						272/83			
							Sandstone - same as above, fining downhole	0.75	
60°	83.42	84.86	1.44				Siltstone - medium grey with interbeds of dark grey claystone,	0.85	
							minor shearing, core broken in places, scattered		
							coaly inclusions		

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CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 14		
63°							Siltstone - medium grey, medium grained interbeds of medium grey,	0.59	
							fine grained siltstone, scattered discontinuous,		
							coaly laminations, slight shearing		
	84.86	86.14	1.28				Claystone - medium to dark grey with thin coaly laminations,	0.27	
							core broken, interbeds of dark grey siltstone		
							Coal - bright, core broken, conchoidal fracture	0.03	
							Claystone - dark grey with coaly laminations, carbonaceous in	0.38	
							part, core broken		
							Coal - boney	0.13	
							Coal - bright	0.05	
						282/86			
							Coal - dull and bright banded, sheared, core broken	0.14	
							Claystone - carbonaceous, dark grey with coaly laminations	0.03	
							Claystone - dark grey, scattered coaly laminations	0.12	
							Claystone - carbonaceous, dark grey, sheared	0.05	
							Coal - dull and bright banded, core broken	0.08	
69°	86.14	88.34	2.20				Siltstone - dark grey with minor interbeds of dark grey claystone	1.03	
							and medium grey fine grained sandstone, minor shearing		
							carbonaceous plant remains along bedding		

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 15		
84°							Siltstone - same as above with minor interbeds of light grey	1.17	
							medium grained sandstone, minor pyrite, thin		
							discontinuous coaly laminations		
67°	88.34	89.08	0.74				Sandstone - light grey medium grained, thin discontinuous coaly	0.39	
							laminations, minor load casts, scattered medium grey		
							siltstone inclusions, slight shearing		
						292/89			
73°							Sandstone - same as above, slight shearing, turbidites at base	0.35	
81°	89.08	95.09	6.01				Siltstone - medium to dark grey with interbeds of medium grained	0.89	
							light grey sandstone and minor dark grey claystone,		
							slightly convoluted bedding towards base		
							Top of Box 16		
64°							Siltstone - medium to dark grey, minor interbeds of light grey	1.76	
							fine grained siltstone, turbidites throughout,		
							scattered siltstone inclusions in sandstone		
						302/92			
61°							Siltstone - same as above	0.19	
70°							Siltstone - medium grey fine grained with thin carbonaceous	0.83	
							laminations, minor small scale cross beds, sandy throughout		

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 17		
							Siltstone - same as above	0.33	
82°							Siltstone - medium to dark grey with interbeds of dark grey	1.70	
							claystone, fine grained sandstone, minor carbonaceous		
							claystone with thin coaly bands and one band of		
							bentonite 11 cm thick (no kick on gamma log), core		
							broken in claystone bands, soft sediment deformation		
							sandstone, sandy towards base		
						312/95			
76°							Siltstone - same as above with interbeds of dark grey fine	0.31	
							grained sandstone		
	95.09	96.85	1.76				Claystone - dark grey with thin coal bands and laminations, core	0.63	
							broken		
							Top of Box 18		
							Claystone - same as above	1.13	
76°	96.85	99.65	2.80				Siltstone - medium to dark grey with interbeds of light grey	0.98	
							medium grained sandstone and minor thin bands of		
							dark grey claystone, discontinuous coaly laminations		
							in sandstone		
						321/98			

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
77°							Siltstone - same as above	0.72	
							Top of Box 19		
82°							Siltstone - medium to dark grey with interbeds of dark grey	1.10	
							claystone with scattered thin coaly laminations,		
							slight shearing		
	99.65	102.89	3.24				Claystone - dark grey with interbeds of dark grey siltstone, core	0.70	
							broken in places, claystone is carbonaceous in places		
							and has scattered thin coal bands (1-2 cm)		
83°							Siltstone - dark grey with minor interbeds of dark grey claystone,	0.31	
							thin discontinuous coaly bands		
						331/101			
							Siltstone - same as above	0.23	
							Claystone - dark grey with scattered thin coaly laminations, core	0.50	
							broken		
							Top of Box 20		
85°							Claystone - dark grey with interbeds of carbonaceous claystone and	1.50	
							bands of coal up to 8cm in thickness, core broken in		
							places		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 12 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85°	102.89	110.25	7.36				Sandstone - light grey, medium grained with minor discontinuous	0.82	
							and coaly inclusions (Torrens)		
						341/104			
							Sandstone - same as above	0.48	
							Top of Box 21		
82°							Sandstone - same as above	2.56	
						351/107			
72°							Sandstone - same as above	0.31	
							Top of Box 22		
78°							Sandstone - same as above, slight fining downhole, thin fractures	2.69	
							near base with iron staining		
						361/110			
							Sandstone - same as above	0.22	
							Top of Box 23		
							Sandstone - same as above, 14cm of conglomerate at base, clasts	0.28	
							well rounded , quartz, chert with minor siltstone		
84°	110.25	110.96	0.71				Siltstone - dark grey with interbeds of dark grey claystone and	0.71	
							6cm band of medium to coarse grained sandstone		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
85°	110.96	133.28	22.32				Sandstone - same as above, light to medium grey, medium grained,	1.78	
							fining downhole, minor scattered inclusions of		
							siltstone, claystone and quartz		
						371/113			
							Sandstone - same as above	0.10	
							Top of Box 24		
82°							Sandstone - same as above, fine to medium grained	2.90	
						380/116			
							Top of Box 25		
82°							Sandstone - same as above, occasional well rounded clasts of medium	2.95	
							grey claystone		
							Top of Box 26		
						390/119			
85°							Sandstone - same as above, fine grained	2.94	
							Top of Box 27		
						400/122			
84°							Sandstone - same as above, scattered, well rounded medium grey	2.88	
							claystone clasts		
							Top of Box 28		
							Sandstone - same as above	0.12	

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HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						410/125			
83°							Sandstone - same as above	2.78	
							Top of Box 29		
							Sandstone - same as above, fine grained	0.15	
						420/128			
86°							Sandstone - same as above, minor bands of dark grey claystone and	2.80	
							siltstone, minor pyrite inclusions, scattered		
							elongated fragments of dark grey claystone		
							Top of Box 30		
							Sandstone - same as above, fine grained with interbeds of dark	0.24	
							grey siltstone and claystone		
						330/131			
85°							Sandstone - same as above, bands of interbeds, dark grey claystone	2.15	
							and medium grey siltstone with sandstone, soft sediment		
							deformation in form of load casts and small ripped up		
							clasts, thin conglomeration bands towards base		
72°							Sandstone - light grey medium grained with interbeds of conglo-	0.53	
							merate, band of conglomerate at top on interval 17cm		
							wide, clasts from 1-6cm made up mainly of well rounded		
							quartz and chert with lesser amounts of siltstone		
							and fine grained sandstone, odd glaucinite clast as		

HOLE NUMBER

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01 | SHEET 15 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							well, some sorting with smaller fraction at bottom of		
							interval		
							Top of Box 31		
	133.28	145.56	12.28				Sandstone - medium grey, medium grained, same as above massive,	0.31	
							one small 1cm pebble band at bottom, sugary texture,		
							appears to be clay rich, (possibly Moosebar Transition		
							equivalent zone, could be marine)		
						339/134			
							Sandstone - same as above, massive	2.54	
							Top of Box 32		
							Sandstone - same as above	0.42	
						449/137			
85°							Sandstone - same as above, scattered inclusions of dark grey	2.43	
							siltstone and claystone, thin bands of dark grey silt-		
							stone towards bottom, small scale load casting,		
							slight darkening in color		
							Top of Box 33		
86°							Sandstone - same as above , medium grey fine grained with bands	0.59	
							of dark grey siltstone and claystone, minor soft		
							sediment deformation in form of load casting		

474A-8106

HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						459/140			
72°							Sandstone - medium grey, fine grained to medium grained, same as	2.31	
							above		
							Top of Box 34		
86°							Sandstone - medium grey, medium grained, scratches easily, possibly	0.74	
							high clay content, dark grey siltstone at bottom of		
							interval		
						469/143			
84°							Sandstone - same as above, fine to medium grained, medium grey	2.20	
							interbeds of dark grey siltstone, minor thin		
							carbonaceous laminations, core slightly broken		
							Top of Box 35		
88°							Sandstone - very fine grained, grey, very minor carbonaceous	0.68	
							material, worm burrow at very top, essentially massive,		
							core intact		
						479/146			
							Sandstone - same as above	0.06	
	145.56	157.21	11.65				Siltstone - dark grey, interbeds with light grey, very fine	0.26	
							sandstone (20%) core unbroken, ironstone, load casts,		
							soft sediment deformation in cross bedded, right side up		

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
86°							Siltstone - grey, thin beds of light grey, very fine sandstone (5%)	1.82	
							soft sediment deformation is cross bedded, core		
							unbroken		
							Top of Box 36		
							Siltstone - same as above	0.12	
							Sandstone - light grey, very fine grained, minor grey siltstone,	0.30	
							fault zone, core unbroken, highly fractured zone, high		
							silica content		
89°							Siltstone - dark grey, interbeds with grey, fine grained (50%)	0.30	
							ironstone in small amounts, soft sediment deformations,		
							load casts, core unbroken		
							Siltstone - dark grey, slightly broken	0.19	
						489/149			
89°							Siltstone - same as above, unbroken, minor very fine sandstone,	1.88	
							soft sediment deformations, load casts, minor ironstone		
							Top of Box 37		
86°							Siltstone - same as above, soft sediment deformations, load casts,	1.82	
							very slightly broken in a few places		

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 18 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
89°							Sandstone - light grey, very fine grained minor siltstone, soft	0.29	
							sediment deformations, load casts, rip up clasts,		
							unbroken		
90°							Siltstone - dark grey interbeds with light grey very fine grained	0.81	
							sandstone (15%), soft sediment deformations, minor		
							ironstone, very slightly broken		
							Top of Box 38		
							Siltstone - dark grey interbeds with light grey, very fine grained	0.75	
							sandstone (45%). soft sediment deformations, load		
							casts, rip up clasts, core unbroken		
90°							Sandstone - light grey, very fine grained	0.14	
86°							Siltstone - grey to dark grey interbeds with light grey, very fine	0.36	
							grained sandstone (45%), soft sediment deformations,		
							rip up clasts, core unbroken		
						508/155			
87°							Siltstone - same as above, soft sediment deformations, load casts,	1.61	
							scattered carbonaceous material, core unbroken except		
							short interval below marker		

474A-8106

HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 39		
81°							Siltstone - same as above, soft sediment deformations, load casts, worm burrows, rip up clasts, thin coal stringers, unbroken	1.00	
	157.21	161.54	4.33				Sandstone - light grey, very fine grained, worm burrows, calcite filled fractures, with a BCA of 90°, unbroken	0.40	
							Siltstone - dark grey	0.04	
						518/158			
79°							Sandstone - light grey, very fine grained interbeds with dark grey siltstone (40%), soft sediment deformations, rip up clasts, worm burrows, cross bedded, unbroken	1.40	
							Top of Box 40		
							Sandstone - same as above, soft sediment deformations, rip up clasts, worm burrows, pyrite nodules, load clasts, unbroken	1.61	
87°						528/161			
							Sandstone - same as above, soft sediment deforamtions	0.88	
							Top of Box 41		
	161.54	189.53	27.99				Siltstone - dark grey interbeds with light grey, very fine grained sandstone (40%), soft sediment deformations, worm burrows, load casts, rip up clasts	1.75	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
81-01	20 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						538/164			
85°							Siltstone - same as above, soft sediment deformations, cross-	1.16	
							bedded, right side up, one thin coal stringer (3mm),		
							discontinuous, unbroken		
							Top of Box 42		
87°							Siltstone - dark grey, interbeds with light grey very fine grained	1.85	
							sandstone (30%), soft sediment deformations, rip up		
							clasts, small (1-8mm) pyrite nodules, unbroken, shell		
							fragments		
						548/167			
86°							Siltstone - same as above, soft sediment deformations, rip up	0.98	
							clasts, shell fragments up to 20mm, most are ≤ 3mm,		
							pyrite nodules, one thin coal stringer 0.5mm thick,		
							unbroken		
							Top of Box 43		
87°							Siltstone - same as above, soft sediment deformations, one small	1.90	
							calcite filled fracture with BCA of 58°, rip up clasts,		
							pyrite nodules, small calcareous fossil fragments, load		
							casts, unbroken		
						558/170			

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 21 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
82°							Siltstone - same as above, soft sediment deformations, rip up	0.85	
							clasts, load clasts, unbroken		
							Top of Box 44		
85°							Siltstone - same as above, soft sediment deformations, rip up	2.20	
							clasts, calcite fossil fragments, load clasts, unbroken		
						567/173			
82°							Siltstone - same as above, soft sediment deformations, rip up	0.58	
							clasts, unbroken, one pyrite nodule 27mm, shell		
							fragments		
							Siltstone - dark grey, pyrite nodules, calcite shell fragments,	0.15	
							unbroken		
							Top of Box 45		
							Siltstone - same as above, pyrite nodules, calcite shell fragments,	0.80	
							unbroken		
87°							Siltstone - dark grey, interbeds with light grey very fine	1.51	
							grained sandstone (10%), soft sediment deformations,		
							rip up clasts, unbroken, load clasts, shell fragments,		
							pyrite nodules		
						577/176			

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
88°							Siltstone - same as above, soft sediment deformations, load casts,	0.68	
							calcite shell fragments, rip up clasts, pyrite		
							nodules, one minor discontinuous carbonaceous		
							lamination, unbroken		
							Top of Box 46		
88°							Siltstone - same as above, rip up clasts, calcite shell fragments,	2.37	
							pyrite nodules, soft sediment deformations, core is		
							broken in one place		
						587/179			
86°							Siltstone - same as above, soft sediment deformations, rip up	0.55	
							clasts, unbroken		
							Top of Box 47		
87°							Siltstone - same as above, soft sediment deformations, pyrite	2.99	
							nodules, calcite shell fragments, load casts, rip up		
							clasts, unbroken		
							Top of Box 48		
87°							Siltstone - same as above, soft sediment deformations, rip up	2.56	
							clasts, shell fragments, one resembles an Inoceramus		
							Prism 28 x 3mm, load casts, unbroken, pyrite nodules		
						607/185			

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01 | SHEET 23 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - same as above, unbroken	0.13	
							bentonite	0.05	
							Siltstone - dark grey, interbed with light grey very fine grained	0.27	
							sandstone (5-10%), calcite shell fragments, pyrite		
							nodules, soft sediment deformations		
							Top of Box 49		
84°							Siltstone - same as above, soft sediment deformations, pyrite	2.60	
							nodules up to 44 x 23mm, load casts, calcite shell		
							fragments, rip up clasts, core slightly broken in places		
						617/188			
88°							Siltstone - same as above, pyrite nodules, soft sediment	0.30	
							deformations, worm burrows, rip up clasts, unbroken,		
							load clasts		
							Top of Box 50		
83°							Siltstone - same as above, soft sediment deformations, pyrite	0.78	
							nodules, load casts, unbroken		
							bentonite	0.09	

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 24 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Siltstone - dark grey, pyrite nodules, bottom 3cm contains a few	0.12	
							pebbles (up to 5mm) and some glauconite, at very top		
							one glauconite grain is 8mm, unbroken		
							Conglomerate - maximum pebble size 50 x 34mm, contains glauconite,	0.15	
							pebbles are chert and quartz, matrix is dark grey		
							siltstone ~70% grain supported, ~ 30% matrix		
							supported		
79°							Siltstone - dark grey interbeds with light grey very fine grained	0.62	
							sandstone (35%), extreme soft sediment deformation,		
							pyrite nodules, minor carbonaceous laminations, unbroken		
	189.53	193.68	4.15				Sandstone - light grey, fine grained carbonaceous laminations,	0.16	
							soft sediment deformations, unbroken		
80°							Sandstone - light grey, very fine grained interbeds with dark	0.17	
							grey siltstone (20%), soft sediment deformations, worm		
							burrows, pyrite nodules, unbroken		
83°							Sandstone - light grey, fine grained, cross bedded, right side up,	0.16	
							minor pyrite, unbroken		
88°							Sandstone - light grey, very fine grained interbeds with dark grey	0.50	
							siltstone (20%), soft sediment deformations, pyrite		
							nodules, unbroken		

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 25 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						626/191			
							Sandstone - light grey, fine to medium grained interbeds with	0.19	
							minor siltstone (5%), unbroken		
							Top of Box 51		
							Sandstone - same as above, minor carbonaceous laminations, pyrite	0.47	
							nodules, extreme soft sediment deformation in lower		
							13cm, unbroken		
85°							Sandstone - light grey, fine grained interbeds with dark grey	0.33	
							siltstone (10%), abundant carbonaceous laminations,		
							abundant calcite infilling along carbonaceous		
							laminations, unbroken		
68°							Sandstone - medium grained light grey, carbonaceous stringers	1.46	
							throughout, calcite filled fractures parallel or		
							subparallel bedding		
80°							Siltstone - dark grey, interbeds with light grey fine grained	0.13	
							sandstone (50%), pyrite nodules, unbroken		
76°							Sandstone - light grey, fine grained, cross bedded, right side up,	0.47	
							unbroken		
						636/194			

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 26 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Sandstone - same as above	0.08	
							Top of Box 52		
							Sandstone - same as above	0.19	
81°	193.68	194.76	1.08				Siltstone - dark grey, soft sediment deformations, slightly broken, minor carbonaceous laminations	1.08	
82°	194.76	200.74	5.98				Sandstone - light grey, very fine grained, interbeds with dark grey siltstone (15%), soft sediment deformations, load casts	0.93	
79°							Sandstone - light grey, fine grained, carbonaceous laminations, unbroken	0.77	
						646/197			
							Top of Box 53		
74°							Sandstone - same as above, scattered thin coal stringers, up to 2mm thick, discontinuous, unbroken, sheared in 2 places, along carbonaceous laminations	0.81	
							Conglomerate - maximum pebble size is 6mm, average is 1mm, scattered coal stringers maximum thickness is 4mm, pebbles are chert, grain supported, essentially no matrix, grades in places to a pebbly coarse sandstone	0.82	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 27 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
67°							Sandstone - light grey, fine to coarse grained, mostly fine	1.33	
							grained, a few scattered coal stringers near top and		
							middle, maximum thickness 4mm		
							Top of Box 54		
						656/200			
							Sandstone - fine grained light grey, salt and pepper color, thin	1.32	
							laminations, occasional coal stringers and siltstone		
							clasts, some coal splits are sheared,occasional		
							pyrite asscociated with coal		
	200.74	201.75	1.01				Claystone - interbeds, lamination with siltstone, coal splits	0.12	
							especially at base		
							Stony Coal - bright bands	0.08	
							Claystone - dark grey, coal stringers, sheared, occasional calcite	0.42	
							crystals at base		
							Claystone - carbonaceous with coaly bits	0.11	
							Siltstone - clayey, somewhat sheared especially at top, plant	0.28	
							fossils and coal bits		
	201.75	202.49	0.74				Sandstone - fine grained, medium grey, interbeds with siltstone and	0.46	
							claystone (up to 1cm interbeds) some plant fossils		
							coalified		

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HOLE NUMBER

PETRO CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER 81-01

SHEET 28 OF 31

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 55		
							Sandstone - as above carbonaceous, coaly claystone and coal stringers at base	0.28	
						666/203			
	202.49	202.91	0.42	0.39	1607		Coal - dull, very hard	0.42	
	202.91	203.19	0.27	0.25			Claystone - very carbonaceous to Stoney coal	0.27	
	203.19	203.27	0.08	0.08	1608		Claystone - very friable, coal bits	0.08	
	203.27	203.29	0.02	0.02			Claystone - dark grey	0.02	
	203.29	203.31	0.02	0.02			Coal - highly sheared	0.02	
	203.31	203.33	0.02	0.02	1609		Claystone - friable	0.02	
	203.33	203.51	0.18	0.17			Coal - highly broken, sheared and pulverized	0.18	
	203.51	204.68	1.17	1.10			Coal - dull, occasional very hard zones, occasional bright bands, 1cm iron bearing rock split near top (red iron stain), core somewhat broken	1.17	
	204.68	204.80	0.12	0.11			Coal - dull with occasional bright bands, very hard	0.12	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 56		
	204.80	205.05	0.25	0.23			Coal - dull, relatively hard, softer at base, core broken	0.25	
	202.05	205.33	0.28	0.26	1609		Coal - 3cm claystone split near base, coal is dull, core is broken to pulverized	0.28	
						676/206			
	205.33	205.37	0.04	0.04			Coal Loss	0.04	
	205.37	205.68	0.31	0.29			Coal - dull, 4cm split near base in Boney to carbonaceous claystone core is broken and, in places, pulverized	0.31	
	205.68	206.12	0.44				Claystone - abundant coal bands	0.44	
	206.12	206.19	0.07				Coal - bright	0.07	
	206.19	206.43	0.24				Claystone - as before coal	0.24	
	206.43	206.68	0.25				Sandstone - medium grey, salt and pepper, carbonaceous splits	0.25	
	206.68	206.84	0.16				Claystone - dark grey with coal bands	0.16	
	206.84	207.45	0.61				Siltstone - medium grey, occasional coal bands becoming fine grained, medium grey sandstone at base	0.61	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 57		
	207.45	208.41	0.96				Sandstone - medium grey, fine grained at top, fine grained light grey, thin laminations for remainder of unit	0.96	
						686/209			
	208.41	208.86	0.45				Sandstone - as above	0.45	
	208.86	208.91	0.05				Claystone - dark grey, very carbonaceous, coaly at base, sheared	0.05	
	208.91	208.97	0.06				Rock loss	0.06	
	208.97	209.04	0.07	0.07			Coal loss	0.07	
	209.04	209.20	0.16	0.15			Coal - dull, with bright bands, hard	0.16	
	209.20	209.50	0.30	0.28	1610		Coal - Boney, occasional bright bands	0.30	
	209.50	209.85	0.35	0.33			Coal - dull, hard	0.35	
	209.85	209.88	0.03				Claystone - carbonaceous with coal stringers	0.03	
	209.88	210.40	0.52				Claystone - sheared, some coal bands	0.52	

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HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER 81-01

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 58		
69°	210.40	214.42	4.02				Sandstone - light grey very fine grained interbeds with dark grey siltstone (50%), soft sediment deformations	0.50	
							Coal - sheared	0.04	
							Sandstone - very fine grained light grey, interbeds with dark grey siltstone (10%), coal stringers near top, unbroken	0.22	
							Sandstone - very fine to fine grained, light grey, soft sediment deformation unbroken	0.32	
						695/212			
77°							Sandstone - same as above, soft sediment deformations	1.66	
							Top of Box 59		
							Coal - sheared and broken	0.02	
79°							Sandstone - light grey, very fine grained. soft sediment deformations, scattered discontinuous, carbonaceous laminations, several calcite filled fractures, (parallel bedding), unbroken	1.26	
						705/215	215m/705 ft. (drilling)		
							214.42 m/703.30 ft. (log)		

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HOLE NUMBER

PETRO-CANADA

DRILL HOLE SUMMARY SHEET

PROJECT	DATE DRILLED	DATE LOGGED	PAGE
MONKMAN		24/7	1 OF 1

HOLE NUMBER	DRILLED BY	ANGLE	BEARING	T.D.	CORE SIZE	MAX. DEV.	MAP/SECTION NO.	COAL LICENCE	WATER LEVEL	O.B. THICKNESS
MND 81-02	MIDWEST	90	--	176.3	NQ		F9/ 47,000S	3132	0	1.7

COORDINATES

COLLAR ELEV.	UTM		MINE GRID		NTS
1300.88	6,017,611.83 N	677,588.37 E	N	E	

GEOPHYSICAL DATA

SCALE	DEN	BRD	LSD	HRD	GAM	NEUT	FBE	FBS	CAL	DIR
1:100	X				X	X			X	X
1:40	X									

INTERPRETED BY

DATE OF INTERPRETATION

GENERAL COMMENTS

Gething Seams

SEAM	ELEVATION BASE	INTERVAL	APP DIP	TRUE THICKNESS	COAL/ROCK	REC.	SAMPLE TAG. NO.	COMP. LAB. NO.	Gp/Fm/Mbr NAME	BASE	ELEV. BASE	TRUE THICKNESS	COMMENTS
Kgt		83.39 - 86.45	20	2.88	2.64/0.24	65	1611-13		Kg	8.6	1292.28		
									Kmb	70.6	1230.28		
Kgt		105.74-107.27	20	1.45	1.11/0.34	85	1616-18		Kbs	81.3	1219.58		
									Kgt?	122.9	1177.98		
									Kcd	154.5	1146.38		

HOLE NUMBER MND 81-02

473-8010

PETRO-CANADA

CORE LOG - COAL DIVISION

HOLE NUMBER	SHEET
MND81-02	1 OF 26

DATE BEGUN	DATE FINISHED	MINE GRID N E	UTM N E
ELEV. COLLAR	BEARING Vertical	HOLE ANGLE Vertical	TOTAL DEPTH 176.34
COAL LICENCE Nekik Block	CONTRACTOR Midwest/CNR	LOGGED BY T. Covert, F. Gigliotti	CORE SIZE NQ

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 1		
76°	1.67	13.89	12.22				Sandstone - medium grey, fine grained to medium grained, slightly fractured with iron staining. Fractures parallel to bedding, occasional well rounded, medium grey, claystone inclusions	1.78	
						/5			
							Sandstone - same as above, slight fining downhole	1.07	
							Top of Box 2		
							Sandstone - same as above	1.90	
						/8			
							Sandstone - same as above	0.90	
							Top of Box 3		
							Sandstone - same as above, core slightly broken towards base, minor soft sediment deformation	1.95	
						/11			

474-8010

HOLE NUMBER MND81-18

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER	SHEET
MND81-02	2 OF 26

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
77°							Sandstone - same as above	0.81	
							Top of Box 4		
70°							Sandstone - same as above, minor interbeds of dark grey siltstone	2.18	
						/14			
72°							Sandstone - same as above, 5 cm ironstone band near top	0.54	
							Top of Box 5		
74°							Sandstone - same as above, slight fining downhole, occasional	1.09	
							small pyrite nodules		
	13.89	14.0	0.14				Conglomerate - medium grey, mostly rounded pebble size clast of	0.14	
							chert and quartz. Fining downhole, small amount of		
							glauconite as well, mostly interstitial (possible		
							Blue Sky equivalent.		
	14.03	16.74	2.71				Sandstone - medium grey, massive	1.16	
						17	Sandstone - same as above	0.43	

474A-8106

HOLE NUMBER
MND81-18

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CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MND81-02

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 6		
77°							Sandstone - light to medium grey, fine grained core slightly	1.12	
							broken, few thin bands interbedded dark grey silt-		
							stone		
	16.74	17.52	0.78				Sandstone - light grey, very fine grained, highly powdered	0.78	
	17.52	18.09	0.57				Claystone - dark grey, soft with minor interbedded, dark grey	0.57	
							siltstone, core slightly broken, 16 cm of siltstone		
							at base		
	18.09	18.24	0.15				CORE LOSS - claystone	0.15	
						20			
79°	18.24	18.54	0.30				Claystone - same as above, carbonaceous plant debris along	0.24	
							bedding		
							Top of Box 7		
							Claystone - same as above	0.06	
80°	18.54	21.31	2.77				Siltstone - medium to dark grey with interbeds of dark grey clay-	2.59	
							stone and medium grey fine grained sandstone, sand-		
							stone fractured perpendiuclar to bedding with iron		
							staining, soft sediment deformation rip up clasts		
							and load casting		
						23			
							Siltstone - same as above	0.18	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 8		
	21.31	21.66	0.35				CORE LOSS - claystone	0.35	
76°	21.66	21.91	0.25				Claystone - silty, dark grey carbonaceous plant debris, slight shearing, core broken in places	0.25	
	21.91	22.31	0.40				Siltstone - light grey with a slight brownish tinge, contains scattered carbonaceous plant remains, thin wispy calcite filled fractures, one set has BCA of 0° the other is 75°	0.40	
	22.31	27.15	4.84				Claystone - dark grey with a few thin sandstone interbeds, soft sediment deformations rip up clasts, one sandstone bands is highly bioturbated (worm burrows)	2.10	
							Top of Box 9		
							Claystone - core broken	0.20	
						26			
74°							Claystone - core broken	2.54	
	27.15	27.30	0.15				CORE LOSS - claystone	0.15	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 10		
	27.30	30.10	2.80				Claystone - same as above, core broken	0.40	
						29			
							Claystone - same as above, core broken, slight fracturing perpendicular to bedding, iron staining	2.40	
	30.10	30.25	0.15				CORE LOSS - claystone	0.15	
							Top of Box 11		
77°	30.25	38.84	8.59				Claystone - same as above, minor interbedded medium grey, fine grained sandstone	0.64	
						32			
							Claystone - same as above, core slightly broken, soft sediment deformation, load casts	2.18	
							Top of Box 12		
							Claystone - same as above	0.78	
						35			
80°							Claystone - same as above	2.12	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 13		
80°							Claystone - with minor interbedded, medium grey sandstone,	0.81	
							fine grained		
						38			
							Claystone - same as above, core slightly broken	2.06	
	38.84	38.90	0.06				CORE LOSS - claystone	0.06	
							Top of Box 14		
71°	38.90	45.72	6.82				Claystone - same as above, core slightly broken, minor inter-	0.76	
							bedded medium grey, fine grained sandstone, soft		
							sediment deformation, load casts		
						41			
							Claystone - same as above	2.10	
							Top of Box 15		
79°							Claystone - same as above	0.97	
						44			
							Claystone - same as above, occasional pyrite inclusions	1.87	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 16		
							Claystone - same as above, slightly broken	1.12	
	45.72	45.75	0.03				CORE LOSS - claystone	0.03	
						47			
74°	45.75	61.84	16.09				Claystone - same as above, minor interbedded, medium grey, fine	1.70	
							grained sandstone, carbonaceous plant debris along		
							bedding, soft sediment deformation, rip clasts		
							Top of Box 17		
79°							Claystone - same as above	1.05	
						50			
73°							Claystone - same as above, core slightly broken	1.80	
							Top of Box 18		
82°							Claystone - same as above, mollusk shells	1.22	
						53			
							Claystone - same as above, occasional pyrite nodules	1.68	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 19		
75°							Claystone - same as above, getting silty carbonaceous debris,	1.40	
							shells?		
						56			
							Claystone - same as above	1.48	
							Top of Box 20		
							Claystone - same as above, silty in places, bivalve shell	1.44	
						59			
78°							Claystone - same as above	1.47	
							Top of Box 21		
80°							Claystone - same as above, slight shearing	1.54	
						62			
							Claystone - same as above, core sightly broken	1.31	
	61.84	61.87	0.03				CORE LOSS - claystone	0.03	
							Top of Box 22		
	61.87	66.99	5.12				Claystone - same as above, core broken in places	1.63	
						65			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
75°							Claystone - same as above	1.24	
							Top of Box 23		
79°							Claystone - same as above	1.73	
						68			
							Claystone - same as above	0.52	
	66.99	67.02	0.03				Bentonite	0.03	
	67.02	67.09	0.07				CORE LOSS - bentonite	0.07	
	67.09	69.47	2.38				Claystone - same as above	0.58	
							Top of Box 24		
74°							Claystone - scattered sandstone pebbles thin carbonaceous claystone band, 28 cm from top and 11 cm thick, interbedded medium grey fine grained sandstone, core slightly broken, scattered thin coaly laminations	1.80	
	69.47	69.63	0.16				Claystone - dark gray	0.16	
						71			
	69.63	70.59	0.96				Claystone - minor interbedded sandstone, slight shearing	0.96	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 25		
79°	70.59	72.59	2.00				Sandstone - light to medium grey, fine grained with carbonaceous	2.00	
							laminations, minor interbedded dark grey siltstone,		
							core slightly broken		
						74			
	72.59	72.64	0.05				CORE LOSS - sandstone	0.05	
	72.64	72.67	0.03				Sandstone - same as above	0.03	
81°	72.67	73.53	0.86				Siltstone - dark grey, interbedded fine grained sandstone and	0.86	
							dark grey siltstone		
							Top of Box 26		
63°	73.53	75.64	2.11				Sandstone - fine grained light to medium grey, minor interbedded	2.06	
							medium grey siltstone and dark grey claystone, thin		
							coaly laminations in sandstone, carbonaceous plant		
							remains, worm burrows, soft sediment deformation,		
							load casts, calcite filled fractures perpendicular		
							to bedding		
						77			
							Sandstone - same as above	0.05	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
63°	75.64	76.21	0.57				Siltstone - dark grey with minor interbedded medium grey fine grained sandstone	0.57	
	76.21	77.19	0.98				Sandstone - medium grey, medium grained	0.11	
							Top of Box 27		
79°							Sandstone - medium grey, medium grain pyrite inclusions throughout, core slightly broken	0.87	
	77.19	77.27	0.08				CORE LOSS - sandstone	0.08	
	77.27	79.77	2.50				Claystone - with interbedded medium grey fine sandstone, soft sediment deformation in sandstone with turbidites	1.36	
						80			
70°							Claystone - same as above, % of sandstone increases downhole	0.57	
							Top of Box 28		
69°							Claystone/Sandstone - same as above, calcite filled fractures perpendicular to bedding, soft sediment deformation - load casts, slight shearing	0.57	
	79.77	81.27	1.50				Sandstone - medium grey fine grained with thin coaly laminations, scattered calcite filled cracks pyrite, slight shearing, shearing at 70° to BCA	1.50	
						83			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
71°	81.27	83.39	2.12				Claystone/Sandstone - interbedded , claystone dark grey, slightly carbonaceous in places, sandstone medium grey, fine grained, shearing in claystone coaly inclusions	0.72	
							Top of Box 29		
							Sandstone - fine grained, like to medium grey, thinly laminated, siltstone and claystone interbeds, occasional coal bands	1.40	
	83.39	83.61	0.22	0.21	1611		Coal - dull with bright bands, occasional thin rock splits near top (calcite?), core is very broken	0.22	
	83.61	84.16	0.55	0.52			Coal - loss	0.55	
	84.16	84.30	0.14	0.13			Coal - dull, pulverized	0.14	
	84.30	84.39	0.09	0.09	1612		Stoney coal - boney bits and coal bits, core is very broken	0.09	
	84.39	84.55	0.16	0.15			Rock loss	0.16	
	84.55	84.92	0.37	0.35			Coal - loss	0.37	
						86			
	84.92	85.04	0.12	0.11	1613		Coal - boney, very broken	0.12	
	85.04	85.16	0.12	0.11			Coal - dull, very broken	0.12	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
	85.16	85.42	0.24				Coal - dull, bright bands, thin (calcite?), stringers at top	0.26	
							Top of Box 30		
	85.42	86.45	1.03	0.97			Coal - dull, occasional bright bands, very hard, broken in places,	1.03	
							boney bands near top		
	86.45	86.89	0.44	0.42	1614		Claystone - dark grey, coaly at top and bottom	0.44	
		86.95	0.06	0.06			Rock loss	0.06	
	86.95	87.08	0.13	0.12	1615		Coal - near boney interbeds, minor claystone splits at base	0.13	
	87.08	87.20	0.12	0.11			Claystone - dark grey, coaly at top, fine grained sandstone at	0.12	
							base		
	87.20	87.25	0.05	0.05			Coal - dull, very hard near boney	0.05	
	87.25	88.08	0.83				Claystone/Sandstone - fine grained sandstone 6 cm in middle of	0.33	
							dark grey claystone unit, thin zones of		
							fine grained sandstone/siltstone throughout		
						89			
							Sandstone/Siltstone/Claystone - dark grey claystone, medium grey	0.50	
							siltstone, light to medium grey		
							sandstone, interbeds are 1 to 5 cm		
							thick, sandstone content increases		
							downward		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 31		
70°	88.08	90.59	2.51				Interbedded siltstone and sandstone minor interbedded dark grey	2.24	
							claystone, soft sediment deformation in sandstone, turbidites and		
							load casts, thin coaly laminations in claystone, sheared core		
							slightly broken		
						92			
75°							same as above, siltstone dark grey, sandstone medium grey, fine	0.27	
							grained		
							Top of Box 32		
82°	90.59	91.31	0.72				Sandstone - fine grained medium grey, minor dark grey claystone,	0.72	
							minor load casting		
	91.31	94.90	3.59				Claystone - dark grey, coaly laminations and carbonaceous plant	0.38	
							debris		
77°							Carbonaceous claystone dark grey with abundant coaly laminations,	1.68	
							brown streak, slightly sheared		
						95			
							Top of Box 33		
74°							Carbonaceous claystone - same as above	0.17	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
72°							Claystone - dark grey with coaly laminations and thin coal bands,	1.36	
							minor interbedded medium grey fine grained sandstone		
75°	94.90	96.50	1.60				Sandstone - light to medium grey fine grained, carbonaceous	1.41	
							laminations, soft sediment deformation turbidites		
							(silty towards base)		
							Top of Box 34		
							Sandstone - same as above, carbonaceous plant debris	0.11	
						98			
							Sandstone - same as above	0.08	
80°									
	96.50	102.33	5.83				Siltstone - dark grey, with interbedded fine grained sandstone and	2.60	
							minor dark grey claystone, core slightly broken		
							Top of Box 35		
							Siltstone - dark grey with interbedded medium grey fine grained	0.33	
							sandstone and finer dark grey claystone, core broken		
							in places		
						101			
73°							same as above	2.54	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 36.		
							Siltstone - dark grey, carbonaceous debris	0.36	
	102.33	103.52	1.19				Claystone - dark grey	0.15	
						104			
							Claystone - same as above, minor interbedded medium grey, fine grained sandstone, carbonaceous towards bottom	1.04	
	103.52	103.82	0.30				Coal	0.30	
	103.82	103.85	0.30				Claystone - carbonaceous	0.03	
68°	103.85	105.01	1.16				Sandstone - medium grained with 10 cm of medium grey claystone, fining towards base, coal plant debris, pyrite fills along shear planes	1.13	
							Top of Box 37		
			3				Sandstone - light grey, fine grained		
	105.01	105.74	0.73	0.69			Claystone - silty, occasional coal bands	0.52	
						107			
							same as above	0.14	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							same as above, very broken, sheared, coaly in middle	0.07	
	105.74	105.82	8	0.08	1616		Coal loss	0.08	
	105.82	106.21	39	0.37			Coal - dull with bright bands	0.39	
	106.21	106.32	11	0.10	1617		Rock loss	0.11	
	106.32	106.53	21	0.20			Claystone - dark grey, boney coal in middle, bright coal bands	0.21	
	106.53	106.86	33	0.31			Coal - near boney at top, dull bright, bright	0.33	
	106.86	106.90	4	0.04			Siltstone - light grey, thin boney coal band at top and base	0.04	
							(< 1 cm each)		
					1618				
	106.90	107.09	19	0.18			Coal - dull/bright, predominately bright	0.19	
	107.09	107.23	14	0.13			Coal - dull, boney band at base, core very broken	0.14	
	107.23	107.27	4	0.04			Coal loss	0.04	
	107.27	108.56	1.29				Claystone - dark grey, silty at top, 3 cm coal split at 27 cm	0.66	
							from top, fragments, coal splits (<1 cm) throughout,		
							the 3 cm coal split , dull/bright with red (iron		
							oxidation) rock splits		

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 38		
							Claystone - dark grey, carbonaceous in places sheared and	0.56	
							squeezed		
						110			
							Claystone - same as above	0.07	
	108.56	109.16	0.60				Siltstone - dark grey, coaly fragments	0.60	
80°	109.16	110.24	1.08				Sandstone - medium grey and medium grained	1.08	
	110.24	114.26	4.02				Claystone - dark grey, slickenslides, pyrite fill along slicken-	0.47	
							slides, minor interbedded, dark grey siltstone		
							Top of Box 39		
							Claystone - dark grey, thin coal 1.50 cm	0.83	
						113			
							Claystone - same as above, becomes silty towards base	2.05	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 40		
74°							Claystone - same as above, interbedded dark grey siltstone, thin coaly laminations, % of silt increases downhole	0.67	
	114.26	117.19	2.93				Siltstone - dark grey, carbonaceous plant debris	0.33	
						116			
73°							Siltstone - medium grey, fine grained, sandstone interbedded	1.89	
							Top of Box 41		
58°							Siltstone - dark grey, slight shearing, sandy towards base with coaly plant debris	0.71	
	117.19	117.88	0.69				Claystone - dark grey with thin bright coal bands 1 to 2 cm's sheared, core is broken	0.31	
						119			
							Claystone - sheared and broken, coaly plant fragments and thin coal bands	0.38	
	117.88	119.82	1.94				Siltstone - dark grey, coaly plant debris interbedded with medium grey fine grained sandstone	1.40	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 42		
69°							Siltstone - thin discontinous coaly laminations, slight shearing	0.54	
	119.82	120.42	0.60				Claystone - dark grey, sheared coal laminations, core broken	0.60	
						122			
	120.42	120.84	0.42				Carbonaceous claystone dark grey, coal laminations throughout, sheared	0.42	
	120.84	121.78	0.94				Claystone - dark grey, coaly laminations, carbonaceous plant debris, minor interbedded sandstone	0.94	
79°	121.78	122.87	1.09				Sandstone - light to medium grey, fine grained, small scale cross-bedding, soft sediment deformation turbidites	0.39	
							Top of Box 43		
							Sandstone - same as above, minor interbedded dark grey siltstone	0.70	
	122.87	131.16	8.29				Conglomerate - light to medium grey clasts, well rounded chert, quartz and minor amounts of siltstone and sandstone size from 0.5 - 10 cm in diameter, matrix - coarse grained sandstone	0.58	
						125			

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Conglomerate - same as above	1.52	
							Top of Box 44		
							Conglomerate - same as above	1.42	
						128			
							Conglomerate - same as above, core broken towards bottom possible displacement, kaolinite zone	1.38	
							Top of Box 45		
							Conglomerate - same as above	1.60	
						131			
							Conglomerate - same as above, thin calcite filled fractures throughout	1.20	
							Top of Box 46		
							Conglomerate - same as above	0.59	
57°	131.16	131.90	0.74				Sandstone - very coarse grain, slightly sheared, coaly debris along bedding	0.74	
	131.90	154.47	22.57				Conglomerate - same as above	0.43	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
						134			
							Conglomerate - same as above, core broken in one place, average	1.04	
							diameter of clast is 2 cm.		
							Top of Box 47		
							Conglomerate - same as above, coaly fragments, bottom 3 cm with	1.97	
							badly broken claystone		
						137			
							Conglomerate - same as above	0.73	
							Top of Box 48		
							Conglomerate - same as above	2.21	
						140			
							Conglomerate - same as above, calcite filled fractures throughout	0.51	
							large % of clasts chert		
							Top of Box 49		
							Conglomerate - same as above	2.51	
						143			
							Conglomerate - same as above	0.26	

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B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 50		
							Conglomerate - same as above	2.71	
						146			
							Top of Box 51		
							Conglomerate - same as above, core slightly broken	2.74	
							Top of Box 52		
							Conglomerate - same as above	0.21	
						149			
							Conglomerate - same as above	2.58	
							Top of Box 53		
							Conglomerate - same as above, bottom 3 cm is badly broken	0.43	
						152			
							Conglomerate - same as above	2.34	
							Top of Box 54		
							Conglomerate - same as above	0.74	
						155			

474A-8106

HOLE NUMBER MDN81-18

PETRO-CANADA

CORE LOG, COAL DIVISION · CONTINUATION SHEET

HOLE NUMBER MDN81-02

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Conglomerate - same as above	1.16	
58°	154.47	155.44	0.97				Claystone - dark grey, minor interbeds dar grey siltstone,	0.97	
							sheared and scattered coaly laminations, calcite		
							filled fractures		
	155.44	155.55	0.11				CORE LOSS - claystone	0.11	
							Top of Box 55		
	155.55	156.27	0.68				Claystone - dark grey, graded into siltstone at base	0.68	
	156.27	156.97	0.74				Siltstone	0.21	
						158			
							Siltstone- dark grey, minor interbedded, fine grained sandstone	0.53	
							carbonaceous plant debris grades into sandstone		
	156.97	157.97	1.00				Sandstone - medium grey, fine grained, coarsening downwards	1.00	
							sheared, calcite filled fractures cross-bedding		
	157.97	161.21	3.24				Conglomerate - same as above, clast size increases downhole	0.41	

474A-8106

HOLE NUMBER

PETRO-CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER: MDN81-02

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
							Top of Box 56		
							Conglomerate - same as above	1.00	
						161			
							Conglomerate - same as above	1.83	
							Top of Box 57		
	161.21	161.27	0.06				CORE LOSS - conglomerate	0.06	
	161.27	162.44	1.17				Conglomerate - same as above, core broken towards base	1.17	
						164			
	162.44	162.50	0.06				CORE LOSS - conglomerate	0.06	
	162.50	162.80	0.30				Conglomerate - same as above, core broken	0.30	
	162.80	162.97	0.17				Coal - dull with bright bands, sheared, core broken	0.17	
	162.97	163.13	0.16				CORE LOSS - coal	0.16	
	163.13	163.31	0.18				Claystone - carbonaceous, sheared and broken	0.18	
	163.31	164.21	0.90				Siltstone - dark grey, scattered coal fragments, grading into sandstone	0.90	
							Top of Box 58		
	164.21	167.09	2.88				Sandstone - dark grey, fine grained, coarsening downhole, scattered coal fragments	1.33	
						167			

474A-8106

HOLE NUMBER: MDN81-18

PETRO CANADA

CORE LOG, COAL DIVISION - CONTINUATION SHEET

HOLE NUMBER MDN81-02

B.C.A.	UNIT FROM	UNIT TO	UNIT THICKNESS APP.	UNIT THICKNESS TRUE	SAMPLE NUMBER	MARKER	DESCRIPTION	RECOVERY m	RECOVERY %
78°							Sandstone - same as above, coarsening downwards	0.38	
							Sandstone - coarse salt and pepper, occasional scattered bands	1.17	
							Top of Box 59		
	167.09	172.89	5.80				Sandstone - same as above, coarse grain	1.42	
						170			
							Sandstone - same as above	1.46	
							Top of Box 60		
66°							Sandstone - same as above, scattered conglomerate bands and	1.50	
							pebbles		
						173			
							Sandstone - coarsening downhole, scattered coaly inclusions	1.42	
							Top of Box 61		
	172.89	176.34	3.45				Conglomerate - same as above	1.63	
						176			
							Conglomerate - same as above	1.28	
							Top of Box 62		
							Conglomerate - same as above, coaly fragments and inclusions	0.54	
							core badly broken near top		

178 TOTAL DEPTH

HOLE NUMBER MDN81-18

Page transformed from 8.5"x11"

ROKE BOREHOLE GEOPHYSICS INC.

2000 - 14th AVE. NW CALGARY ALBERTA

FILE NO.	
RUN NO.	ONE
DATE	1984.11.17
TYPE LOG	PRESSURE BOMB RUN
BTM. LOG INTERVAL	
TOP LOG INTERVAL	
CASING - DRILLER	
CASING - LOGGER	
BIT SIZE	
TYPE FLUID IN HOLE	
DENSITY	
LEVEL	
MAX. REC. TEMP.	
ESTIMATED TEMP.	
OPERATING RIG TIME	
RECORDED BY	
WITNESSED BY	

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EQUIPMENT				CALIBRATION									
RUN	PROBE TYPE	SERIAL NO.	DETECTOR	TIME	DATE	DT-1 B.P. (PSI)	DT-2 B.P. (PSI)	RUN	TIME	DATE	DT-1 B.P.	DT-2 B.P.
1			1.75 A					2				
2			1.75 A					3				
3			1.75 A					4				
								5				
								6				
								7				
								8				
								9				
								10				
								11				
								12				
								13				
								14				
								15				
								16				
								17				
								18				
								19				
								20				

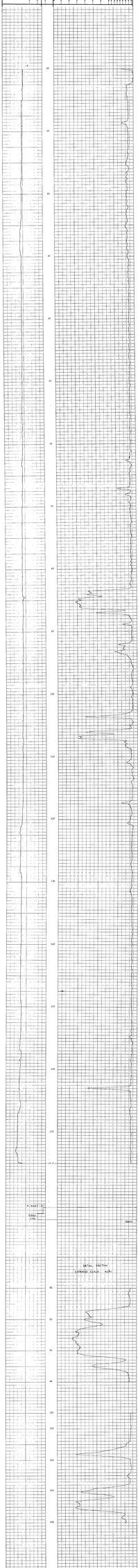
REMARKS

JAN. 7th, 2 stage
FEB. 7th, 2 BT

CALIPER
D-DIRECT - CH

GAMMA RAY
API

BULK DENSITY
GRAM/CC



ROKE CORPORATION

COMPANY	ROKE OIL INC.
WELL	CHRISTIANSEN #1
FIELD	
COUNTY	
STATE	
LOCATION	
DATE	11-17-2010
RUN NO.	1
DEPTH	5475'

547

EQUIPMENT DATA

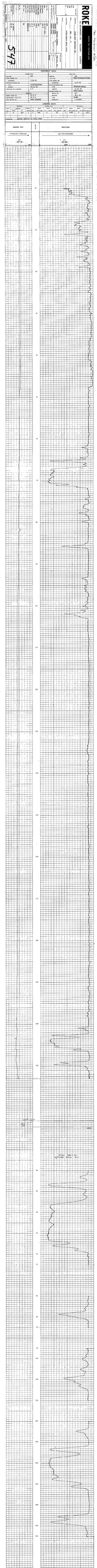
RECORDER DATA		SENSOR DATA	
SERIAL NUMBER		SERIAL NO.	
CHART SERIAL NO.		TYPE	DIFFERENTIAL PRESSURE
PRESSURE RANGE	0-30 PSI	RANGE	0-30 PSI
PRESSURE SPAN	30 PSI	SENSOR NO.	0-30 PSI
DATE	11-17-2010	FLOW	PROPRIETARY
CALIBRATION DATE		CALIBRATION DATE	11-17-2010
		CALIBRATOR	ROKE OIL INC.
		SPAN	30 PSI
ZERO TRIM NO.	0 %	ZERO	0 PSI
SPAN TRIM NO.	0 %	SPAN	30 PSI
ZERO SPRING NO.	0 %	OFFSET	0 PSI
SPAN SPRING NO.	0 %		

CHOKE DATA

CHOKE		CHOKE		CHOKE		CHOKE		CHOKE	
1/4		1/2		3/4		1		1 1/2	
2		2 1/2		3		3 1/2		4	

CHART DATA

CHART NO. 1	
STATIC	DIFFERENTIAL
0 PSI	0 PSI
30 PSI	30 PSI



Company	ROKE OIL ENTERPRISES LTD.
Well	100/06-29-024-28W4M
Field	PENGROWTH SEAL ROCK
Province	ALBERTA
Date	1-Jan-1900
Run No.	1
Depth Driller	1700.0
Depth Logger	1700.0
Bottom Log Interval	1700.0
Top Log Interval	0.0
Casing Driller	0.0
Casing Logger	0.0
Bit Size	0.0
Type Fluid in Hole	NONE
Density	0.0
Viscosity	0.0
Max Rec. Temp.	0.0
Equipment	5547
Recorded By	
Witnessed By	

ROKE OIL ENTERPRISES LTD.
CALGARY, ALBERTA

EQUIPMENT DATA

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	
TOOL MODEL NO.		TOOL MODEL NO.	NEUTRON/NEUTRON
DIAMETER	3.38 IN	TOOL SERIAL NO.	
DETECTOR MODEL NO.		DIAMETER	3.38 IN
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
SERIAL NO.	2A,4A CH	TYPE	PROPORTIONAL
DISTANCE TO SOURCE	2 ft	SERIAL NO.	1J,2A CH
		DISTANCE TO SOURCE	8RC'S SPN
RECORDING EQUIPMENT		RECORDING EQUIPMENT	
SERIAL NO.	PU 2 3	SERIAL NO.	2E 1 CH
INTERFACE UNIT NO.	PU 2 3	TYPE	Audio
TOTAL SERIAL NO.	BUR 32340TU	INTERFACE	2 CHANNEL

LOGGING DATA

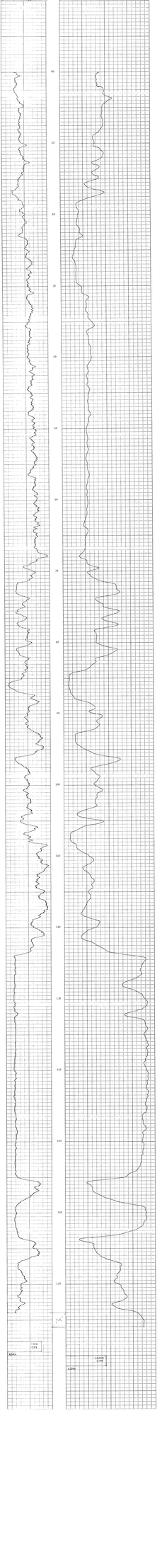
GAMMA RAY						NEUTRON					
RUN	SPEED	PRESET	F1	SPN	SPN AT 0 UNITS	F1	SPN	SPN AT 0 UNITS			
NO.	FT/MIN	FT		CPS	CPS	CPS	CPS	CPS			
1	30	1700.0	0.0	100	0.0	0.0	1000	0.0			

REMARKS: LOGGED THROUGH PE DRILL PIPE

GAMMA RAY | NEUTRON

GAMMA RAY INCREASES ← 0 — 150

NEUTRON INCREASES ← 0 — 1000



P.R. Monkman 81(4)A
Petro Canada Explo Inc

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Document

L. Laurence

CONFIDENTIAL

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 547

TABLE 6

Analyses of Coke Oven Charges and Resultant Cokes

Identification			
Test Number.....	665	666	667
Date Charged.....	2/10/78	11/10/78	13/10/78
Description.....	Monkman #1 Seam B4	Monkman #2 Seam B3	Monkman #3 Seam B9
Coke Oven Charge			
Laboratory Number....	3631-78	3632-78	3687-78
Proximate Analysis (db)			
Ash. . . . .%	9.7	7.3	8.3
Volatile Matter.. .....%	22.8	20.2	22.0
Fixed Carbon ....%	67.5	72.5	69.7
Sulphur (db).....%	0.33	0.44	0.53
Resultant Coke			
Laboratory Number.....	3842-78	3843-78	3844-78
Proximate Analysis (db)			
Ash... ....%	12.0	9.1	10.8
Volatile Matter.....%	1.5	1.5	1.6
Fixed Carbon.....%	86.5	89.4	87.6
Sulphur (db).....%	0.34	0.46	0.43

PRELIMINARY

Test Identification Number	665		666		667	
Data of Test	2 Oct. 78		11 Oct. 78		16 Oct. 78	
Laboratory Number						
Description	Monkman #1 (Seam B4)		Monkman #2 (Seam B3)		Monkman #3 (Seam B9)	
CARBONIZATION DATA	100%		100%		100%	
Net Weight of Charge (wet) lb	528.4		538.9		578.6	
Moisture in Charge %	3.0		3.0		2.8	
ASTM Bulk Density (wet) lb/ft^3						
Oven Bulk Density (db) lb/ft^3	48.2		49.0		52.9	
CARBONIZATION RESULTS						
Gross Coking Time hr:min	9:40		9.30		9·30	
Maximum Wall Pressure lb/in^2	0.49		0.69		0.58	
Coke Yield Actual %	76.6		77.3		75.5	
Mean Coke size in	1.99		2.00		2.03	
Apparent Specific Gravity	0.910		0.945		0.908	
Screen Analysis of Coke (cumulative percentage retained on)						
3 inch sieve	10.7		13.9		13.1	
2 inch sieve	44.3		50.9		45.9	
1 1/2 inch sieve	71.2		74.5		70.7	
1 inch sieve	92.7		92.7		90.0	
3/4 inch sieve	95.3		94.7		92.2	
1/2 inch sieve	96.5		95.7		93.2	
Percentage -1/2 inch (breeze)	4.5		4.3		6.8	
Tumbler Test (ASTM)						
Stability Factor	58.7		59.3		38.1	
Hardness Factor	71.1		67.8		58.4	
Japanese Drum Test (JIS) (cumulative percentage retained on)	*	**	*	**	*	**
50 mm sieve	17.0	4.1	28.0	11.0	7.0	1.4
25 mm sieve	87.2	72.7	89.3	75.2	75.9	55.4
15 mm sieve	93.9	83.8	94.1	83.5	89.6	74.2

* JIS DRUM TEST 30 REVS

** JIS DRUM TEST 150 REVS

MONKMAN COAL PROJECT

		GIESELER PLASTICITY							RUHR DILATOMETER						
		START		MAXIMUM		FINAL		RANGE	START	SOFT	MAX DIL	CONTR.	DIL.	G	
SEAM	HOLE NO	°C	DDPM	°C	DDPM	°C	DDPM	°C	°C	°C	°C	%	%	FACTOR	FSI
B9	MDD 81-01	449	1	465	2	493	0	44	-	-	-	-	-	-	3 5
	MDD 81-02	440	1	457	2	492	0	52	413	-	-	19	-	-	3.5
	MDD 81-03	443	1	464	2	492	0	49	398	-	-	23	-	-	4
	81-05	445	1	460	2	490	0	45	407	-	-	18	-	-	3
	81-06	451	1	464	2	490	0	39	416	-	-	17	-	-	4
	81-08	454	1	468	2	494	0	40	403	-	-	18	-	-	4
	81-09	440	1	468	13	498	0	58	410	-	-	18	-	-	3.5
	81-11	424	1	458	60	490	0	66	401	-	-	23	-	-	5.5
	81-13	454	1	467	1	482	0	28	407	-	-	18	-	-	3 5
	Adit 78-B9	410	-	462	4	489	-	79	-	398	-	22	NIL	-	3 5
	MUD 78-17	445	-	465	3	492	-	47	-	401	-	21	NIL	-	2 5
	MUD 77-04	444	-	455	2	471	-	27	360	400	466	17	NIL	-	4.5
	MUD 77-05	450	-	456	1	465	-	15	340	405	481	20	NIL	-	1
B7	MDD 81-01	438	1	466	57	496	0	58	398	-	473	25	36	1 016	8
	MUD 81-06	434	1	469	95	499	0	65	398	-	473	23	34	1.017	8
	81-09	443	1	473	13	499	0	56	392	-	473	25	5	0 941	7 5
	81-13	425	1	474	23	497	0	72	386	-	470	25	17	0 982	7.5
	MUD 77-05	411	-	456	55	483	-	72	390	380	475	28	32	1.01	7
B5	MDD 81-01	441	1	473	25	494	0	52	401	-	473	27	30	1 005	6
	81-02	444	1	471	24	500	0	56	401	-	473	21	-1	0 917	6
	MDD 81-03	438	1	460	5	490	0	52	398	-	473	24	-19	0 575	6 5
	81-05	440	1	467	16	495	0	55	402	-	470	22	-8	0.850	4.5
	81-09	447	1	477	15	502	0	55	383	-	464	22	37	1.025	8
B4	MDD 81-02	442	1	472	49	501	0	59	396	-	471	24	17	0 985	7.5
	MUD 81-03	439	1	469	40	497	0	57	396	-	467	18	19	0.716	7
	81-05	436	1	470	24	498	0	61	401	-	478	23	4	0 916	7
	81-06	439	1	474	29	501	0	62	394	-	472	24	4	0.940	7 5
	81-09	447	1	472	8	500	0	53	392	-	470	24	-10	0.820	7
	MRC 80-75	441	1	472	35	507	0	66	-	395	473	23	26	1.005	7.5
	MUD 78-14	397	-	469	64	501	-	104		NOT DETERMINED					

MONKMAN COAL PROJECT

		GIESELER PLASTICITY							RUHR DILATOMETER						
		START		MAXIMUM		FINAL		RANGE	START	SOFT	MAX. DIL.	CONTR.	DIL.	G	
SEAM	HOLE NO	°C	DDPM	°C	DDPM	°C	DDPM	°C	°C	°C	°C	%	%	FACTOR	FSI
B3	MDD 81-02	437	1	469	33	498	0	61	395	-	473	26	16	0.979	7.5
	MUD 81-03	432	1	466	60	502	0	70	395	-	470	25	40	1 020	8
	81-05	436	1	472	24	500	0	64	401	-	473	23	18	0.990	7.5
	81-06	438	1	471	51	502	0	64	394	-	469	25	27	1.003	8
	81-09	437	1	472	89	505	0	68	383	-	464	22	37	1.025	7
	MRC 80-76	448	1	478	179	513	0	65	-	389	476	26	66	1.046	8
B2-B1	MDD 81-02	434	1	469	214	502	0	68	394	-	469	24	43	1 013	7 5
	MUD 81-03	434	1	470	104	505	0	71	392	-	464	25	43	1 021	8
	81-09	441	1	472	189	508	0	67	383	-	467	24	54	1 040	8
	81-05	435	1	473	27	502	0	67	399	-	475	24	6	0.894	7 5

desired for a thermal coal but the thermal characteristics of the coal are amply demonstrated. Summarized results by seam and area are provided at the end of this section. Detailed results by hole and by seam are provided in Appendix A. It should be stressed that the values contained within the summary tables are often based on only one or two composites and may not be representative of the area within which they are located.

6.2.2 Coking Parameters

6.2.2.1 Free Swelling Index

The ranges of F.S.I. for the various seams are as follows:

B-9	1-5½
B-7	7-8
B-5	4½-8
B-4	7-7½
B-3	7-8
B2-B1	7½-8

The majority of the F.S.I.'s measured on B9 are in the 3½-4 range, indicating fairly weak coking properties. The remainder of the seams are moderately to strongly coking (Table 6-1).

6.2.2.2 Phosphorus

For steel-making, the commonly acceptable upper limit for P_2O_5 in the product coal is 0.13%. From the results obtained in clean coal analysis (Table 6-1) it appears that several of the seams have levels of P_2O_5 above this limit. The results are confirmed by the ash analyses (Table 6-2).

6.2.2.3 Fluidity

The fluidity values are low, as is typical of Western Canadian coals of this volatile matter content. Seam B9, however, is significantly lacking in fluidity (Table 6-3).

6.2.2.4 Dilatation

The Ruhr Dilatometer test is not considered reliable on Western Canadian coals because the fine grinding required in preparing the sample results in the release of fine inert material which would otherwise be enveloped in vitrinite. The effect of this is to depress the dilatation. In spite of this, however, many of the G values reported on Duchess samples fall between 0.95 and 1.15 and are therefore clearly in the "medium to strongly coking" range (Table 6-3). Seam B9 is the notable exception, exhibiting no dilatation.

6.2.2.2 Petrography

Average mean maximum reflectance values for the Duchess area are as follows:

Seam	Ro
B-9	1.11
B-7	1.13
B-5	1.19
B-4	1.19
B-3	1.22
B2-B1	1.26

The trend towards increasing reflectance value with increasing stratigraphic depth is obvious. The values are somewhat lower than in the Duke Pit area, described in last year's report, but the level is acceptable for coke-making.

The petrographically derived JIS drum indices (Table 6-4) suggest that all the seams individually are capable of producing a satisfactory coke. This was not confirmed in the case of B9 which was bulk sampled in 1978 and tested in the JIS tumbler. The JIS 30/15 coke stability was 89.6 as compared with an acceptable 92.

The ASTM Stability Index predicted for the B9 bulk sample was 46 whereas in the actual test, the stability index was 38.1. Both values are below the acceptable range. The stability indices for the other seams fall within the 55-60 range which is acceptable.

6.2.3 Thermal Parameters

6.2.3.1 Ash Fusion Temperature

All seams meet the commonly required minimum ash fusion temperature of 1200°C (for dry ash removal systems). This figure refers to the Initial Deformation Temperature under reducing conditions (Table 6-5).

6.2.3.2 Sodium

The maximum acceptable amount of sodium is 3% of ash if fouling problems are to be avoided. The results shown in Table 6-5 clearly indicate that no fouling problems need be anticipated.

6.2.3.3 Petrography

It is useful to know the petrographic composition of a coal in order to determine its inert content. There is a risk with medium and low volatile coals that the percentage of inerts will be so high that in the pulverised feed boiler the coal will not burn efficiently. In one case where this type of coal was tested in a boiler designed for high volatile coals the fly ash was found to contain 40% carbon. The inert content in that case was 45%. In comparison, seam B9 contains 37.9% inerts; the other seams are lower (Table 6-5).

6.2.3.4 Calorific Value

The Duchess coals, in terms of calorific value, rate as superior (Table 6-5). Typical clean coal values (dry basis) are close to 14,000 Btu/lb. (32,500 kJ/kg).

6.2.3.5 Volatile Matter

The saleability of thermal coal is determined in part by the boiler the purchaser operates. A plant designed for high volatile coal may not have sufficient room to accommodate the greater flame length required for the efficient combustion of coal of higher rank. The limit for such a boiler is 25% dmmf V.M. Duchess coals, with volatile matter content ranging from 24.8% to 27.1% are close to this limit and would require burn tests to clearly determine their behaviour in the boiler (Table 6-5).

6.2.4 Carbonization Data - B9 Bulk Sample (1978)

The information resulting from moveable-wall oven tests at the EMR laboratory in Ottawa is presented in Appendix A. Further information on the adit from which the sample was obtained is to be found in the 1978 assessment report.

TABLE 6-3
MONKMAN COAL PROJECT

		GIESELER PLASTICITY							RUHR DILATOMETER						
SEAM	AREA	START °C	START DDPM	MAXIMUM °C	MAXIMUM DDPM	FINAL °C	FINAL DDPM	RANGE °C	START °C	SOFT °C	MAX. DIL °C	CONTR %	DIL %	G FACTOR	FSI
B9	DUCHESS EAST	442	1	461	2	487	0	45	400	399	468	19	0	0	3.5
	DUCHESS WEST	439	1	461	19	486	0	46	379	402	481	20	0	0	3
B7	DUCHESS EAST	428	1	464	57	492	0	64	390	--	471	24	28	0.995	7.5
	DUCHESS WEST	427	1	464	34	491	0	64	391	380	474	26	18	0.976	7
B5	DUCHESS EAST	440	1	467	17	494	0	53	400	--	472	23	-	0.837	5.5
	DUCHESS WEST	447	1	477	15	502	0	55	383	--	464	22	37	1.025	8
B4	DUCHESS EAST	430	1	470	41	499	0	68	396	--	472	22	11	0.889	7
	DUCHESS WEST	447	1	472	8	500	0	53	392	--	470	24	-10	0 820	7
	BOOMERANG	441	1	472	35	507	0	66	--	395	473	23	26	1.005	7
B3	DUCHESS EAST	430	1	464	44	501	0	65	396	--	470	24	28	1.003	7.5
	DUCHESS WEST	437	1	472	89	505	0	68	383	--	464	22	37	1.025	7
	BOOMERANG	448	1	478	179	513	0	65	--	389	476	26	66	1.046	8
B2-B1	DUCHESS EAST	434	1	470	114	502	0	68	394	--	468	24	30	0.975	7.5
	DUCHESS WEST	441	1	472	189	508	0	67	383	--	467	24	54	1.040	8

TABLE 6-4

MONKMAN COAL PROJECT

PETROGRAPHIC ANALYSIS

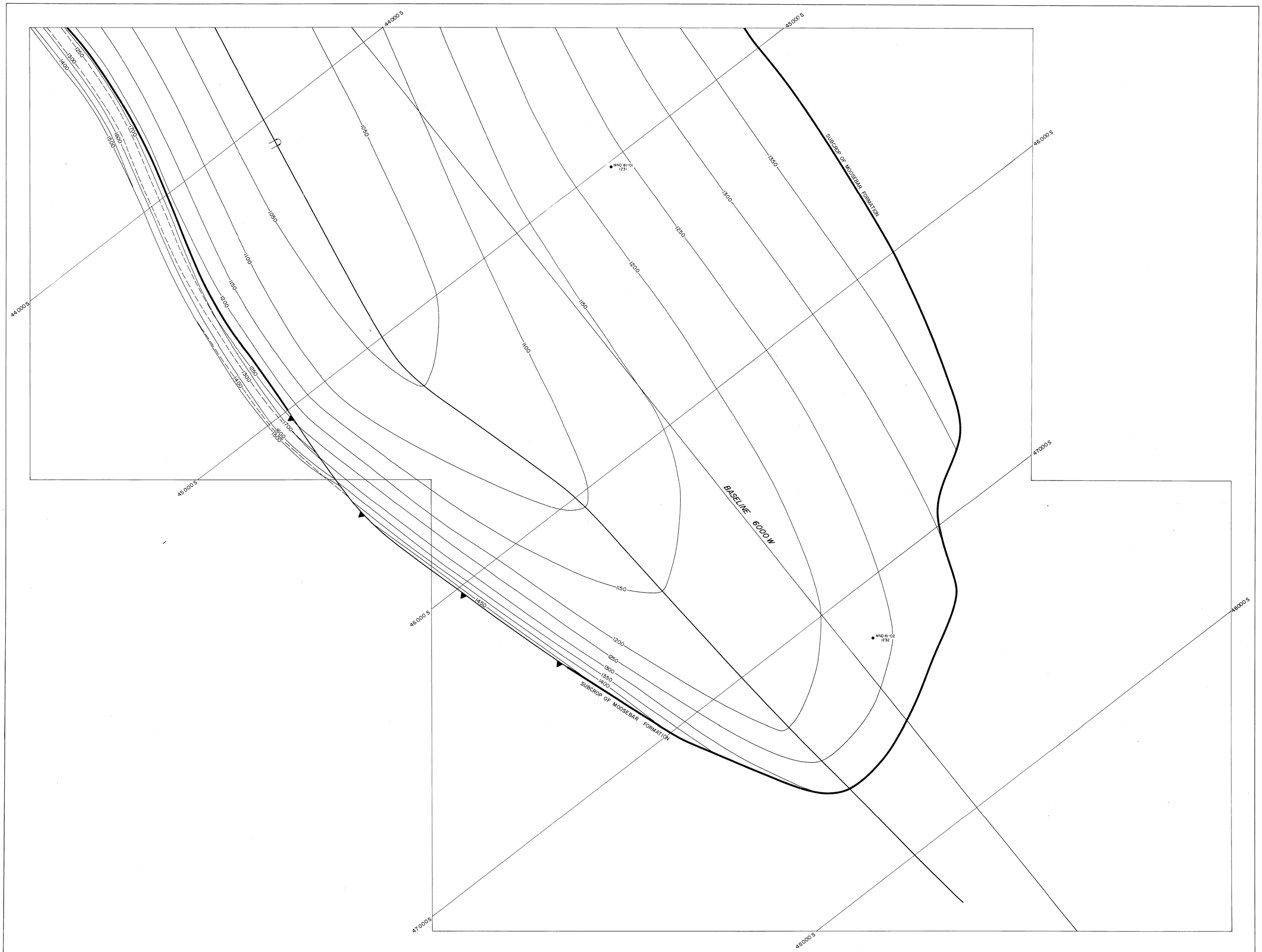
SUMMARY

SEAM	AREA	R_o	VITRINITE	EXINITE	SEMI-FUSINITE	MACRINITE	MICRINITE	FUSINITE	MINERAL MATTER	REACTIVES %	INERTS %	CBI	STRENGTH INDEX	COKE STABILITY	JIS DRUM INDEX
B-9	Duchess East	1.11	49.27	1 56	36.82	1.02	2.63	4.08	4.62	63.53	36 47	1.58	4 09	49	91
	Duchess West	1 11	44.00	2.92	35.62	3.10	3.14	6 62	4.60	58 95	41.05	2 07	3.94	39	89
B-7	Duchess East	1.13	66.31	1 72	21.37	0.58	1 59	4.03	4.40	74.62	25.38	0 92	4.38	59	92
	Duchess West	1 15	60 21	2 76	21.09	4 09	1 72	6.94	3.19	69.72	30.28	1.16	4 29	56	92
B-5	Duchess East	1.19	58 21	0 28	30.46	0.72	2.39	3.34	4.63	67.82	32 18	1.38	4.49	56	92
	Duchess West	1 20	65.74	0	25.56	0	1 70	2.46	4.54	73.56	26.44	1.05	4 63	61	92
B-4	Duchess East	1 19	58.34	0 55	30 04	0.72	2 52	3 28	4.55	68.28	31.72	1.36	4.51	56	92
	Duchess West	1 19	60.82	0	30 02	0	1 75	2 73	4.68	71 35	28.65	1.16	4.59	60	92
	Boomerang	1 25	54.43	0	34.93	1.05	2 55	3.60	3.44	66.40	33 60	1.65	4.82	56	92
B-3	Duchess East	1 22	61 58	0.43	27 10	0.40	2 46	3.83	4.20	71.01	28.99	1.35	4 88	59	92
	Duchess West	1 22	65 99	0	26.76	0	1.52	2.29	3 44	73 28	26.72	1.12	4.80	62	93
	Boomerang	1.27	54 05	0	32 82	1.09	2 84	3.72	5.47	65 70	34.40	1 73	4 84	55	92
B2-B1	Duchess East	1 25	59 83	0.42	28.75	1 12	2 83	3.79	3.26	69.38	30 62	1.52	4.91	57	92
	Duchess West	1.24	64.03	0	27.31	0	1 77	2.16	3 93	73 93	26 07	1.11	4 86	62	93

MONKMAN COAL PROJECT

PETROGRAPHIC ANALYSIS

SEAM	HOLE NO.	R_o	VITRINITE	EXINITE	SEMI-FUSINITE	MACRINITE	MICRINITE	FUSINITE	MINERAL MATTER	REACTIVES %	INERTS %	CBI	STRENGTH INDEX	COKE STABILITY	JIS DRUM INDEX
B-9	MDD81-01	1.14	55.09	1.92	34 98	0	1 10	1.65	5.23	68 99	31.01	1.21	4.37	58	92
	MDD81-02	1.14	67 72	0.67	22.57	0	1.80	2 25	4.97	76 44	23 56	0.83	4 45	60 5	92
	MUD81-03	1.10	42 31	0 94	47 02	0	1 57	3 76	4.39	58.66	41.34	1.80	3 90	43	91
	MUD81-05	1.11	43.76	0	45 09	0	3 44	3 97	3.71	57.93	42 07	1.90	3 98	43	90
	MUD81-06	1.10	55.87	1 77	34.14	0	1 77	2 22	4.21	68.54	31.46	1.17	4 14	56	92
	MUD81-08	1 05	54.46	2.47	33 16	0	0.99	2 97	5 94	68 70	31 30	1.13	3.95	65	92
	MUD81-09	1 11	41 77	2 53	42 13	0	2.71	3 79	7.05	59.68	40.32	1.74	3.97	45	91
	MUD81-11	1.08	50 09	0 97	39 14	0	1 56	5 47	2 74	63 06	36.94	1.61	4.28	51 5	92
	MUD81-13	1 09	40.86	2.05	46.80	0	3.42	2.96	3.88	57.87	42.13	1.83	3 79	41	91
	MDD80-10	1 13	41 76	0	46.76	0.29	1 18	3 24	6 76	58 52	41 48	1 88	4.04	44	92
	ADIT78-B9	1.13	42.8	1 8	35 9	0	7.0	7.8	4.7	62.5	37.50	1.89	4.2	46	91
	MUD78-17	1.14	49 24	1.85	35.41	1 69	4.05	3 37	4.38	54 55	45.45	2.23	3 85	37	90+
	MUD78-21	1.10	49 58	2 11	32 28	2 74	4 22	4 85	4 22	61.80	38.20	1.59	3 98	47	91
	MUD77-04	1.13	47.62	3.43	26 29	8.19	2 48	9.14	2.86	58 84	41.16	1 93	4 17	45	90
	MUD77-05	1.12	34.93	6 32	25.75	10 69	4 22	13 86	4 22	49.74	50.26	2.68	3.66	26	85
B-7	MDD81-01	1.18	68.51	0.50	17 13	0.50	1.01	4.28	8 06	73.82	26 18	1 02	4 60	61	92
	MUD81-06	1.13	63.37	1 68	27.36	0	0.84	2 94	3.79	72 57	27.43	1.01	4 39	60.5	92
	MUD81-09	1.12	63 09	1.15	28.68	0	1.15	2.86	3 06	73 96	26 04	0.92	4.33	60	92
	MUD81-13	1 10	62.85	1 41	25.30	0	1 40	3 21	5 82	72.51	27 49	0.97	4.19	58	92
	MUD81-14	1.07	60 90	1 36	27.75	0	1.47	4.33	4.16	72.17	27 83	0 99	4 05	54	92
	MUD78-21	1.16	70.69	3 56	14.26	1.19	2.57	4.95	2 77	78.52	21.48	0.76	4.49	61	93
	MUD77-04	1 14	71.39	1.80	16 44	1 80	2 25	4.50	1.80	78.14	21 86	0.79	4 57	61	93
	MUD77-05	1.17	57.41	4 37	13.49	8 17	2.28	11.02	3.32	65 48	34 52	1 40	4 24	53	92
B-5	MDD81-01	1.21	60.91	0	27.75	1.01	2 12	3.47	4.72	69.42	30 58	1.35	4 58	56	92
	MDD81-02	1.18	57.98	1.38	28 20	0	2 76	3.55	6.11	67.85	32 15	1.35	4 45	57	92
	MDD81-03	1.19	61.73	0	29.98	0 59	2 37	2.56	2 76	70.91	29 09	1.19	4.55	60	92
	MDD81-05	1 14	51 63	0	37.75	0 76	1.67	3 36	4 81	62.77	37 23	1.60	4.23	50	91
	MDD81-06	1.19	59.44	1.13	30.42	0	1.41	3 38	4.22	69.27	30 73	1 29	4 54	59	92
	MDD81-09	1.20	65.71	0	25 56	0	1 70	2.46	4.54	73.91	26 44	1.05	4 63	61.5	92
	MDD80-10	1.22	58.54	0	28 64	1 26	3.02	3.77	4 77	68.14	31 86	1 42	4 66	57 8	92
	MUD77-04	1.20	40.09	2.03	30.86	3.60	8 33	11 26	3.83	51.63	48 37	2 78	4.11	34	90
B-4	MDD81-02	1.21	61.42	0.23	28.09	0.45	2 15	3.16	4 19	70 57	29 13	1.24	4 65	60	92
	MUD81-03	1.19	58 82	0 24	30.47	0.25	2.10	3 71	4 39	69.00	31 00	1.32	4 51	58	92
	MUD81-05	1.18	55.66	0	35 64	0 31	1.74	2.24	4 40	66 94	33 06	1 43	4 46	55	92
	MUD81-06	1.16	55.96	0	35 52	0	1 46	3 40	3 65	66 44	33.56	1.42	4 43	55	93
	MUD81-09	1.19	60.81	0	30.02	0	1 75	2 73	4.68	71.35	28.65	1 16	4 59	60 5	92
	MUD81-14	1.18	66.51	0.35	22 55	0	1 69	3.42	5 46	73.14	26.86	1.04	4 57	61	92
	MDD80-10	1.20	60.43	0	29.84	0.54	1 83	2.77	4 58	70.28	29 72	1 28	4 63	58	92
	MRC80-75	1 25	54 43	0	34 93	1 05	2 55	3 60	3 44	66 40	33 60	1.65	4 82	56	92
	MUD78-14	1.19	53 64	1.01	28 09	2.03	6 09	4.57	4 57	63 56	36.44	1 67	4 43	52	92
	MUD78-21	1 18	53.91	2 55	30.15	2.21	3 08	2 94	5.19	66.01	34 00	1.47	4.46	55	92
	MUD77-04	1.20	51 31	2 79	21.45	8 58	1 49	10 26	4 10	61 07	38 93	1.86	4 40	50	92
B-3	MDD81-02	1.24	63 11	0	25 98	0 23	2 08	4.18	4 41	71 98	28 02	1.26	4 90	61 5	92
	MUD81-03	1 28	62.31	0	26.55	0	2.99	3 42	4 71	71 77	28 23	1 35	5.20	62	92
	MUD81-05	1.24	61 73	0	27 78	0	2 46	2.77	5 25	70 67	29 33	1.32	4 89	60 5	93
	MUD81-06	1 25	68.02	0	25 53	0	1.50	2.36	2 57	75 81	24 19	1 14	4 88	62	94
	MUD81-09	1 22	65 96	0	26 76	0	1 52	2 29	3 44	73 28	26 72	1 12	4 80	62 3	93
	MUD81-14	1 20	63 30	0 47	28 67	0	1 65	2 83	3.06	73 19	26 81	1 07	4 63	61	92
	MDD80-10	1 29	59 67	0	29 13	0 69	2 56	3 73	4 19	69 43	30 57	1 53	5 14	60	92
	MRC80-76	1 27	54 05	0	32.82	1 09	2 84	3.72	5 47	65 70	34 40	1 73	4 84	55	92
	MUD78-21	1 04	52.82	2 51	26 09	1 88	3.97	7 51	5.22	64.22	35 78	1 75	4 55	52	92
	MUD77-04	1 24	43 71	1 03	26.69	2 27	3.51	6 59	13 19	57 04	42 96	2 43	4 54	44	91
B2-B1	MDD81-02	1 24	64.26	0	26 25	0 54	2.45	3.86	2 63	71.82	28 24	1.34	4.83	59	92
	MUD81-03	1 27	61 31	0	30 42	0	1.46	2 32	3 44	73 42	26 58	1 31	5 09	62	92
	MUD81-05	1 26	63 82	0	28 34	0	1 21	3.03	3 60	73 13	26 83	1 23	5 07	62	93
	MUD81-06	1 25	68 05	0	26 14	0	1 24	2.69	1 86	75 35	24 65	1 04	4 90	63	94
	MUD81-09	1 24	64 83	0	27 31	0	1 77	2 16	3 93	73 93	26 07	1 11	4.86	62 5	93
	MDD80-10	1 27	62 18	0	27 00	0 87	2 32	2 99	4 64	71.30	28 70	1 37	5 09	60	92
	MUD78-14	1 25	45 79	1 45	31.59	3 62	7 25	6 23	4 05	57 76	42 24	2 39	4 62	46	90
	MUD78-21	1 26	52 17	1 52	31 52	2 83	3 91	5 43	2 61	62.86	37 14	1 94	4 78	52	92
	MUD77-04	1.26	52 41	1 20	29 12	4 02	5.22	3 41	4.62	63 92	36 08	1 86	4 82	53	92



LEGEND

STRUCTURE CONTOURS

CONTOUR SHADOWED BY OVERLYING CONTOUR (BED IS OVERTURNED)

SUBCROP OF BASE OF MOOSEBAR FORMATION

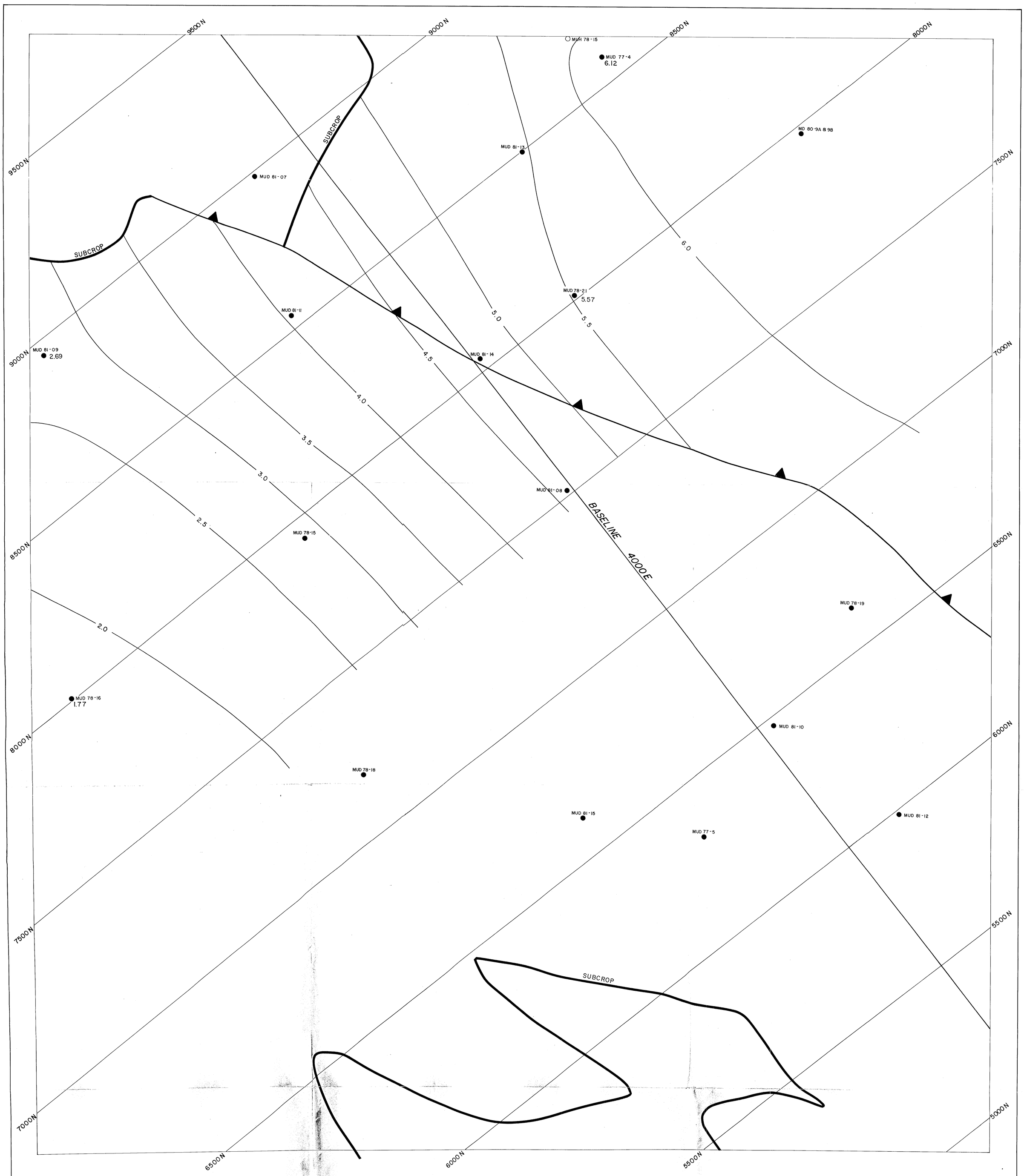
547 Re- Monkman 81(a)(b)

PETRO CANADA
COAL DIVISION

DATE	DECEMBER 1981
REVISED	
AUTHOR	F.B.G.
DRAFTED	P.J.H.
SCALE	1:5000

MONKMAN COAL PROJECT

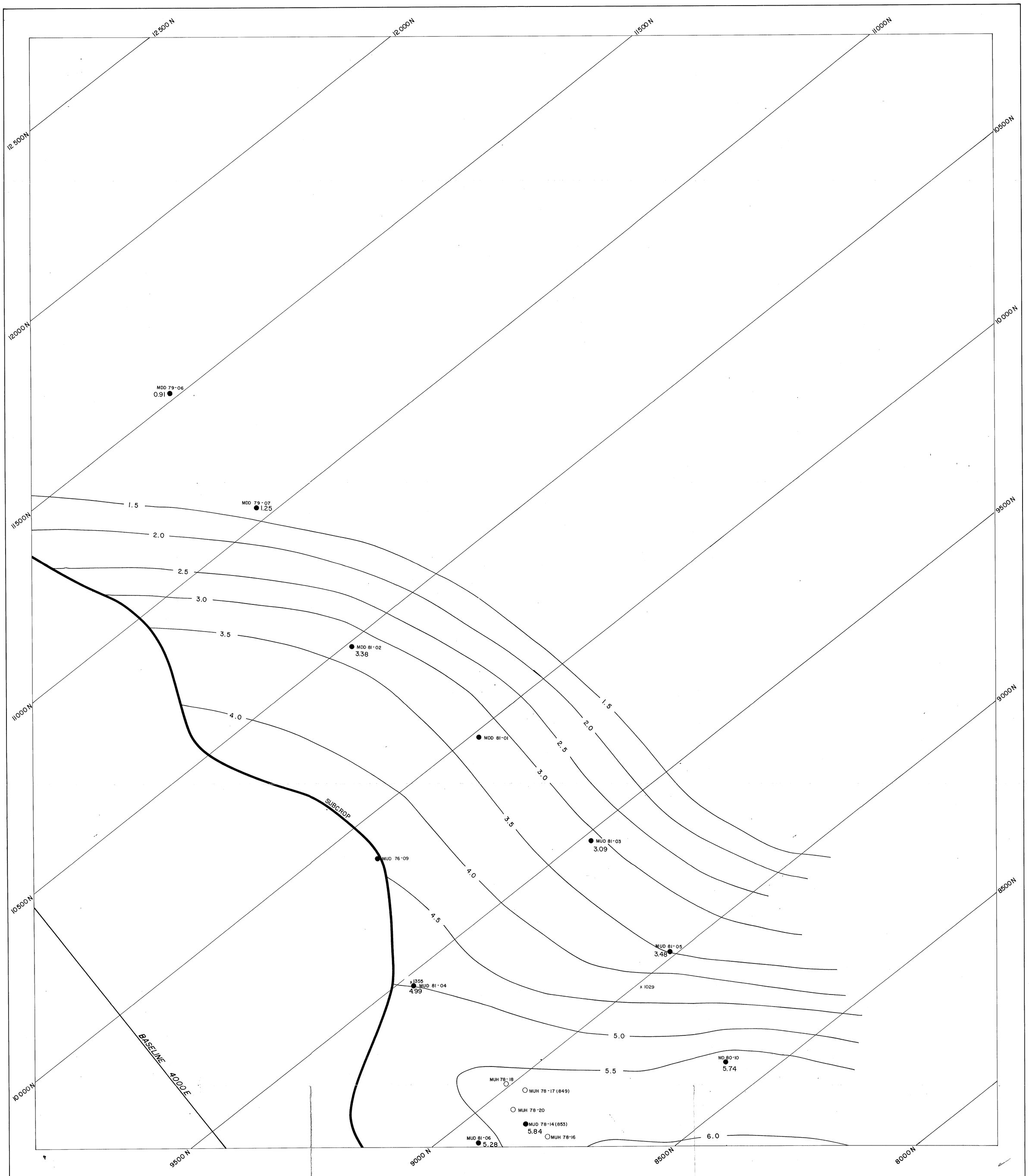
NEKIK BLOCK STRUCTURE CONTOUR MAP BASE OF MOOSEBAR FORMATION



547 Re-Monkman 81 data

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUCHESS/DOKKEN**
AUTHOR E. G. P.	**MINING SECTION ISOPACH**
DRAFTED S. K.	
SCALE 1:5000	**B-1**
N22	

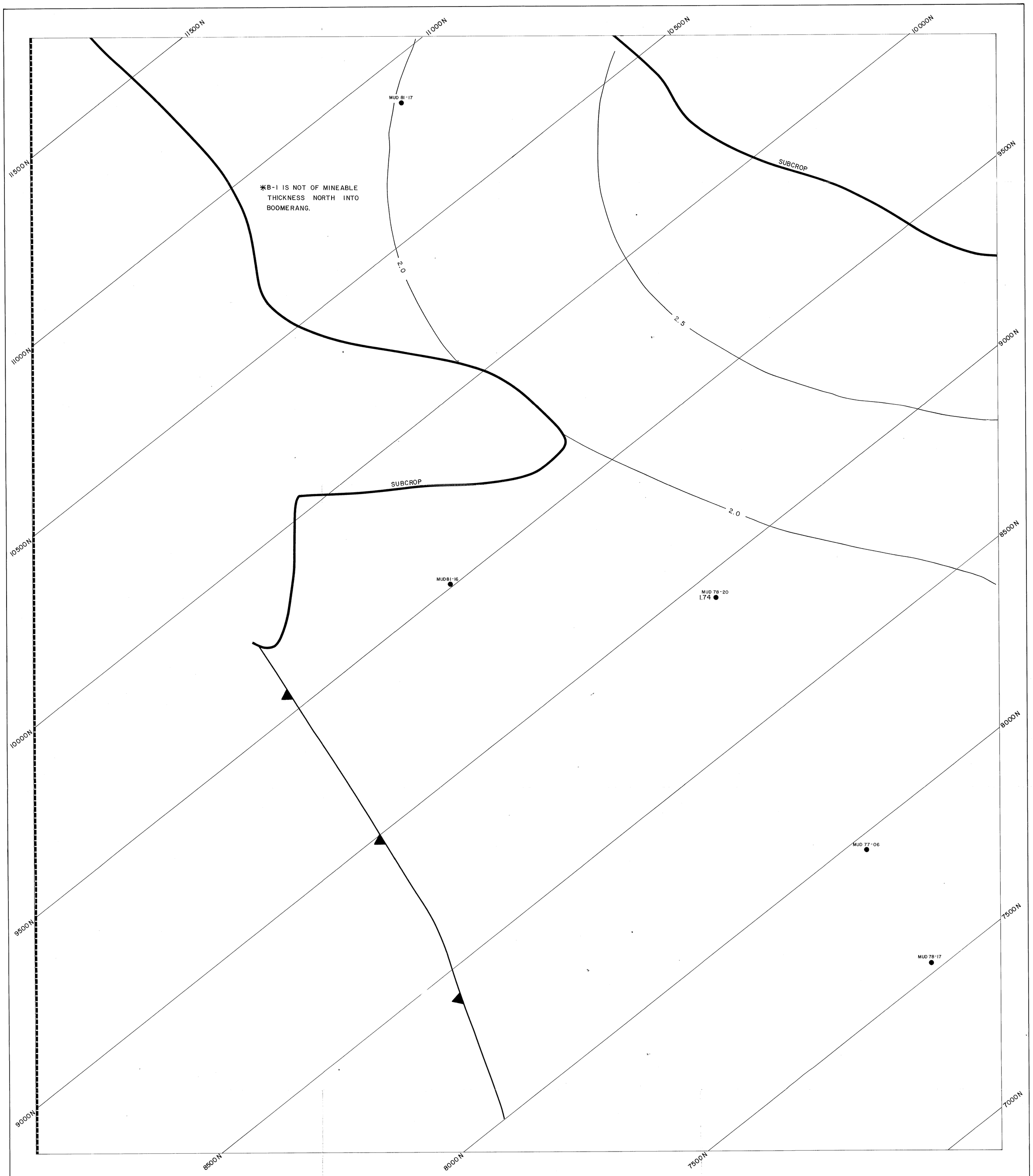
C.I. = .50 meters



Re - Monkman silo 547

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	B-1
SCALE 1:5000	
N 23	

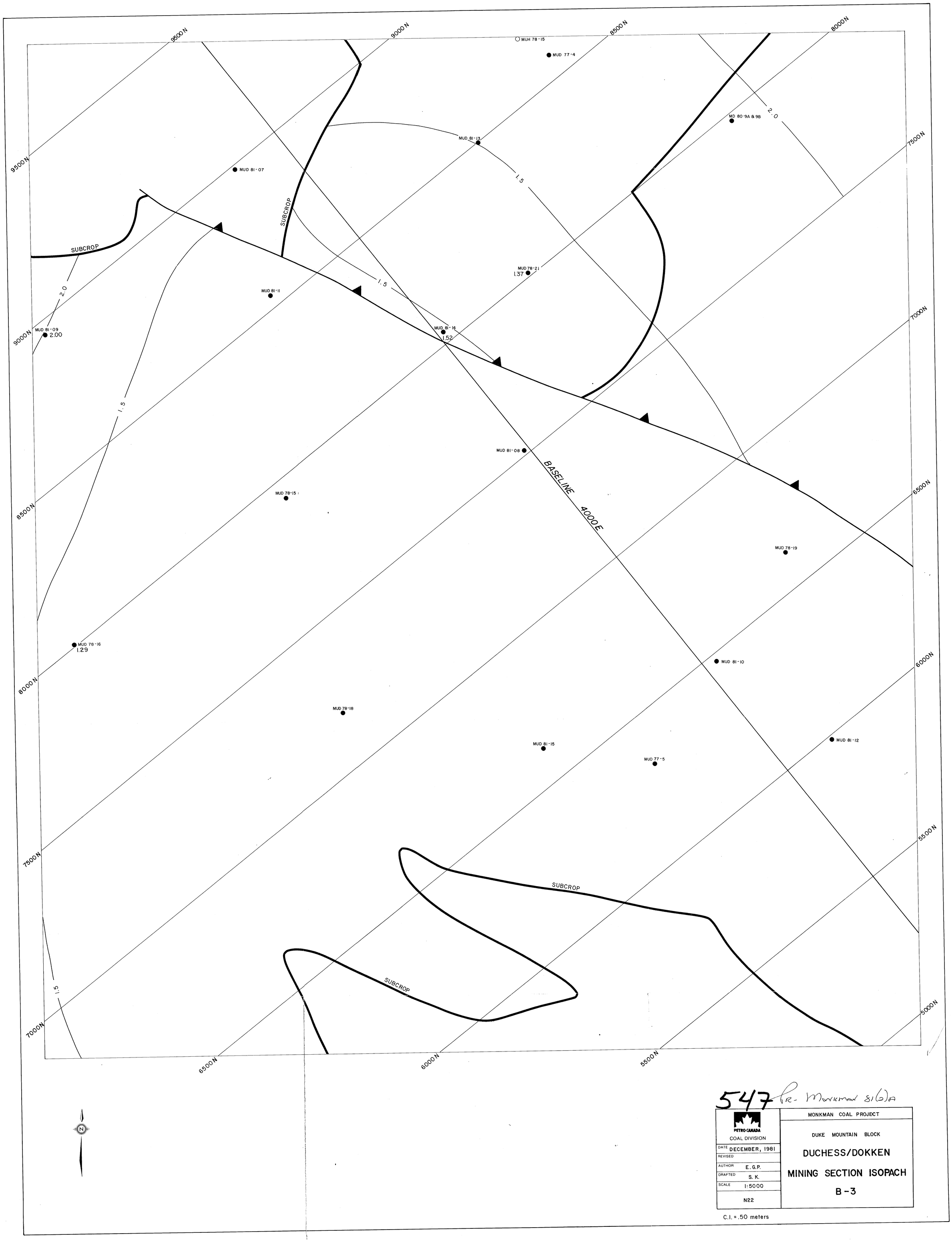
C.I. = .50 meters



547 Re- Monkman Alberta

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	BOOMERANG/DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	
SCALE 1:5000	B-1
022	

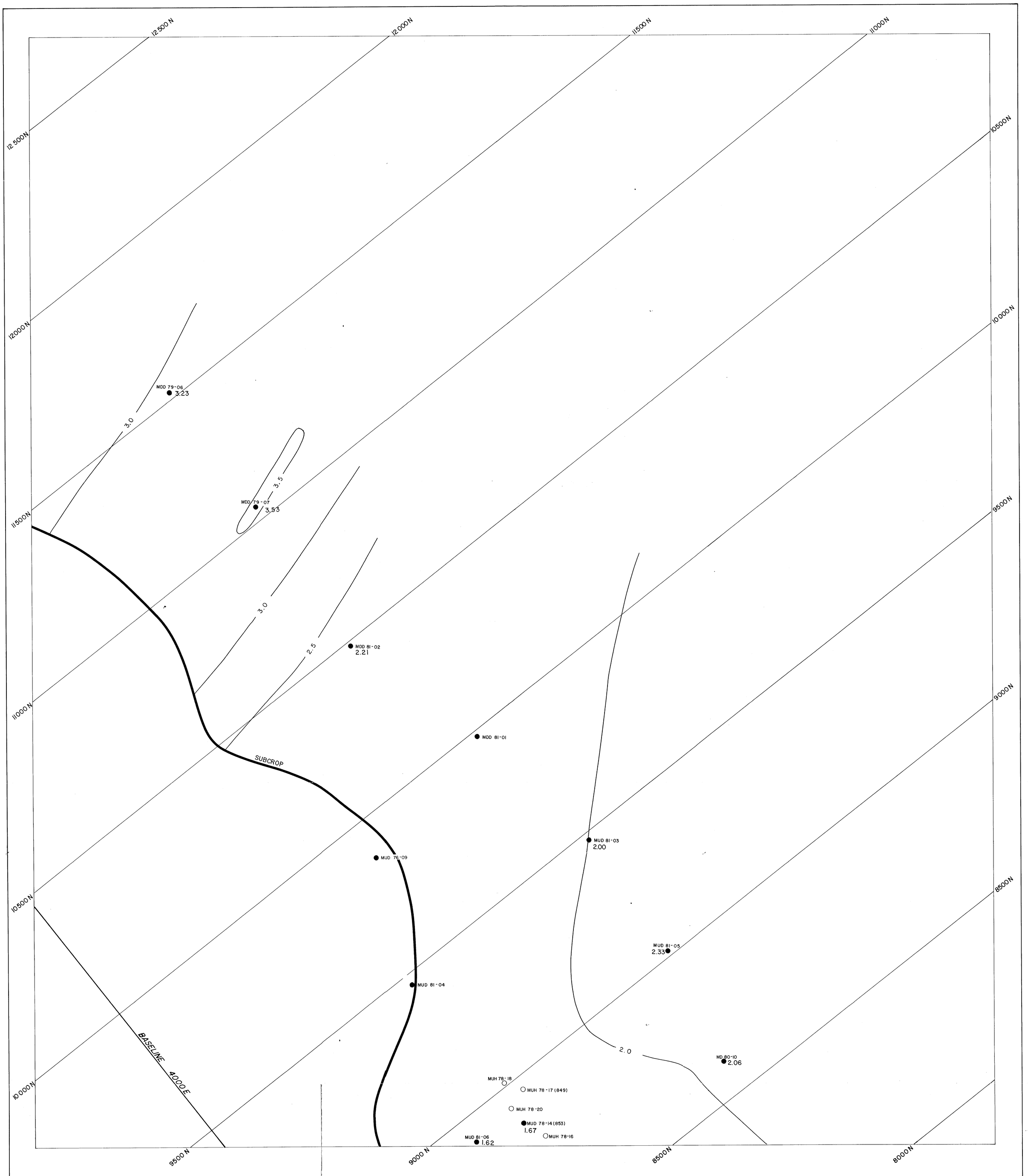
C.I. = .50 meters



547 Re- Monkman S1(b)a

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E. G. P.	MINING SECTION ISOPACH
DRAFTED S. K.	
SCALE 1:5000	B-3
N22	

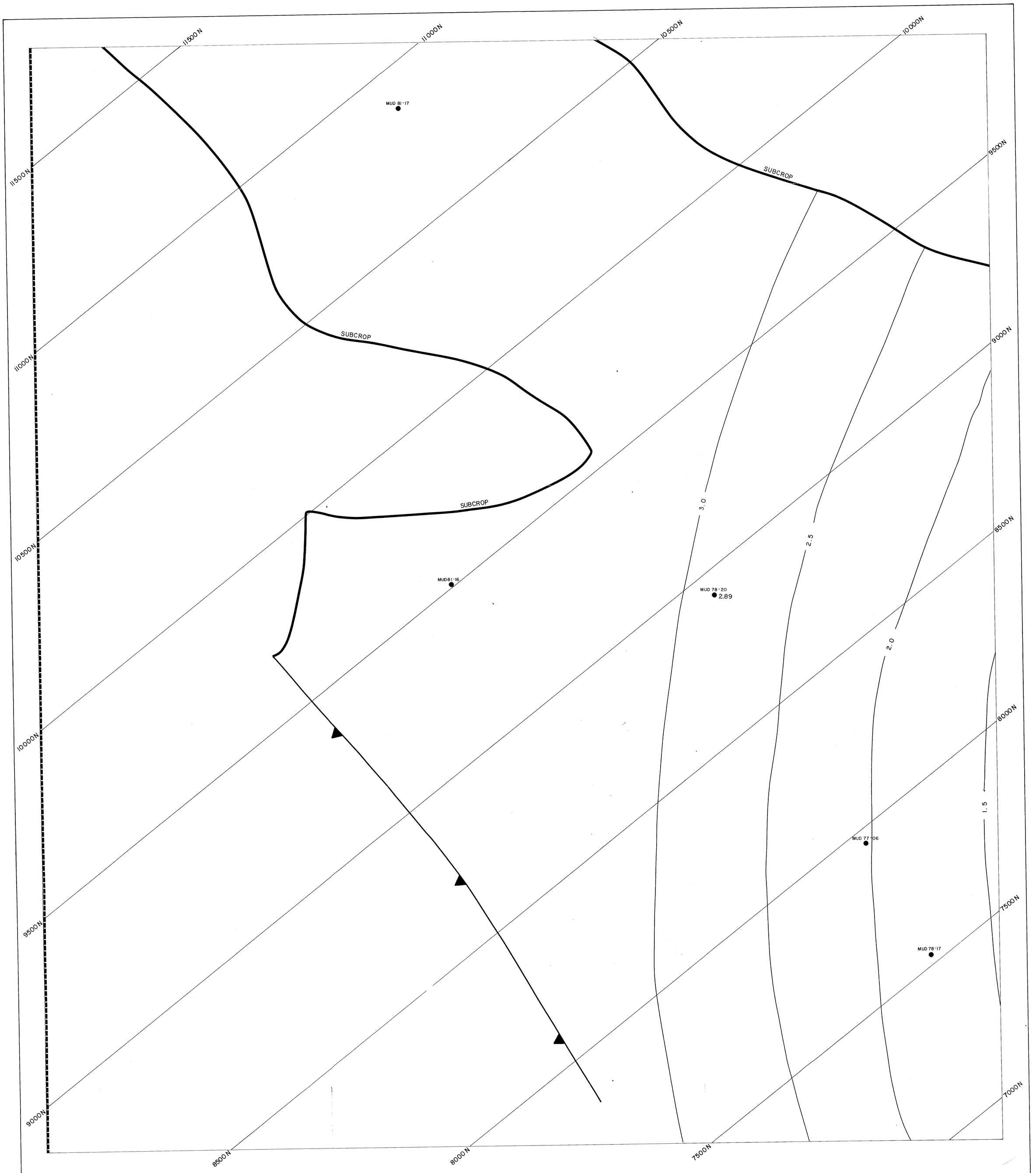
C.I. = .50 meters



547 Re- Monkman 81(2)a

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / DUCHESS
AUTHOR E. G. P.	MINING SECTION ISOPACH
DRAFTED S. K.	B-3
SCALE 1: 5000	
N 23	

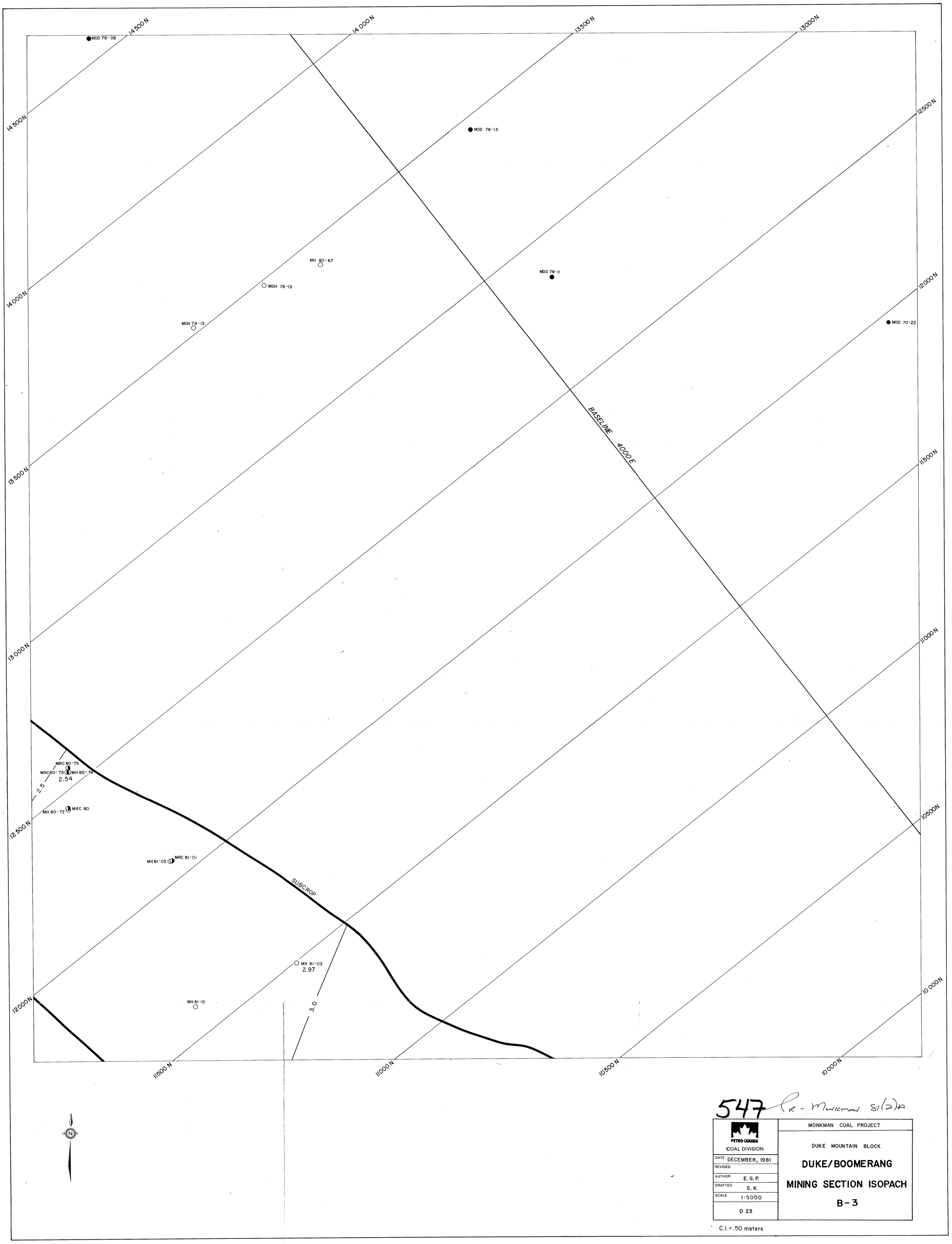
C.I. = .50 meters



547 Re- Monkman 81(a)(b)

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT DUKE MOUNTAIN BLOCK
DATE DECEMBER, 1981	BOOMERANG/DUCHESS
REVISED	MINING SECTION ISOPACH
AUTHOR E.G.P.	B-3
DRAFTED S.K.	
SCALE 1:5000	
022	

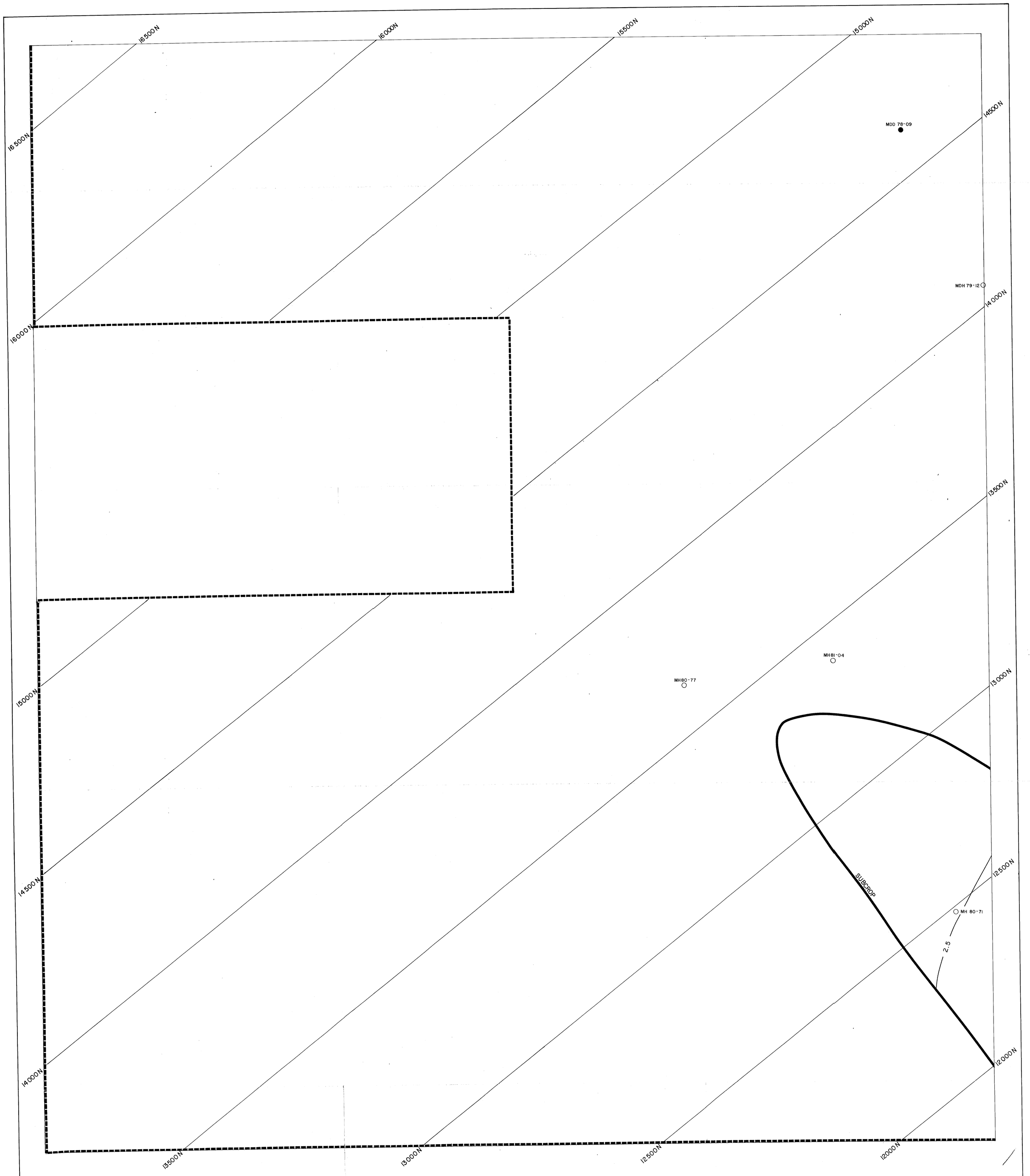
C.I. = .50 meters



547 Re - Monkman 81(2)A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE/BOOMERANG**
AUTHOR E. G. P.	**MINING SECTION ISOPACH**
DRAFTED S. K.	
SCALE 1:5000	**B-3**
0 23	

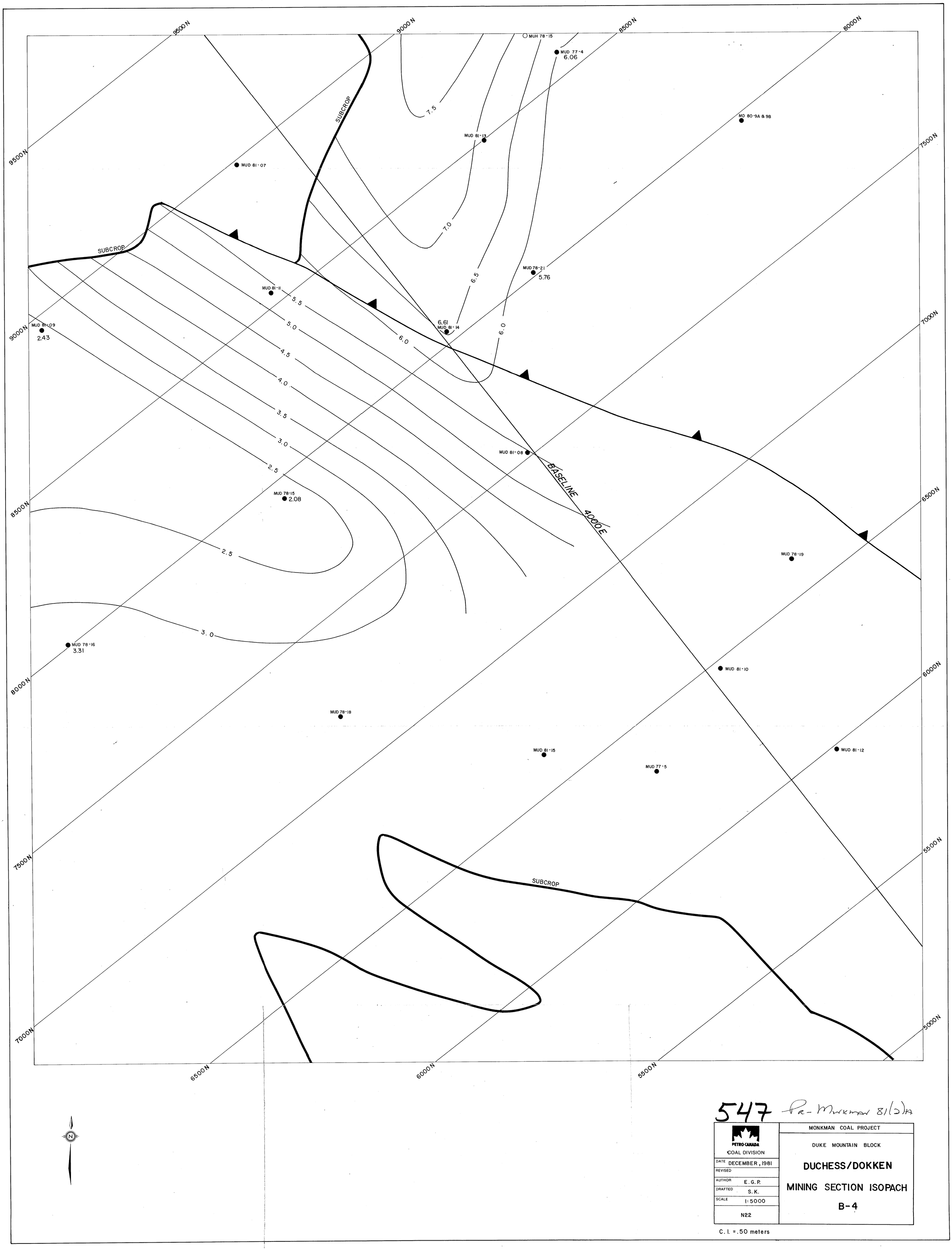
C.I. = .50 meters



547 Re- Monkman & Lab

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/BOOMERANG
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S. K.	B-3
SCALE 1:5000	
P 23	

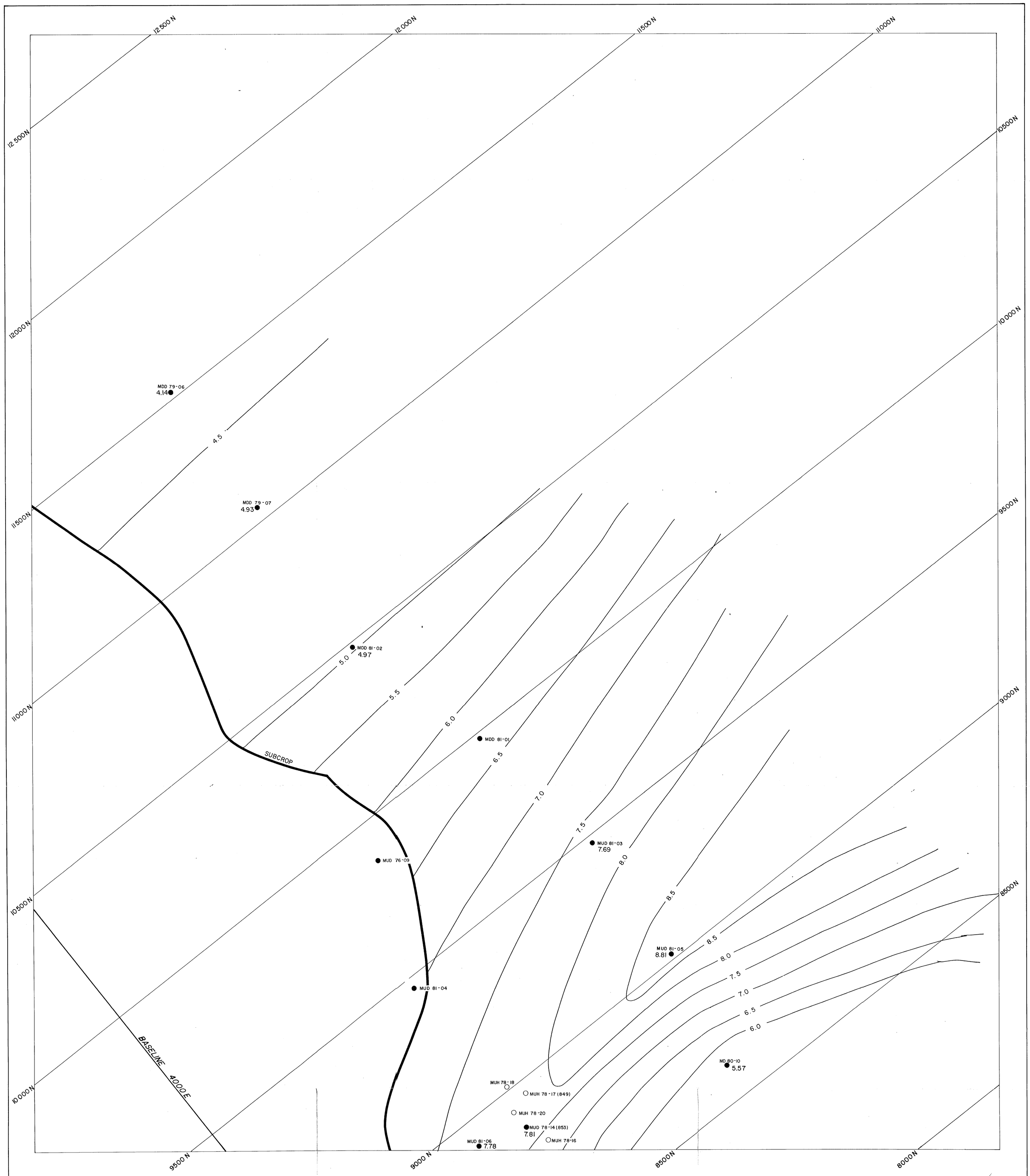
C.I. = .50 meters



547 Pre-Monkman 81(2)A

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	
SCALE 1:5000	B-4
N22	

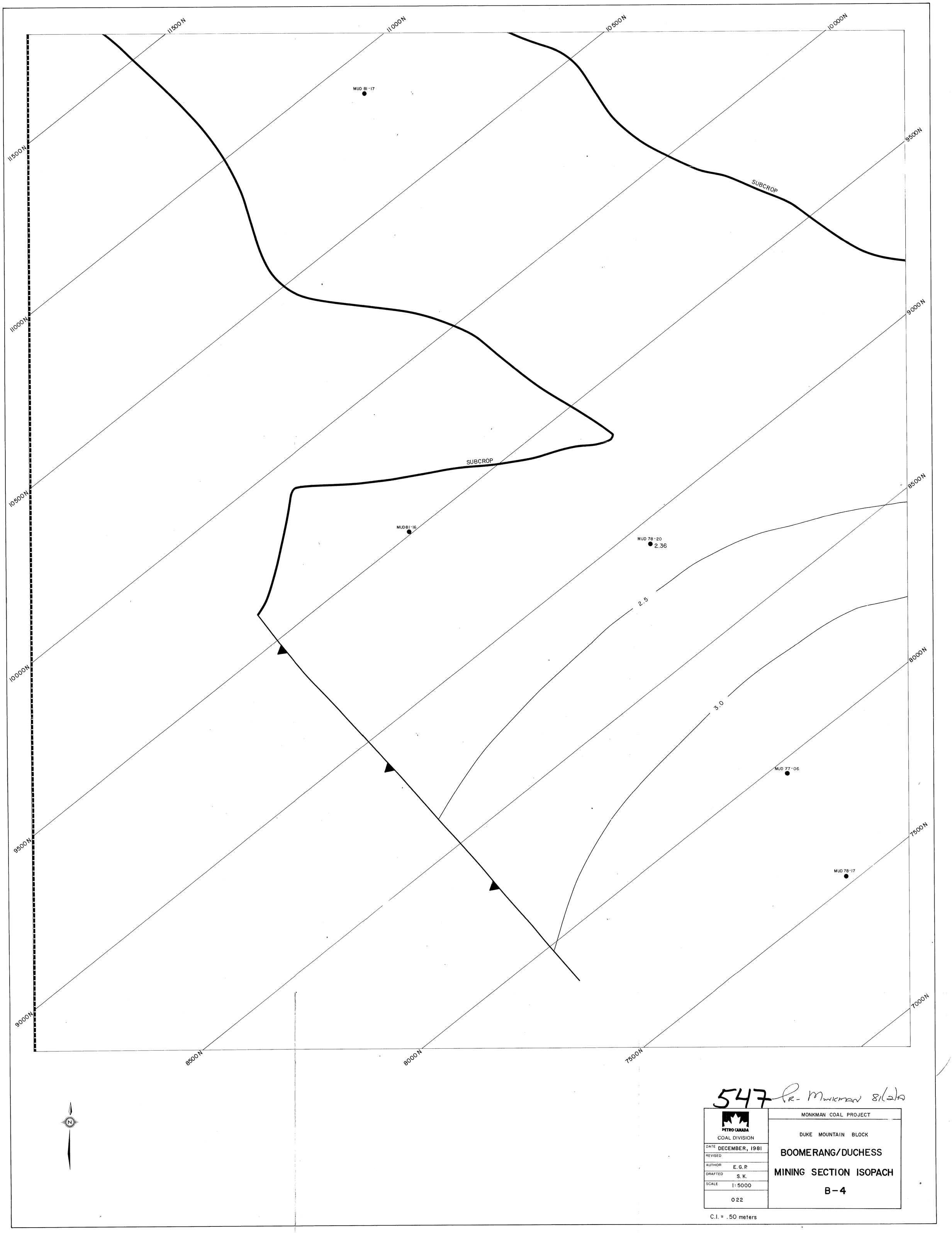
C.I. = .50 meters



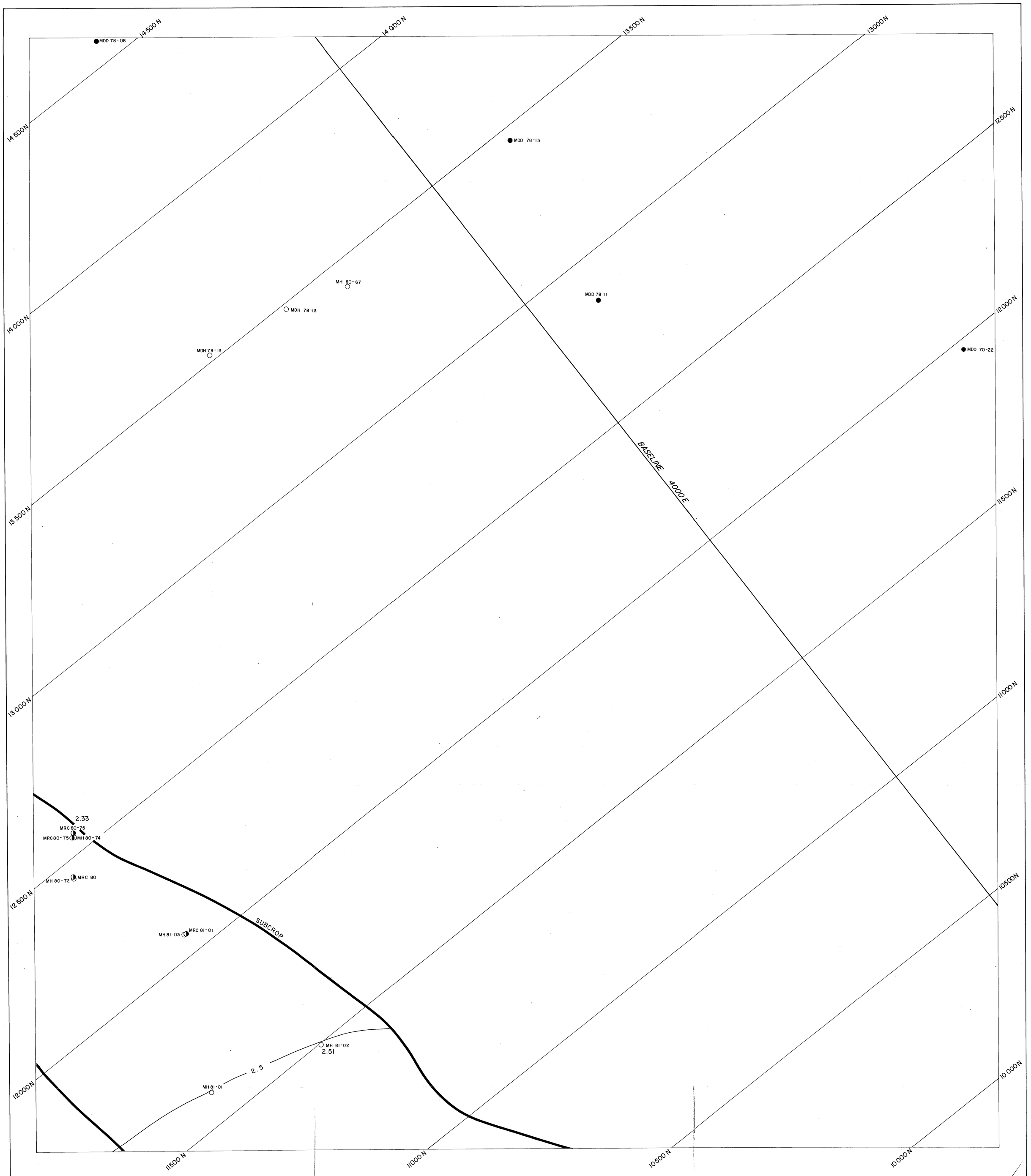
547 Pr- Monkman 81(a)A

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	B - 4
SCALE 1:5000	
N 23	

C. I. = .50 meters



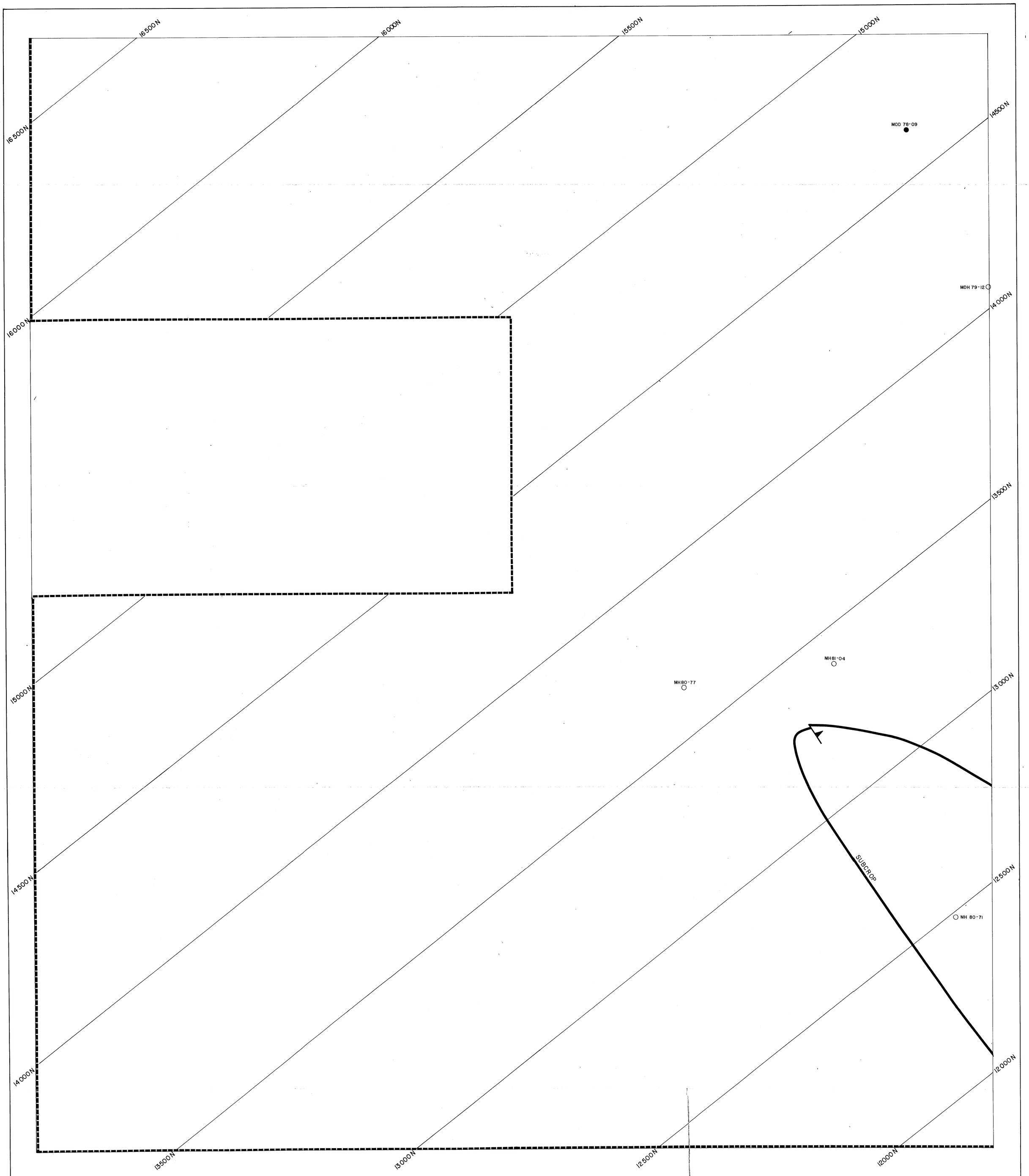
547 Pr- Monkman 81(2)A



547 Pre-Monkman 81(2)A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/BOOMERANG
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	
SCALE 1:5000	B-4
0 23	

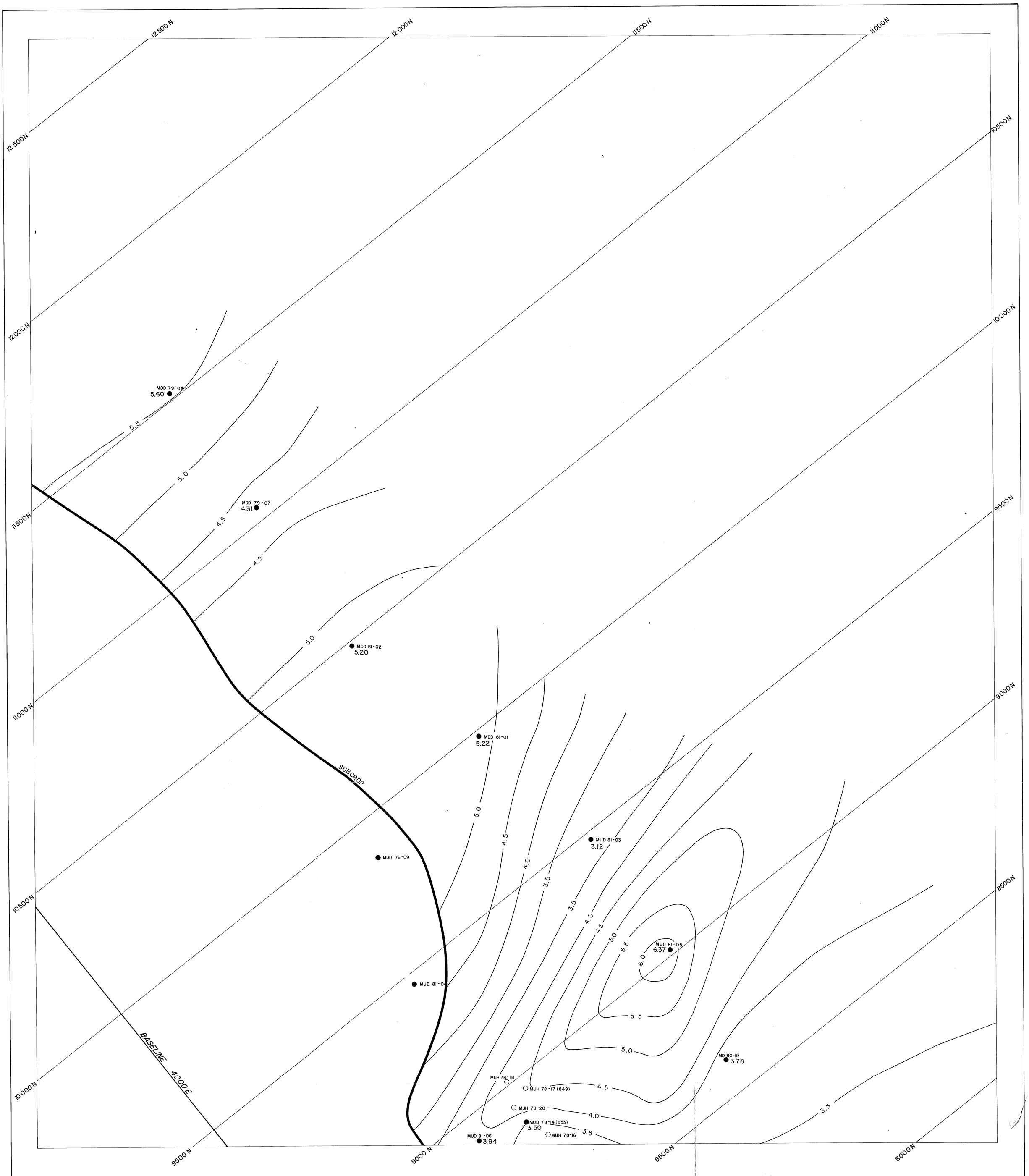
C.I. = .50 meters



547 Re- Monkman 81(2)a

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE/BOOMERANG**
AUTHOR E. G. P.	**MINING SECTION ISOPACH**
DRAFTED S. K.	
SCALE 1:5000	**B-4**
P 23	

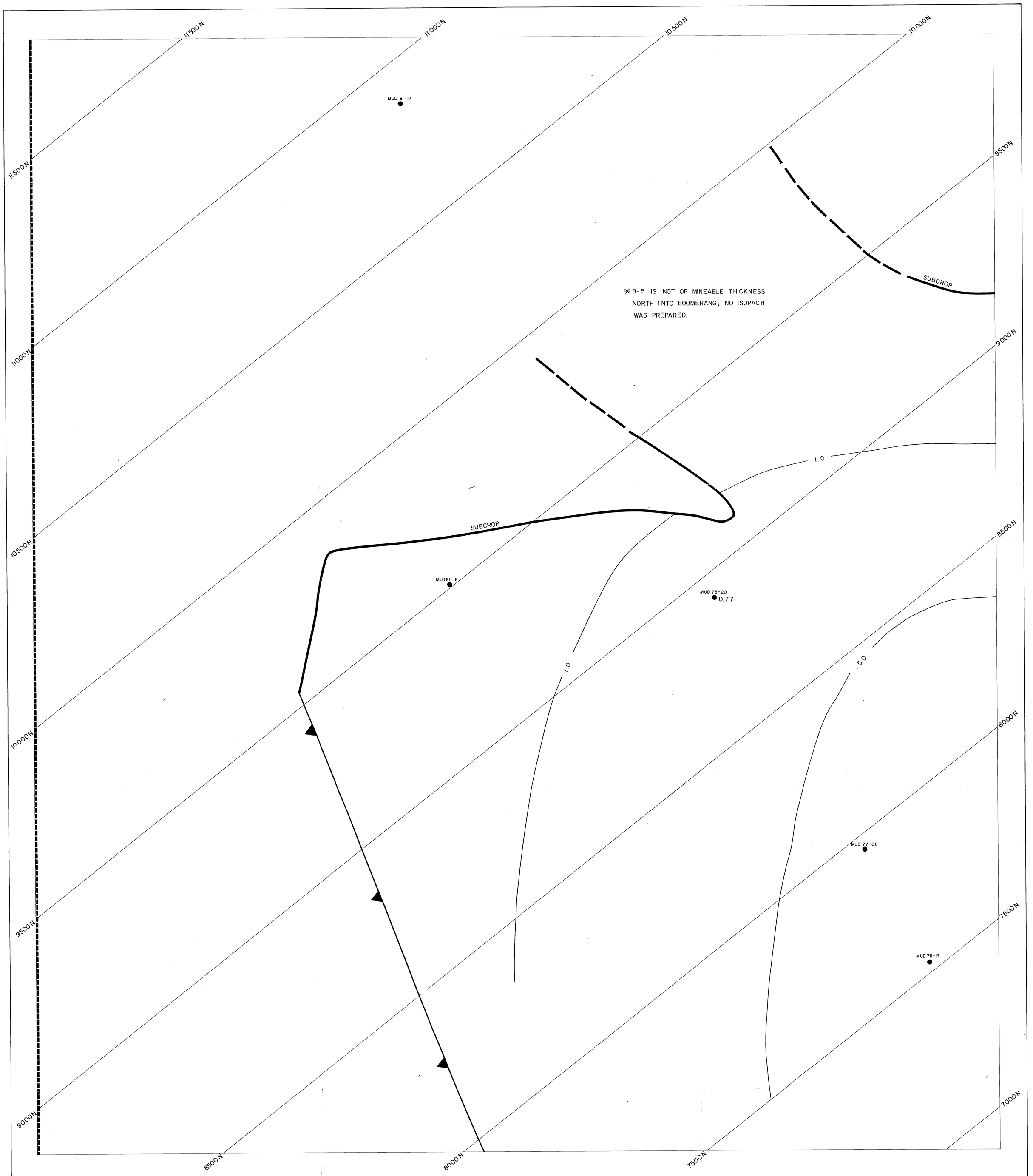
C. I. = .50 meters



547 Per Monkman 81(2)a

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
	DUKE MOUNTAIN BLOCK
DATE DECEMBER, 1981	DUKE/DUCHESS
REVISED	MINING SECTION ISOPACH
AUTHOR E.G.P.	
DRAFTED S.K.	
SCALE 1:5000	B-5
N 23	

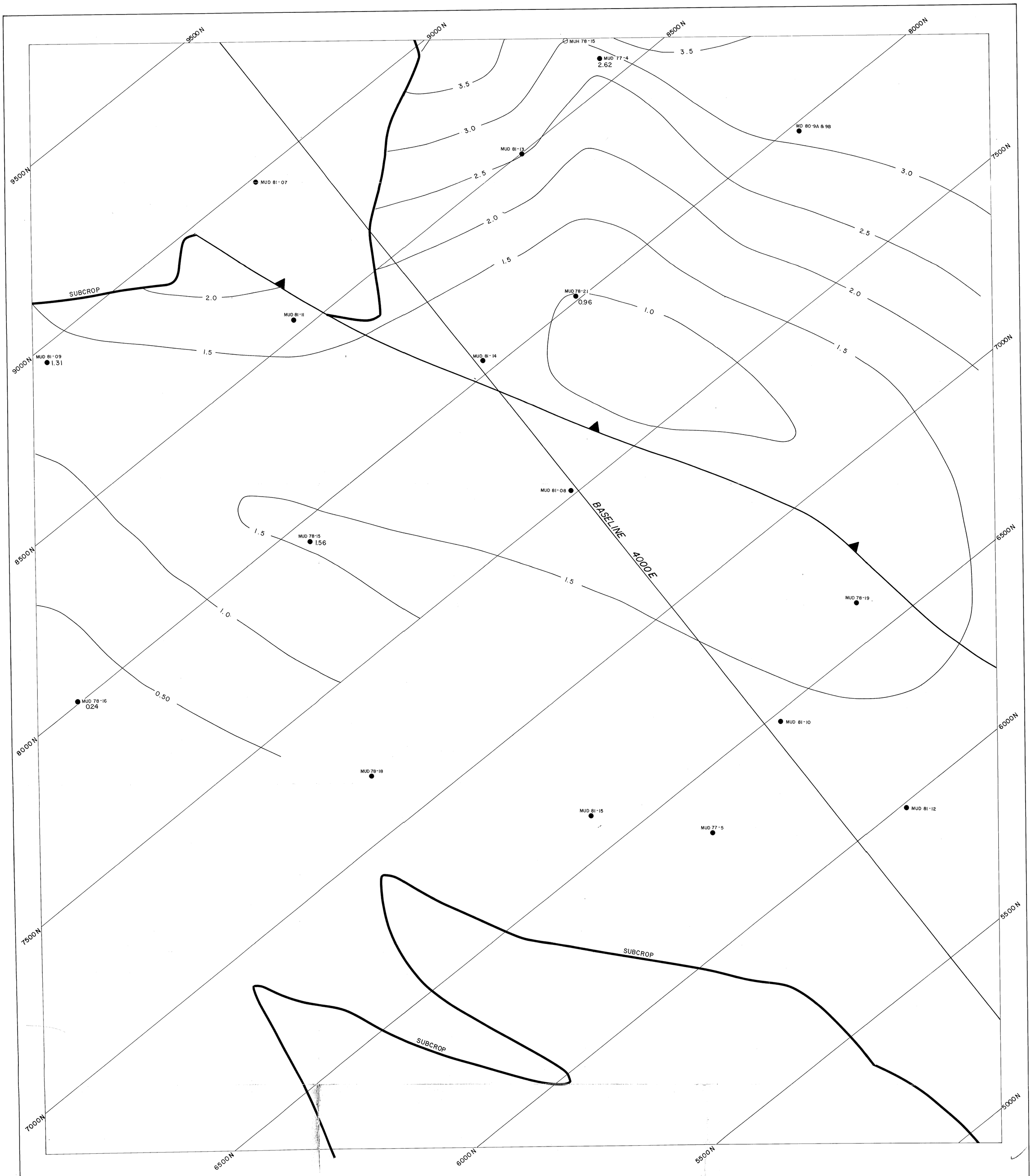
C.I. = .50 meters



547 Re- Monkman 81(2)A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	BOOMERANG/DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S. K.	B-5
SCALE 1:5000	
022	

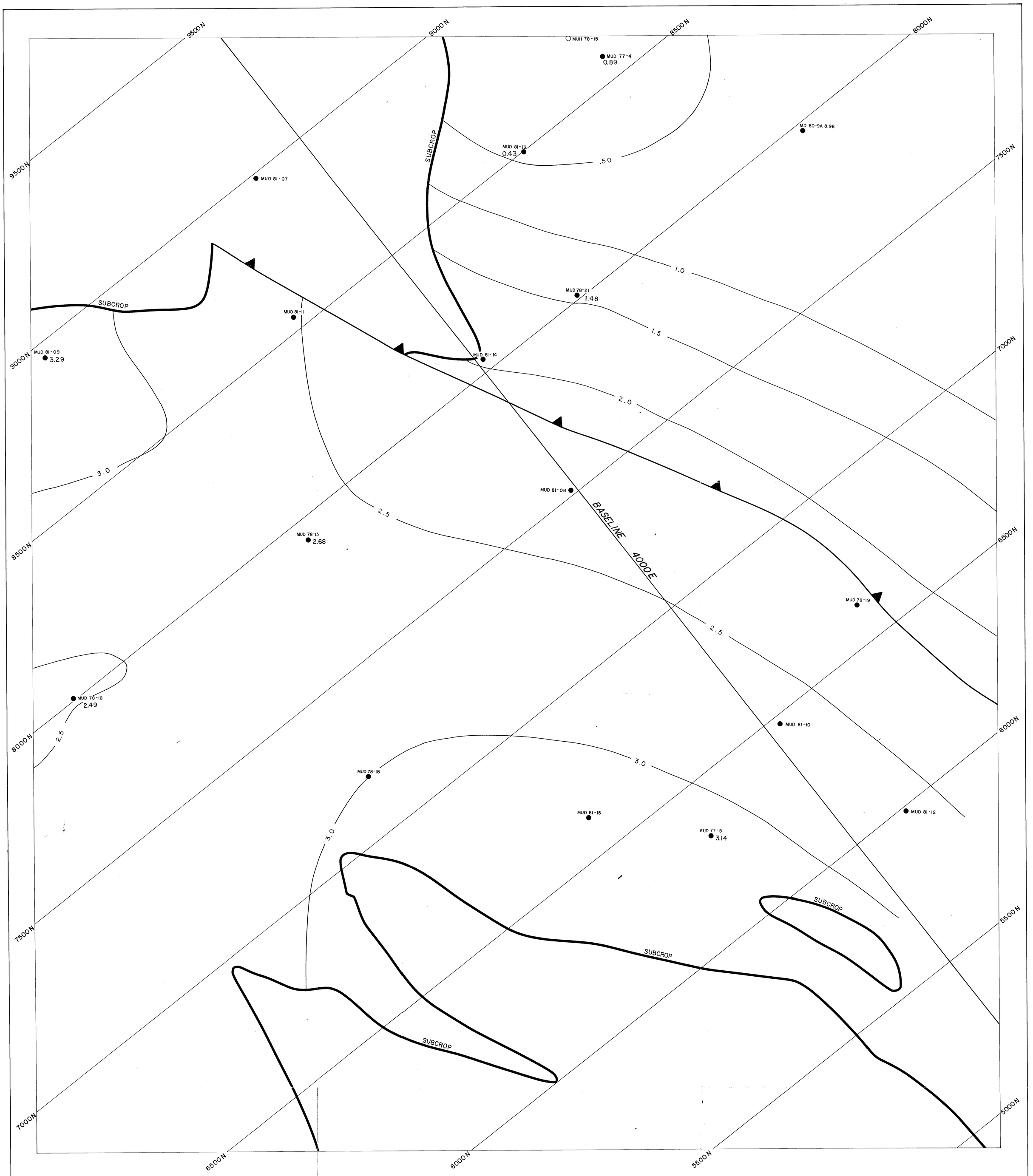
C.I. = .50 meters



547 Pr- Monkman 81(a)A

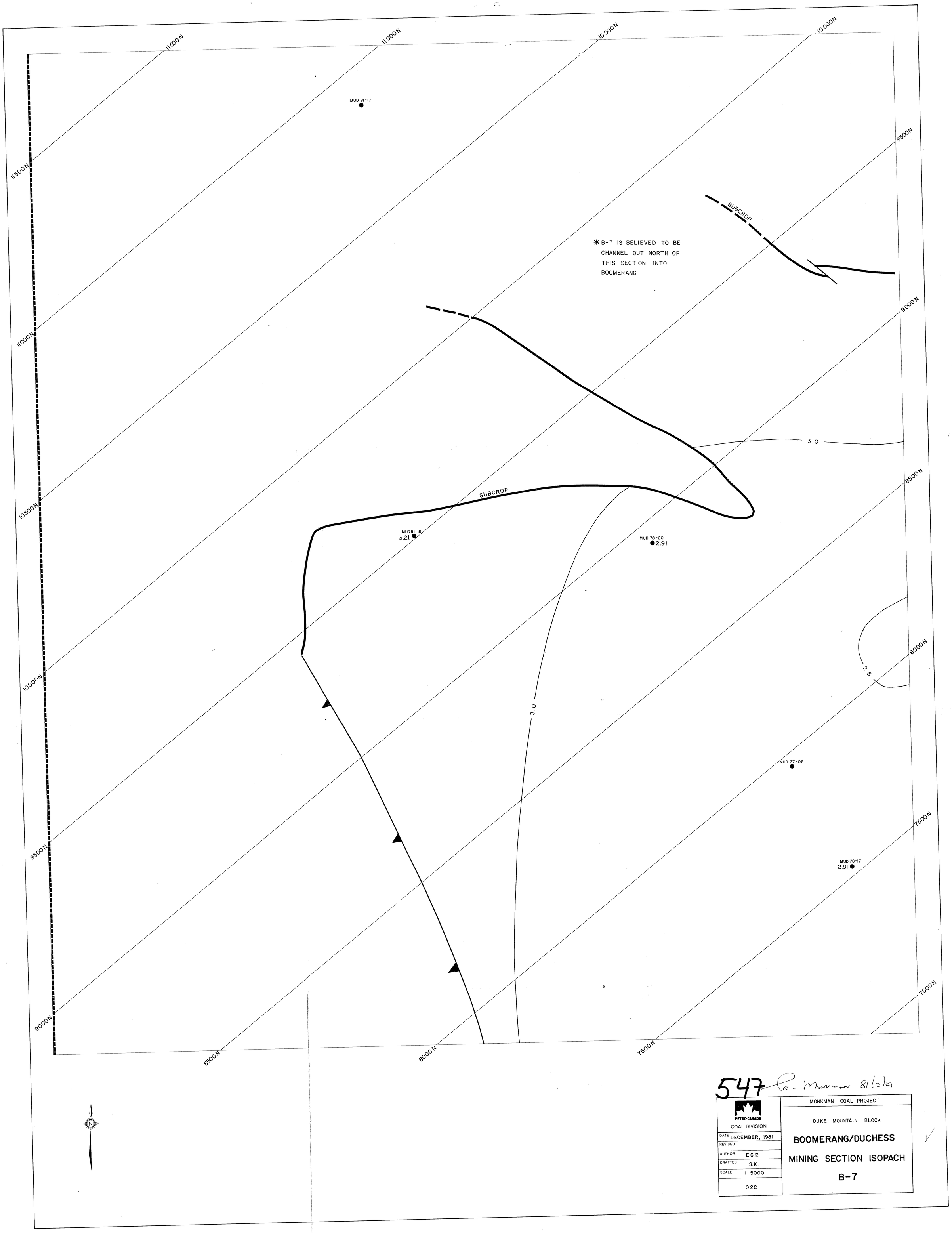
PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	B-5
SCALE 1:5000	
N22	

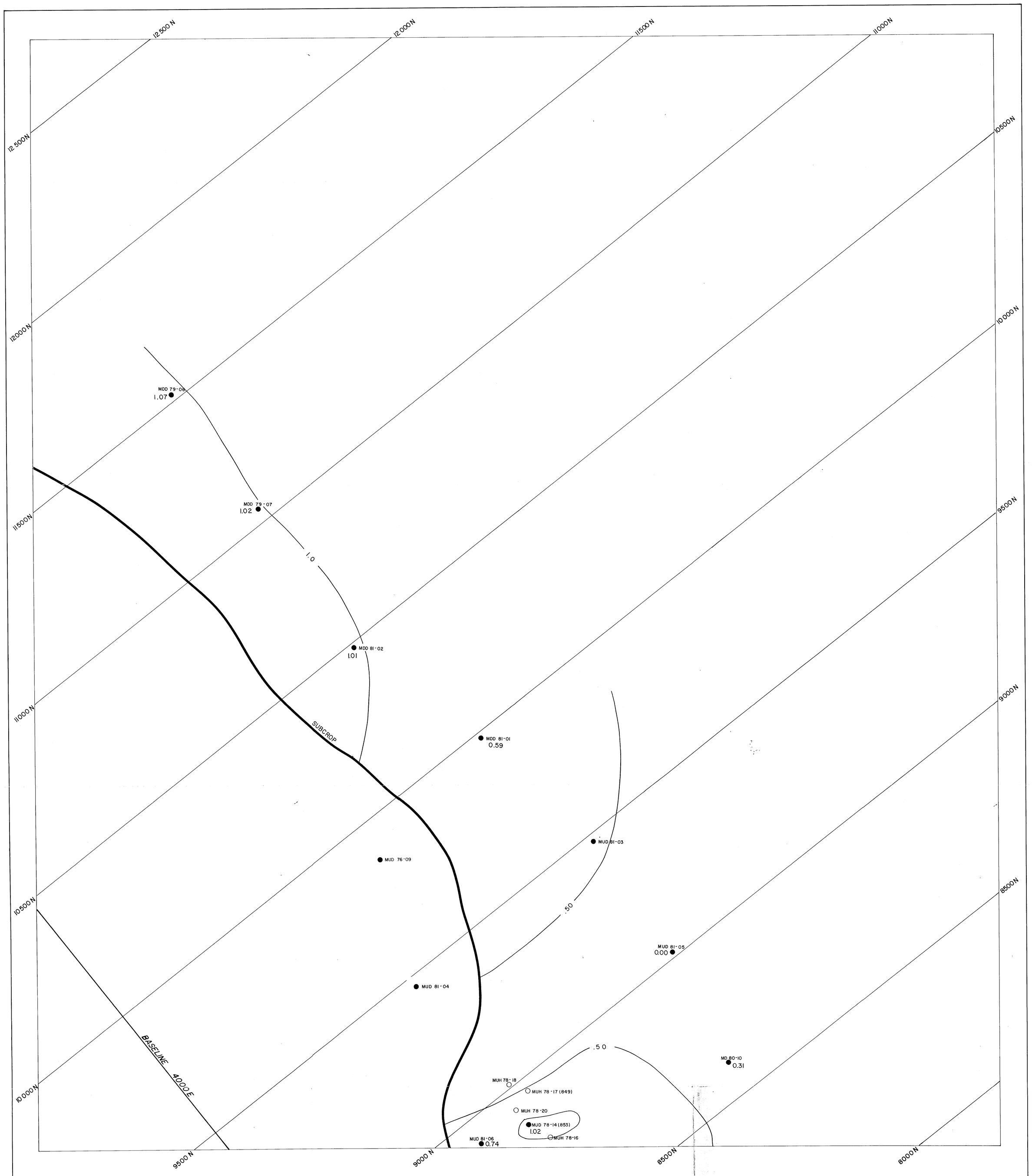
C. I. =.50 meters



547 Re- Monkman 81(a)A

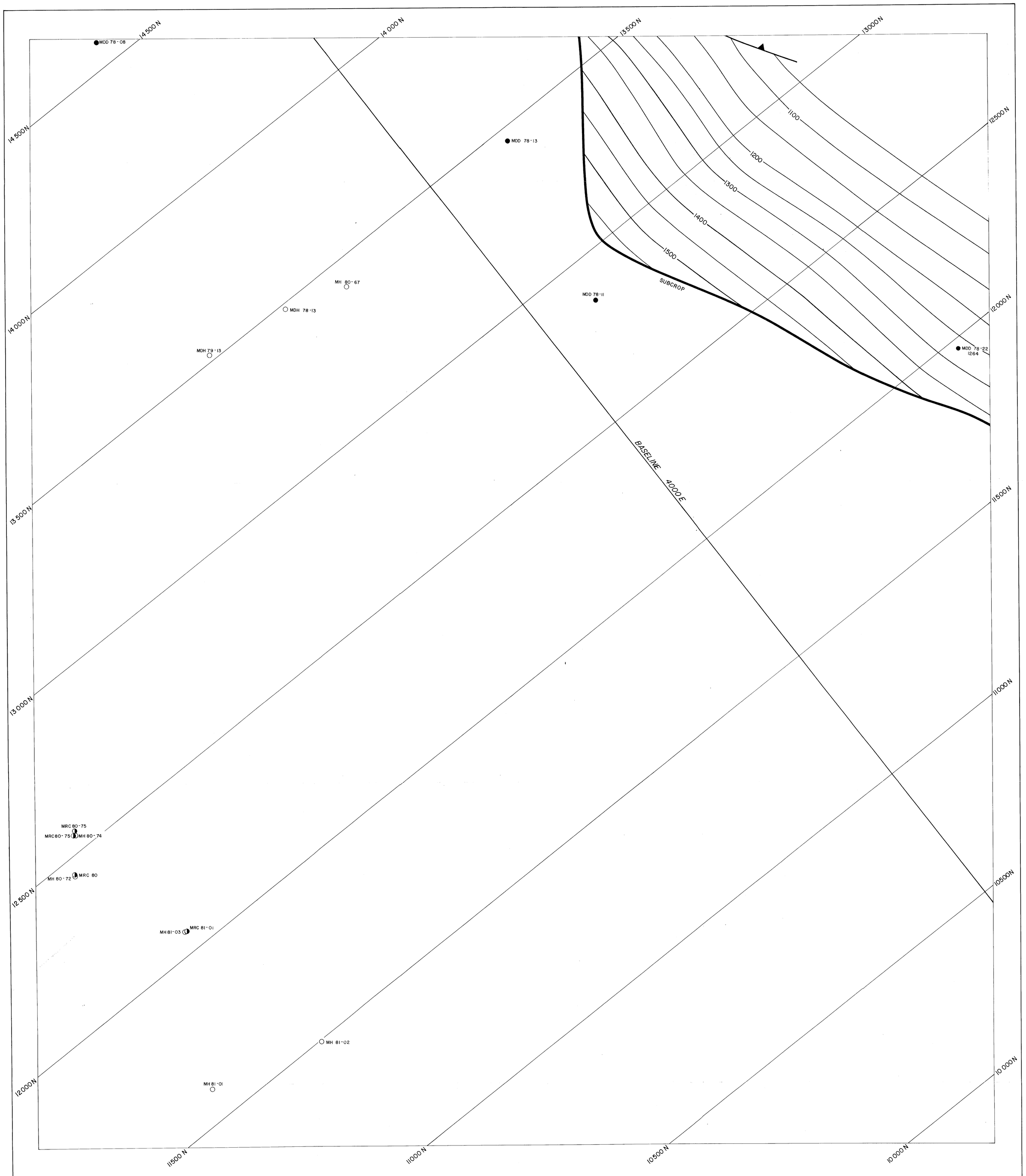
PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E. G. P.	MINING SECTION ISOPACH
DRAFTED S. K.	B-7
SCALE 1:5000	
N22	


11500N
11000N
10500N
10000N
9500N
9000N
8500N
8000N
7500N
7000N
MUD 81-17
SUBCROP
✳B-7 IS BELIEVED TO BE CHANNEL OUT NORTH OF THIS SECTION INTO BOOMERANG.
3.0
MUD81-16
3.21
MUD 78-20
2.91
2.5
MUD 77-06
MUD 78-17
2.81
547 Re - Monkman 81/2/4
PETRO CANADA
COAL DIVISION
DATE DECEMBER, 1981
REVISED
AUTHOR E.G.P.
DRAFTED S.K.
SCALE 1:5000
022
MONKMAN COAL PROJECT
DUKE MOUNTAIN BLOCK
BOOMERANG/DUCHESS
MINING SECTION ISOPACH
B-7



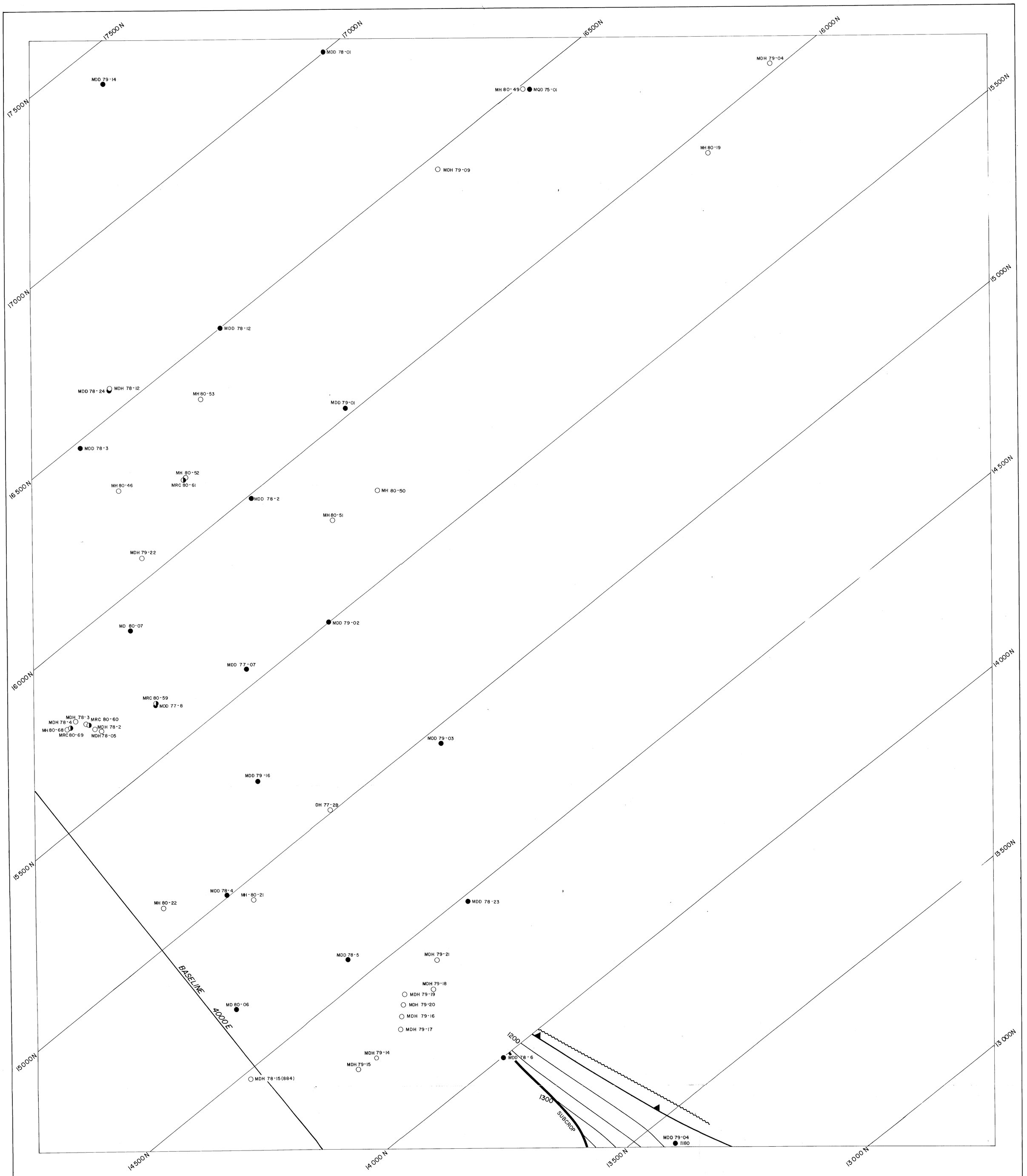
Re - Monkman 81(2)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S. K.	B - 7
SCALE 1:5000	
N 23	



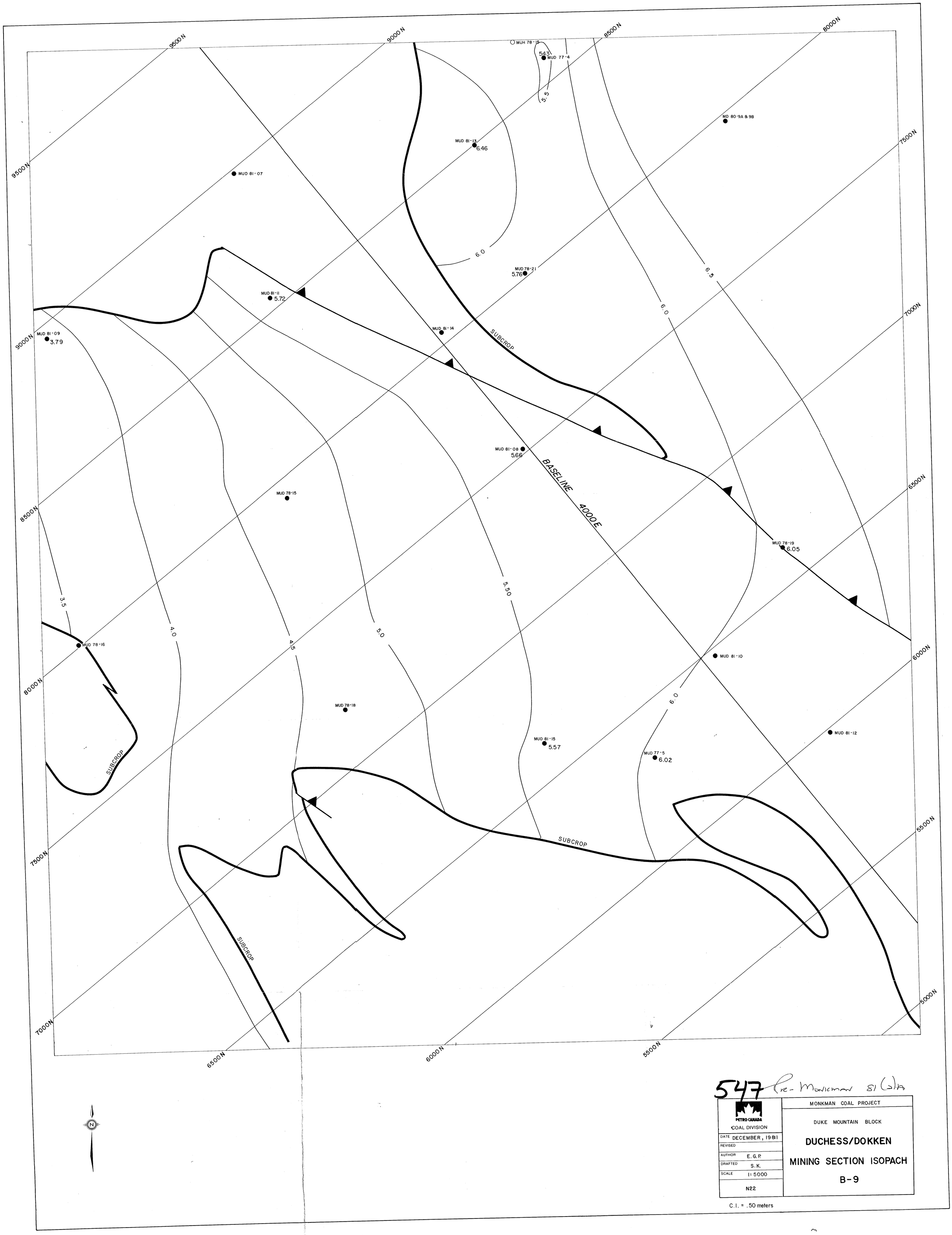
547 Re- Monkman 81(2)a

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	**DUKE/BOOMERANG STRUCTURE CONTOUR BASE B-9**
AUTHOR E.G.P.	C.I. 50m
DRAFTED P.J.H.	
SCALE 1:5000	
0 23	



547 Re- Monkman 81/82

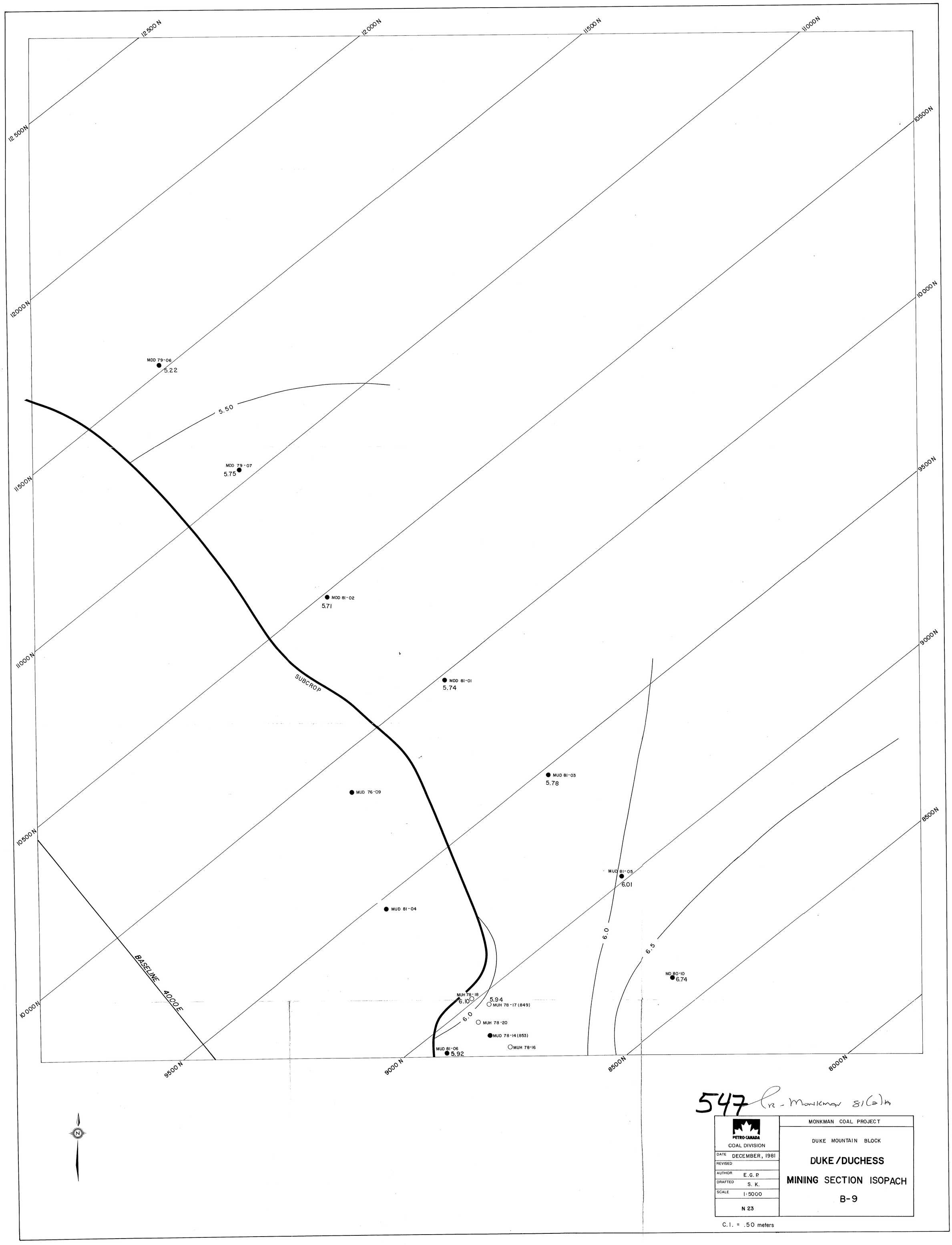
PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE NOVEMBER 1981	DUKE MOUNTAIN BLOCK
REVISED	HONEYMOON/DUKE
AUTHOR E.G.P.	STRUCTURE CONTOUR
DRAFTED P.J.H.	BASE B-9
SCALE 1 : 5000	C.I. 50m
024	



547 Re- Monkman 81 (a)(b)

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUCHESS/DOKKEN
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	
SCALE 1:5000	B-9
N22	

C.I. = .50 meters



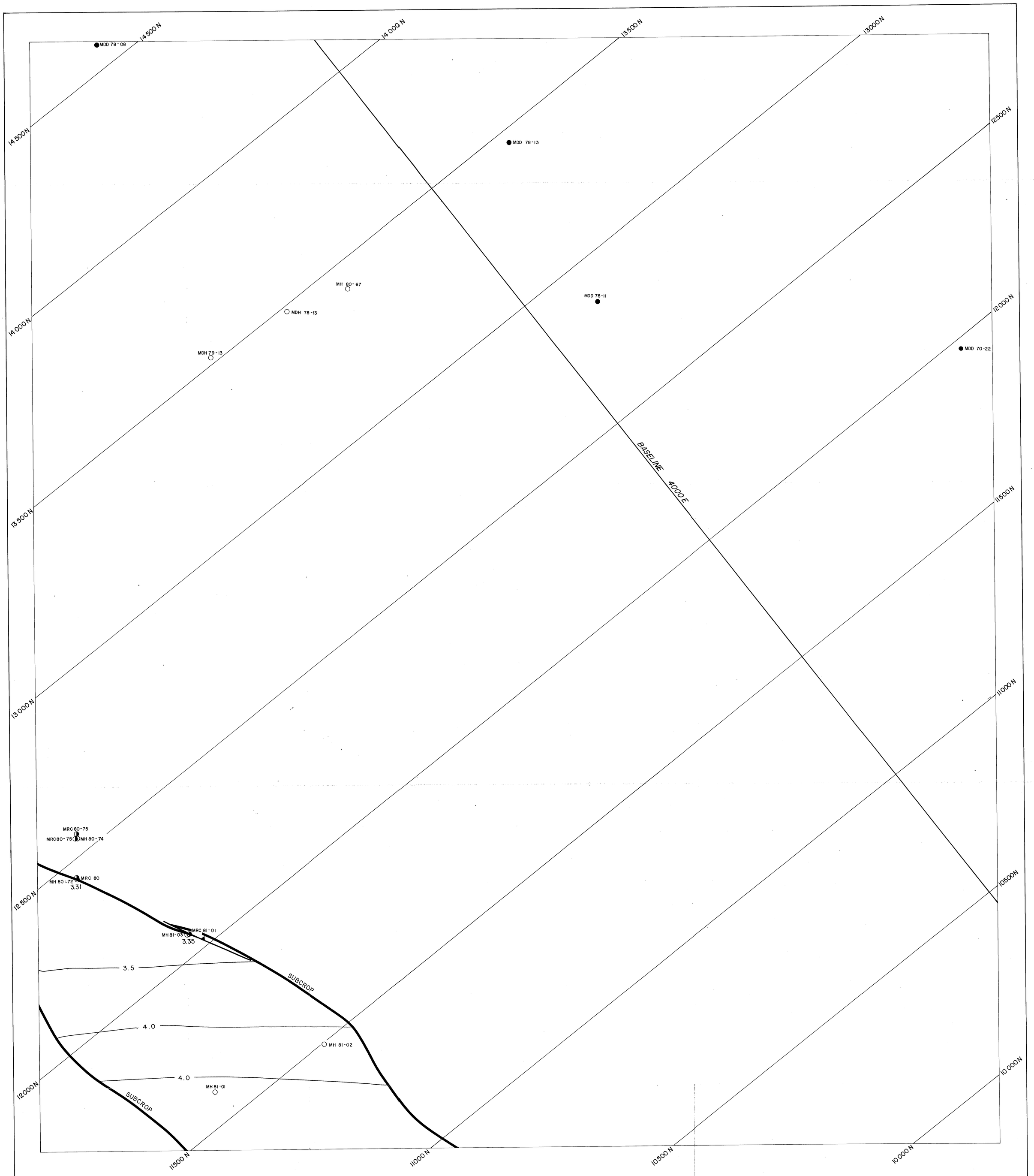
547 Re - Monkman 81(a)ta

PETRO-CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE / DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S. K.	B-9
SCALE 1:5000	
N 23	

C.I. = .50 meters

Per - Monkman 81(2)A 547

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	BOOMERANG/DUCHESS
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	B-9
SCALE 1: 5000	
022	



547 Pre-Monkman 81(2)a

PETRO-CANADA
COAL DIVISION

DATE	DECEMBER, 1981
REVISED	
AUTHOR	E.G.P.
DRAFTED	S.K.
SCALE	1:5000
	0 23

MONKMAN COAL PROJECT

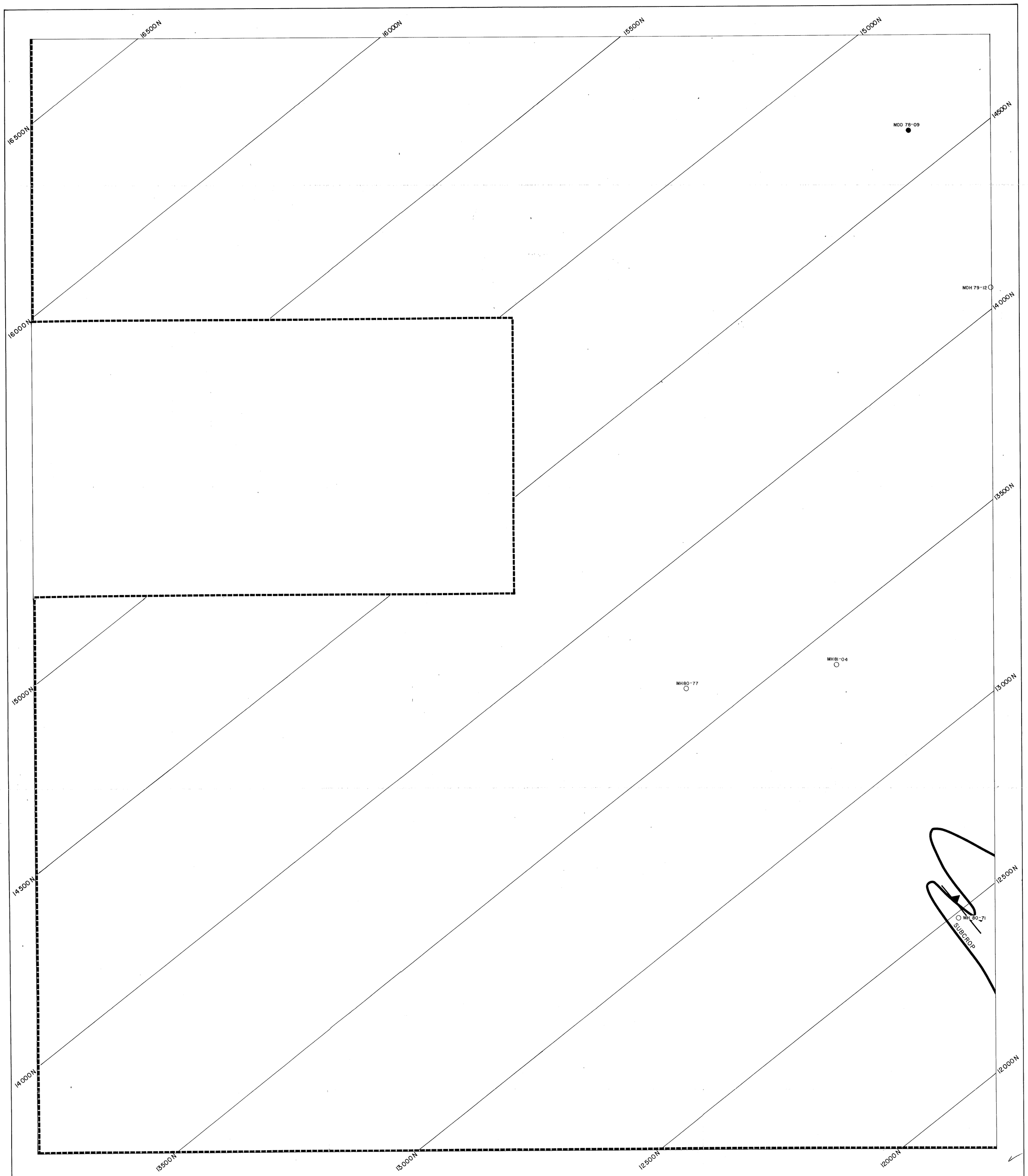
DUKE MOUNTAIN BLOCK

DUKE/BOOMERANG

MINING SECTION ISOPACH

B-9

C.I. =.50 meters



547 Pr - Monkman 81/2/A

PETRO CANADA COAL DIVISION	MONKMAN COAL PROJECT
DATE DECEMBER, 1981	DUKE MOUNTAIN BLOCK
REVISED	DUKE/BOOMERANG
AUTHOR E.G.P.	MINING SECTION ISOPACH
DRAFTED S.K.	
SCALE 1:5000	B-9
P 23	

C.I. = .50 meters