1979 REPORT OF EXPLORATION ACTIVITIES ON THE BRI-DOWLING CREEK PROPERTY

Coal Licence Nos. FORFEITED NOV. 22. 1979. 3634 to 3641 inclusive and 5174 and 5175

3642-3654 INCLUSIVE.

930-16

Located in
Peace River Land District
and Liard Mining Division

National Topographic System
Designation 93 0 16 West

Centered on Lat. 55°57'N; Long 122 18'W

Owned and Operated by Utah Mines Ltd.

Report by: A. T. Armstrong and
R. B. Anderson
Utah Mines Ltd.

Field work done May 5, 1979 to August 1, 1979

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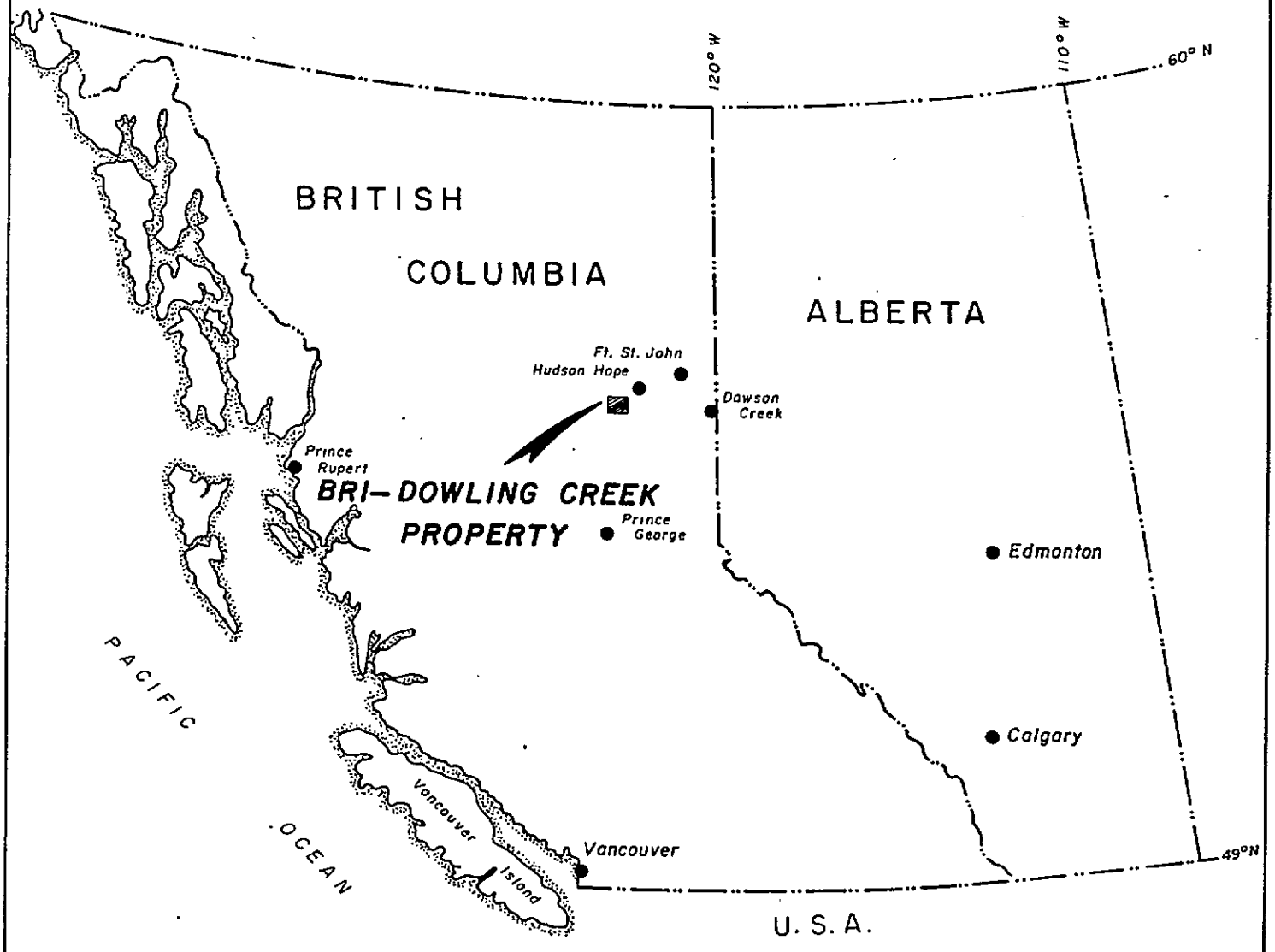
ABSTRACT

Utah Mines Ltd. became the owner of the Bri Coal Licences through an option agreement formed with Bri Coal Mining Ltd., Bow River Resources Ltd. (now Suneva Resources Limited) and Rainier Energy Resources Ltd. in May of 1978. At that time the property comprised 21 contiguous coal licences numbered 3634 to 3654 inclusive. During 1979 the area and licence configuration of the property were significantly altered by the addition of two coal licences numbered 5174 and 5175 and the return of eight coal licences numbered 3634 to 3641 inclusive to the original owners. The property referred to in this report comprises 15 contiguous coal licences located in the Liard Mining Division and the Peace River Land District.

An exploration program was formulated for the Bri-Dowling Creek Property based largely on the recommendations presented in the 1978 Report of Exploration Activities. 2504.54 metres of diamond drilling were completed in six holes located primarily along Dowling Creek Valley. One hole was located to the east of Dowling Creek Valley along a tributary stream and one hole was located a short distance northeast from the junction of Dowling and Gething Creeks. Access to each site was facilitated by the construction of roads totalling 12.5 kilometres in length. Additional geological mapping was completed at various locations adjacent to Dowling Creek and along Gething Creek and Track Creek north from Johnson Creek - Track Creek Road.

Exploration work completed during the 1979 field season has again improved understanding of the property geology and better defined areas of significant economic potential. Closer spacing of drilling data in some areas has improved the reliability of interpretations and has allowed more positive statements of individual coal seam correlativity.



UTAH MINES LTD.

BRI-DOWLING CREEK PROPERTY

LOCATION MAP

0 100 200 300 400

SCALE IN MILES

FIGURE -1

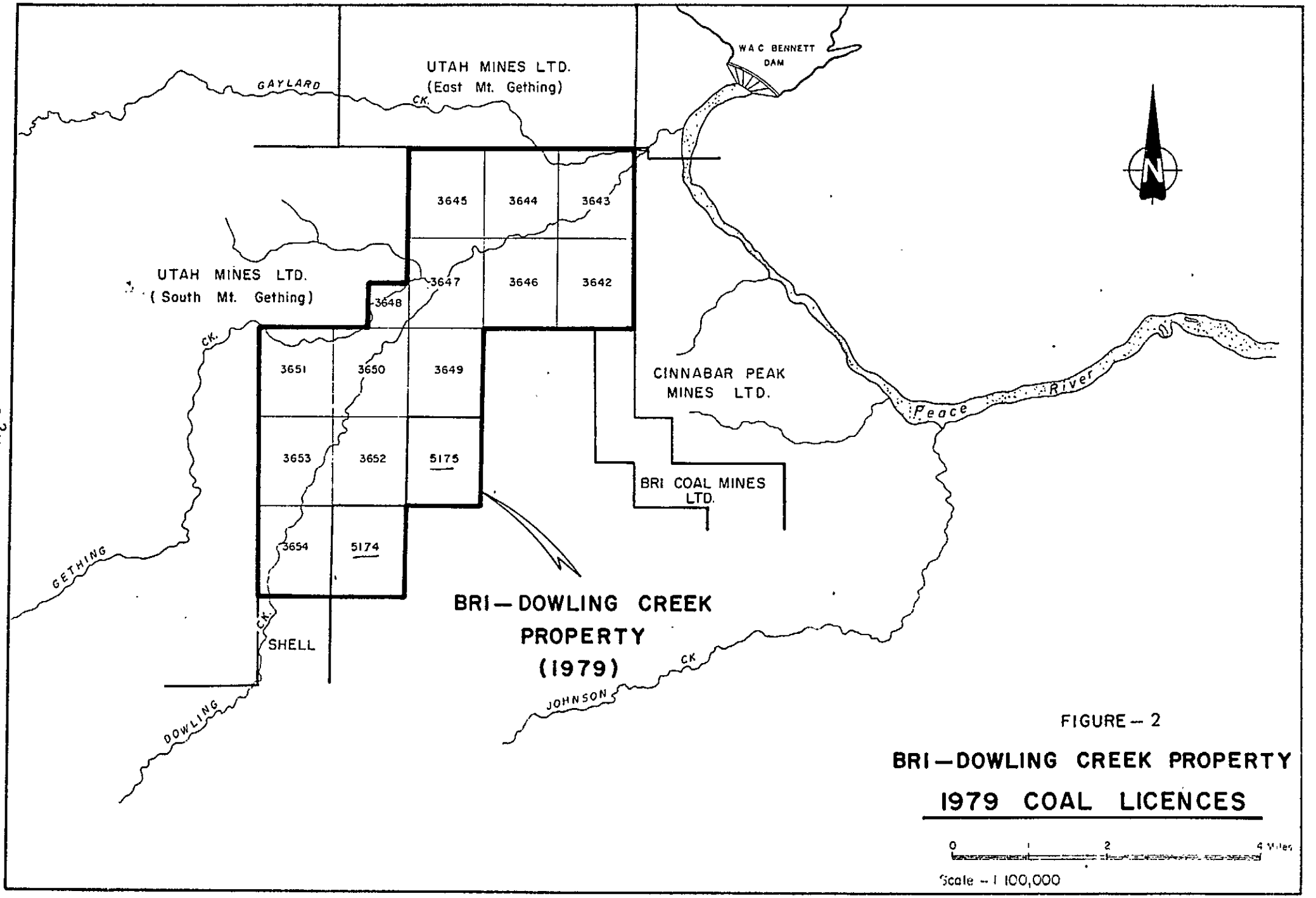


FIGURE – 2

BRI—DOWLING CREEK PROPERTY

1979 COAL LICENCES

PROPERTY AND TITLE

The Bri-Dowling Creek Property referred to in this report is significantly altered in area and coal licence configuration from the original Bri-Dowling Creek Property referred to in the 1978 Report of Exploration Activities. The property now comprises 15 contiguous coal licences numbered 3642 to 3654 inclusive and 5174 and 5175. These licences encompass 4,135 hectares (rounded upward from, more precisely, 4129.33 hectares). They are located within the area commonly referred to as the "Northeast Coal Block: in the Liard Mining Division and the Peace River Land District. (see figure 2, page 3 and figure 7, page 7).

The Bri-Dowling Creek Property adjoins several other properties along much of its perimeter. These adjacent properties include East Mount Gething and South Mount Gething Properties of Utah Mines Ltd., Cinnabar Peak Mines Ltd. Property, a Shell Canada Resources property and that part of the original Bri-Dowling Creek Property returned to the former owners. The remainder of the property boundary adjoins land where the coal rights are held by the crown. (Refer to figures 2, page 3)

The 1974 Coal Act required that coal licence holders adjust their properties so that the boundaries would conform to the National Topographic System grid. Thus, the original 27 licences were replaced by 21 licences which approximately covered the same area (see figure 2, page 3).

Utah Mines Ltd. became the owner and operator of the Bri Coal Licences under an agreement formed with Bri Coal Mining Ltd., Bow River Resources Ltd. and Rainier Energy Resources Ltd.,

dated the 11th of May, 1978. The bill of sale itemizing these licences is dated the 15th day of May, 1978. Transfer of ownership was effected by Ministry of Mines and Petroleum Resources, ministerial approval on the 14th day of June, 1978.

Bow River Resources Ltd. underwent a reorganization and on the 8th day of February, 1979 the company name was changed to Suneva Resources Limited. Suneva retains the same interest in the Bri-Dowling Creek Property as was held by Bow River Resources Ltd.

Upon review of the data acquired during the 1978 exploration program, the decision was reached by Utah Mines Ltd. to apply for title to two additional coal licences and to return certain of the existing 21 coal licences to the previous owners. Application for title to the area comprising coal licences 5174 and 5175 was made in the prescribed manner and on May 8, 1979 these licences were issued to Utah Mines Ltd. (see figure 4, page 8). On July 9, 1979 procedures were initiated to return coal licences numbered 3634 to 3641 inclusive to Bri Coal Mining Ltd., Suneva Resources Limited and Rainier Energy Resources Ltd. The Assignment of Coal Licences itemizing these particular licences was signed by Utah Mines Ltd. on the 19th day of September, 1979.

LOCATION AND ACCESS

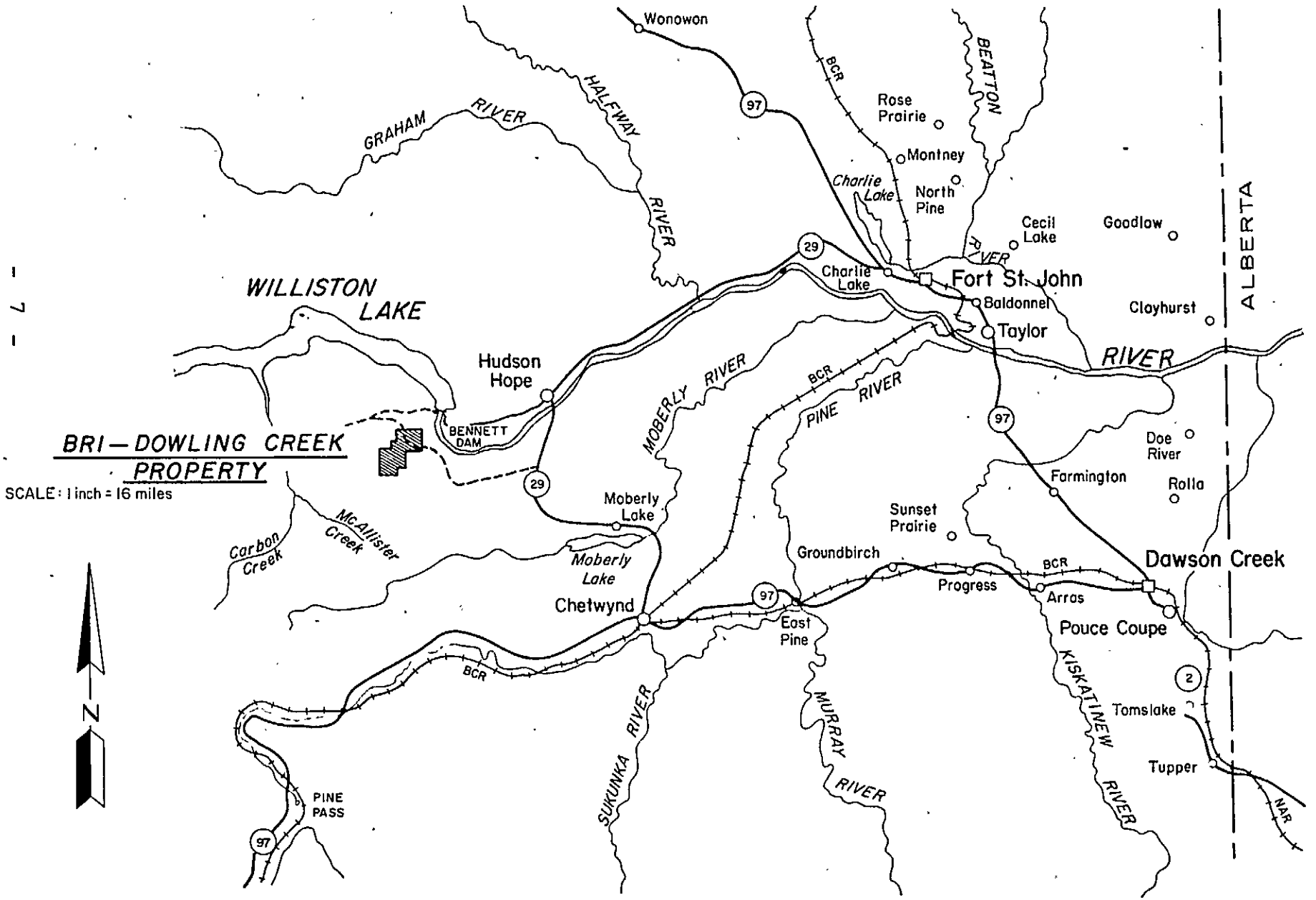
The Bri Coal Licences are arranged as shown on figure 2 (page 3) approximately centred on 55°57'N; 122°18'W. (see figure page). They lie within the area covered by the National Topographic System designation 93 0 16 West. The northeast corner of the property lies approximately 3 km. southwest from W.A.C. Bennett Dam and, in general, the property lies to the southwest of Peace River Canyon. Vancouver lies 772 km. almost due south. Highway 29, linking Chetwynd, Hudson's Hope and Fort St. John passes within 20 km. to the east of the property. (Refer to figures 3, page : 4, page 8).

Access to much of the property is readily gained by using the Canfor Limited, Johnson Creek - Track Creek Road from Highway 29, 19 km. south from Hudson's Hope. Alternately, the property can be reached by paved road west from Hudson's Hope to W.A.C. Bennett Dam and the Utah Mines Ltd. road from the dam to Johnson Creek - Track Creek Road. Several logging haulage roads provide access to the northern part of the property. Additional access, particularly in the southern part of the property is provided by 12.5 kilometers of road constructed in conjunction with the 1979 exploration program. (Refer to figure 4, page 8).

FIGURE – 3

REGIONAL MAP

BRI – DOWLING CREEK PROPERTY



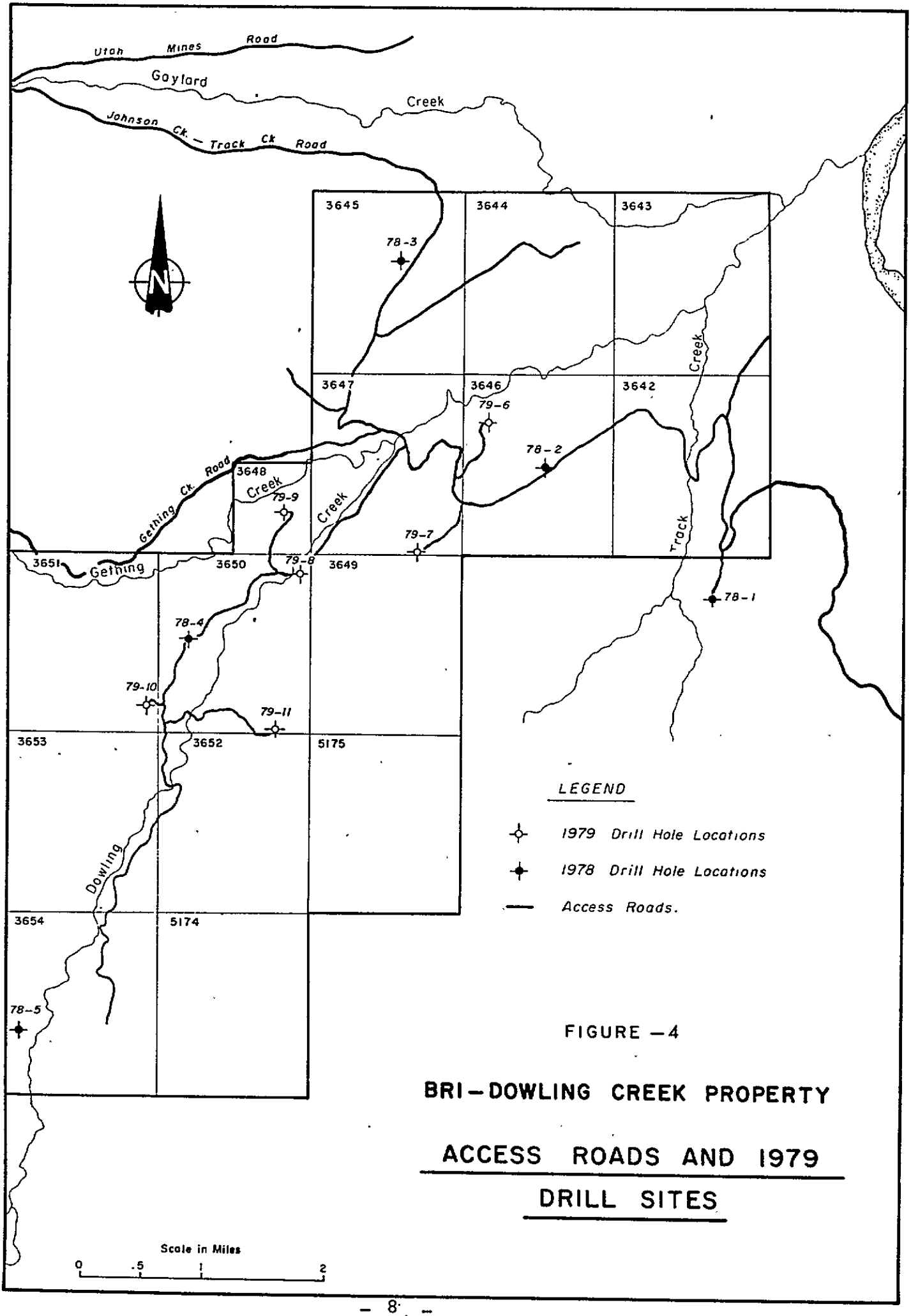


FIGURE — 4

BRI — DOWLING CREEK PROPERTY

ACCESS ROADS AND 1979 DRILL SITES

EXPLORATION OF THE BRI-DOWLING CREEK PROPERTY

Previous Exploration

During exploration programs conducted by the previous owners of the Bri-Dowling Creek Property in the period 1971 to 1977, greater than 8,000 feet of diamond drilling was completed in 17 holes. Of these 17 holes, 13 penetrated into the coal-bearing Gething Formation. They were located within a roughly east-northeast trending band through the central area of the northern group of licences. In conjunction with sections measured in Peace River Canyon and along creeks in the area, these holes indicated a potentially significant thickness and extent for the "Trojan" coal seam. With the exception of D.D.H. 71-1 these drill holes tested only the top 150 feet to 450 feet of the Gething Formation over a relatively small area. They provided little or no information on other potentially interesting coal seams.

The 1978 exploration program, formulated and conducted by Utah Mines Ltd. for the Bri-Dowling Creek Property was intended to more adequately test the property for economically significant metallurgical grade coal. To test the continuity, thickness, character and configuration of the "Trojan" seam over a much broader area was of particular importance. At the same time it was also considered important to test as much of the Gething Formation as possible for other economically significant coal seams. 1829.1 metres of diamond drilling was completed in five widely spaced holes in order that these objective might be achieved.

All data and logs derived from the 1978 exploration program may be referred to in the 1978 Report of Exploration Activities on the Bri-Dowling Creek Property by R. B. Anderson and A. T. Armstrong of Utah Mines Ltd.

1979 Exploration Program

The 1979 exploration program planned for the Bri-Dowling Creek Property was designed to provide additional geological and analytical data with which to advance the understanding and the evaluation of the property. 2504.54 metres were diamond drilled in six holes. Exploration activities commenced on the Bri-Dowling Creek Property on May 5, 1979 and were concluded on August 1, 1979.

Road and drill site construction was undertaken by P. Demeulemeester. This work included slashing, clearing, clean-up and general construction of 12499 metres of road approximately 10 metres in width. Two plank decked log bridges were installed across Dowling Creek and numerous culverts were installed to provide road drainage and free flow of small streams. Six road accessible drill sites, each approximately 35 metres in diameter were also slashed, cleared and levelled. A temporarily waste mud sump was excavated at each site. At some sites, minor clearing was required to provide a location for the water supply pump. Road and site maintenance were carried out on an as needed basis.

A trailer camp providing facilities for up to 20 men was installed on the property. Five trailers including a kitchen-washroom trailer, a dry-storage trailer, an office - five-man bunk-house trailer and two eight-man bunkhouse trailers were rented from Territorial Leasing Ltd. and Longyear Canada Ltd. Site clearing and preparation, trailer installations, water supply and sewer installations and propane hookups were completed by P. Demeulemeester. Arctic Propane Ltd. supplied a 500 gallon propane tank and delivered propane on a regular

periodic basis. A 15KW generator was rented from Longyear Canada Ltd. and camp wiring and year lighting were installed by B5 Outfitters. Diesel and gasoline storage tanks were supplied by P. Demeulemeester and Pacific 66 of Hudson's Hope and fuel was delivered on an as needed basis by Pacific 66.

Reclamation of disturbed ground was conducted by P. Demeulemeester as an ongoing part of the program. Roads and drill sites were cleaned up and recontoured subsequent to moving the drilling rig from each site. Mud sumps were refilled and levelled. Seriously compacted earth was scarified using a cable harrow and the sites and roads were sown with the grass seed mixture recommended by the Reclamation Branch of the British Columbia Ministry of Energy, Mines and Petroleum Resources for forested areas of the "Northeast Coal Block". In addition, upon completion of the exploration program, all culverts were removed, one of the Dowling Creek bridges was removed and the stream banks were recontoured and water bars were constructed on all steep road grade. In some places, special ditches and channels were excavated to assure adequate drainage and to minimize erosion.

All construction equipment required throughout the 1979 exploration program was provided by P. Demeulemeester. A Caterpillar D7G bulldozer and a Caterpillar D6D bulldozer were used throughout the program. A Caterpillar D6C bull-dozer, a 450 John Deere backhoe, and a small John Deere crawler equipped with a cyclone seeder and for dragging a cable harrow were used occasionally. One or more 3/4 ton Ford 4-wheel drive trucks were used to transport personnel, fuel and supplies. This equipment was used for road and drill site

construction and maintenance, reclamation work, camp installation, drill moves and servicing the drill.

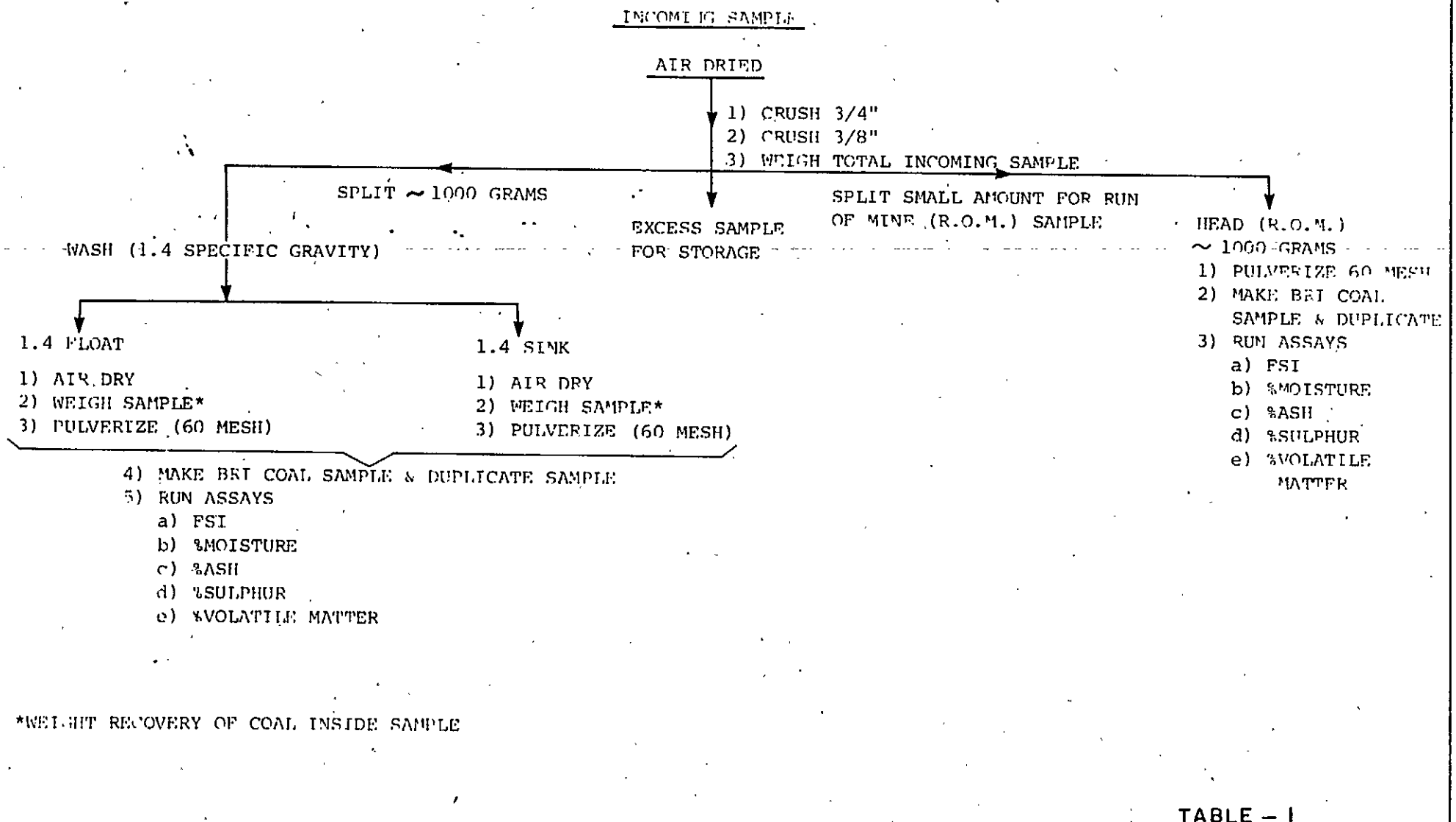
The drilling contract was awarded to Longyear Canada Ltd. A unitized Longyear 44 diamond drilling rig and its related equipment was mobilized from Vancouver to the property and drilling commenced on May 18, 1979. Two 12 hour shifts, under the foremanship of Mr. W. Castle, were worked each day that the actual drilling was in progress. Drillers on the job included R. West and B. Finnigan (replaced near the end of the program by P. McDonald). Drillers helpers included variously, G. Dupuis, G. Dyck, L. Camplier and T. Kenny. Removal of the drilling equipment from the last site was completed on July 24, 1979 and demobilization from the property followed shortly.

Helicopter use during the 1979 exploration program was minimal, involving mapping crew support, inspection flights with both the Reclamation Inspector (Mr. T. Hall) and the Regional Habitant Protection Biologist (Mr. F. Harper) and medical emergency flights to Chetwynd. In all cases, a Bell 206 Jet Ranger, supplied by Maple Leaf Helicopters Ltd. of Chetwynd was used.

Numerous less significant materials and services were supplied by companies and individuals in Hudson's Hope, Chetwynd and Fort St. John.

In total, 2504.54 metres of diamond drilling was completed in six holes. The core was logged by D. N. Duncan and P. Cowley, assisted by P. Zell and J. Kozak. (descriptive lithologic logs are bound in this report under the section

FLOW CHART FOR ANALYSIS OF DIAMOND DRILL HOLE SAMPLES



*WEIGHT RECOVERY OF COAL INSIDE SAMPLE

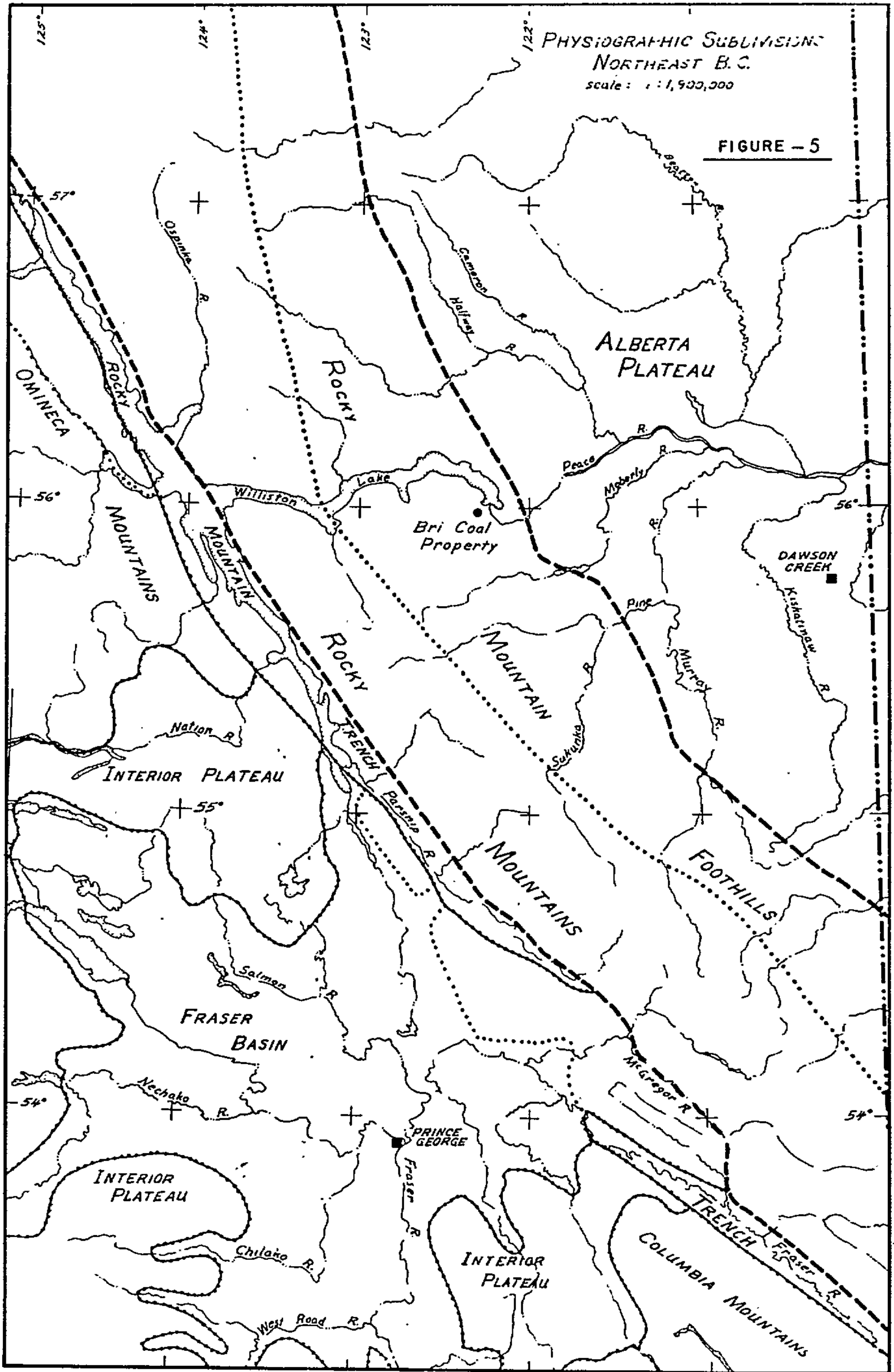
TABLE – I

entitled "Drill Hole Data, Descriptions and Analytical Data;" graphic lithologic logs are included in the map pocket). Mechanical logs consisting of gamma-ray and density logs were run in each hole by Utah Mines Ltd. personnel using either a portable Gearhart-Owen, Model 06-3200 Widco Logger employing electric hoisting or a truck mounted Widco Logger employing hydraulic hoisting and a combination down-hole tool. (logs are included in the map pocket). Calibration problems with the truck mounted logger gave rise to the poor quality logs from D.D.H. BC-79-8 and BC-79-9.

Thirty-six samples were taken from the core recovered from these six holes. The 36 samples included 59 individual coal beds. The samples were submitted for analysis to the Utah International Inc. Minerals Laboratory at 1190 Bordeaux Drive, Sunnyvale, California, 94086. Analyses were completed following the procedures outline on the laboratory flow chart on the following page. (Table 1) Fifty-six Head Analyses and 55 Single Gravity Tests (at 1.4 specific gravity) were conducted on individual samples and bed composite samples. Washibility Tests were performed on 22 samples.

On completion of the 1979 field program, the core was shipped to the Charlie Lake core storage facility of the British Columbia Ministry of Energy, Mines and Petroleum Resources.

Geological mapping of selected areas of the property was undertaken intermittently throughout the summer. This work was completed by P. Cowley, J. Ridley and D. N. Duncan assisted by P. Zell, J. Kozak and K. Broadbent. As well, these employees conducted chain and compass surveys of all roads and drill sites and mapped outcrop along the roads.


PHYSIOGRAPHIC SUBDIVISIONS
NORTHEAST B.C.
scale : 1:1,900,000
FIGURE – 5
125°
124°
123°
122°
57°
56°
55°
54°
ALBERTA PLATEAU
ROCKY MOUNTAIN FOOTHILLS
ROCKY MOUNTAINS
ROCKY MOUNTAIN TRENCH
OMINECA MOUNTAINS
INTERIOR PLATEAU
FRASER BASIN
COLUMBIA MOUNTAINS
TRENCH
Bri Coal Property
DAWSON CREEK
PRINCE GEORGE
Williston Lake
Peace R.
Moberly R.
Pine R.
Murray R.
Kiskatinaw R.
Sukunka R.
Parsnip R.
McGregor R.
Fraser R.
Nation R.
Salmon R.
Nechako R.
Chilako R.
West Road R.
Ospika R.
Cameron R.
Halfway R.
Beatton R.

PHYSIOGRAPHY

The Bri-Dowling Creek Property is situated toward the eastern margin of the Rocky Mountain Foothills. (See map, figure 5, page 15) Folding and faulting in the area is much less pronounced than that found further to the west but is certainly distinctly different from the gently dipping formations of the Alberta Plateau to the east. Major fold axes and thrust faults trend in a northerly to northwesterly direction with thrusts dipping to the southwest. Bedrock structure and lithology are commonly reflected by the topography.

Topographic relief in the immediate area of the property is moderate. The lowest elevations, found in creek valleys, are in the order of 600 metres above sea level while the elevations of the hills and ridges rarely exceed 1200 metres above sea level. Creek valleys range in form from the deeply incised canyon of Gething Creek below its confluence with Dowling Creek to the broad, gravel floored valley of Dowling Creek above this confluence. In areas of thick till cover, creeks have cut rapidly through the overburden to bedrock, leaving steep, slide prone valley walls. Hill tops and ridge crests are broad and rounded and dip slope surface are common.

NOMENCLATURE OF THE LOWER CRETACEOUS BULLHEAD AND FORT ST. JOHN GROUP

TABLE – 2

	Muller 1961		Stott 1968 Pine River Foothills			(used in this report) Stott 1968 Upper Peace River			Flynn 1976		
Upper Cretaceous	Dunvegan Fm.		Dunvegan Fm.			Dunvegan Fm.					
Lower Cretaceous	Fort St. John Group	Cruiser Fm.	Fort St. John Group	Cruiser Fm.		Fort St. John Group	Cruiser Fm.		Fort St. John Group	Hasler Fm. & Younger	
		Goodrich Fm.		Goodrich Fm.			Goodrich Fm.				
		Hasler Fm		Hasler Fm.			Hasler Fm.				
		Commotion Fm.		Commotion Fm.	Boulder Creek Member					Commotion Fm.	Boulder Creek Member
					Hulcross Member						Hulcross Member
							Gates Fm.				Gates Member
		Moosebar Fm.		Moosebar Fm.			Moosebar Fm.			Moosebar Fm.	
	Bullhead Group	Gething Fm.	Bullhead Group	Gething Fm.		Bullhead Group	Gething Fm.		Bullhead Group	Gething Fm.	
		Monach Fm.									
		Beattie Peaks Fm		Cadomin Fm.			Cadomin Fm.			Cadomin Fm.	
		Monteith Fm.									
Lower Cretaceous & Jurassic	Fernie Group		Minnes Group			Minnes Group			Minnes Group		
Jurassic			Fernie Group			Fernie Group					

GEOLOGY - GENERAL AND LOCAL

The Bri-Dowling Creek Property is underlain by folded sediments of the Lower Cretaceous Bullhead Group and Fort St. John Groups (see table 2 , page17) Stott (1968, p.7) considers these two groups to form a complete nonmarine to marine sequence. "The basal succession of Lower Cretaceous coal-bearing sediments and massive conglomerates is included in the Bullhead Group. The overlying Lower Cretaceous marine sediments with tongues of carbonaceous, sandy sediments are included in the Fort St. John Group. The lower part of the sequence records widespread fluvial conditions that developed after initial deposition of conglomeratic sediments. The upper part records the complex intertonguing of marine transitional, and flood plain environments along the coast-line of the Early Cretaceous epicontential sea."

The change from the argillaceous recessive beds and fine-grained sandstone beds of the older Minnes Group to the resistant and prominent conglomeratic beds of the Cadomin Formation (Stott, 1978, pp. 14-22) of the Bullhead Group is abrupt. In the general area of the Bri-Dowling Creek Property the Cadomin Formation is most commonly a sequence of massive to coarsely crossbedded, coarse-grained sandstone beds containing lenses and bands of pebbles (Stott, 1978, pp.14-22). The typical massive conglomerate found south of Pine River does not appear to be present in this area. The Cadomin Formation does not outcrop on the Bri Coal Property but may be presumed to underly the entire property at depth.

The oldest unit outcropping on the property is the Gething Formation. The character of the Gething Formation under-

lying the property is typical: as described by Irish, (1970), p. 68) a sequence of "interbedded, grey-and buff-weathering, medium-to fine-grained, grey to dark brown sandstones, grey to black shales, dark siltstones and coal seams." These sediments represent deposition in an aggrading flood plain environment. Some of the fine-grained sandstones may represent bar finger and levee deposits and others may represent flood plain splay deposits (Stott, 1968, p. 111). Sedimentary features attributable to these types of deposits are present in drill core and outcrop on the Bri-Dowling Creek Property. Stott (1968, p. 111) lists some of the features found in sandstones: well sorted nature but often containing considerable matrix, festoon crossbeds, laminae of plant debris and thin layers of silt and clay. The finer silts and clays represent deposition from water in areas practically devoid of current on the flood plain proper (Stott, 1968, p. 112). They accumulated between the river channels and the swamp and forest areas. The swamp and forest areas are the source of the present coals and are thought to be of several differing occurrences. Stott, (1968, p. 112) suggests some may have originated in abandoned river channels, some paralleling major river channels and some on deltas.

Work by Stott (1969, p. 4) indicates a minimum thickness of 1600 feet for the Gething Formation in this area. The total thickness approaches 1800 feet if a postulated fault is absent. This formation is but one of several which metallurgical grade coals throughout the Northeast Coal Block.

The lower contact of the Gething Formation is placed at the top of the uppermost thick conglomerates and coarse-grained

sandstones of the Cadomin Formation (Stott, 1969, p. 4). Irish, (1970, p. 68) has noted that, "in Peace River Canyon, coarse sandstones of the Cadomin Formation grade laterally into interbedded coal, sandstone and shale of the Gething Formation and therefore these formations are in part lateral equivalents." Because of the close proximity of the Bri-Dowling Creek Property to Peace River Canyon, this form of contact relationship may be assumed to occur underlying the property.

The Bullhead Group is overlain by marine sediments of the Fort St. John Group, which is comprised of, from oldest to youngest, the Moosebar Formation, the Gates Formation, the Hasler Formation, the Goodrich Formation and the Cruiser Formation. All formations of the Fort St. John Group are apparently represented within the boundaries of the property, (Flynn, 1976; Muller, 1961; Stott, 1968) although only the Moosebar Formation and the Gates Formation were mapped during the 1978 and 1979 field seasons. With the exception of a small area to the west and northwest which is underlain by Gething Formation sediments, the property is largely underlain by Fort St. John Group sediments.

The Moosebar Formation of the Fort St. John Group directly overlies the Gething Fromation. Often a thin pebbly basal conglomerate lies abruptly on carbonaceous Gething sediments and the lower part of the Moosebar Formation is typically strongly glauconitic. These two characteristics were observed in all six holes drilled during the 1979 exploration program. Typically sediments comprising the formation are dark grey to black, rubbly to blocky, often silty shales. Ironstone concretions occur in bands at various levels in

the section. Toward the top of the formation, the shales become gritty and thin beds of fine-grained sandstone and siltstone are present. Stott (1968, p. 51) considers that the upper boundary with the Gates Formation should be "drawn at the base of the first thick succession of sandstone".

D.D.H. BC-79-11 penetrated an apparent thickness of approximately 562 metres of Moosebar Formation sediments. This section extends from the base of a seven metres thick sandstone bed at 99.30 metres below the hole collar to the base of the thin conglomeratic mudstone bed at 661.25 metres below the hole collar. A true thickness of approximately 553 metres is indicated when an average bedding dip angle of 10 degrees is considered.

Sediments of the Gates Formation were penetrated at the top of D.D.H. BC-79-11 and mapped at various locations on the property. They consist of interbedded grey to brownish-grey, often green weathering, fine-grained sandstone, dark grey shales, and grey to brownish-grey siltstone. Beds were observed ranging from a few centimetres to greater than two metres in thickness. Formations overlying the Gates Formation were not observed.

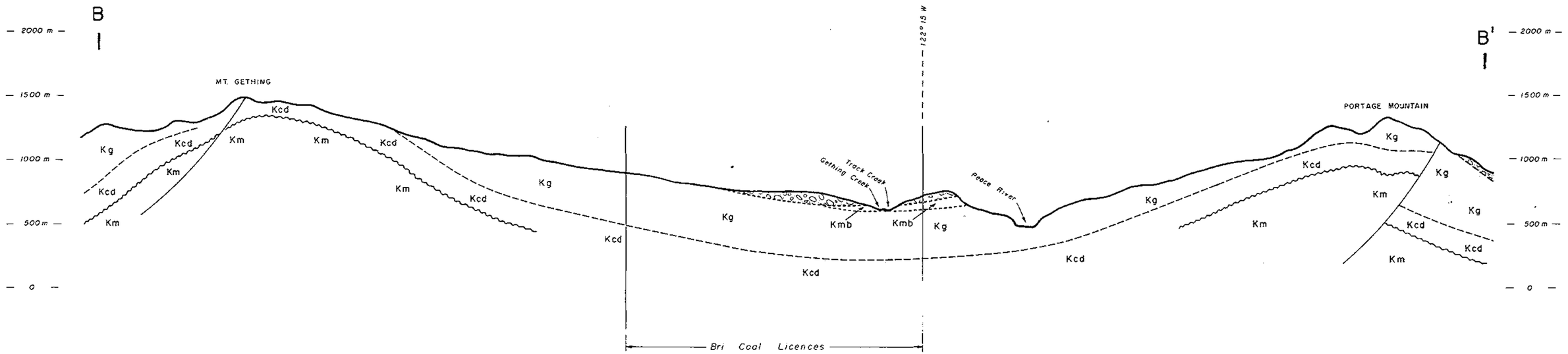
STRUCTURE

A major north to north-northwest trending synclinal axis lies approximately along the eastern boundary of the northern group of coal licences. Nearly all of the property lies west of this synclinal axis toward an adjacent and roughly parallel anticlinical axis. These fold axes plunge gently to the south. Folding is broad and gentle with bedding dip angles generally less than 15 degrees although several dip angles greater than 15 degrees have been measured on the southern coal licences in Dowling Creek Valley. Some variation from the normal regular bedding configuration is postulated in this area but is not yet fully defined. (see maps 2, . and 4; pocket)

Faulting is not a prominent structural feature in the area of Bri-Dowling Creek Property although one or more low-angle gouge filled fault zones have been observed in core from most of the drill holes. The shallow measured angles in each case and the similar stratigraphic position of each intercept suggest the presence of a thrust fault underlying the central part of the property. Attempts to correlate these fault intercepts between adjacent drill holes proved inconclusive. Fault zone dip angles, measured from core, closely approximate bedding dip angles with the gouge zones narrow and confined in character.

Besides these occasional faults, fractures and tight slickensided shears are common having been produced as an accommodation of stresses associated with folding and thrust faulting.

Evidence of drag folds and concurrent faulting was noted in both D.D.H. BC-79-8 and D.D.H. BC-79-11. In D.D.H. BC-79-8 changed from near horizontal to vertical and abutted against a fault while in D.D.H. BC-79-11 the hole was stopped in vertical bedding. Further drilling is necessary to confirm the presence of a significant thrust fault and to establish its configuration throughout the area.



STRATIGRAPHY

- Quaternary Alluvium
- Kmb — Moosebar Formation
- Kg — Gething Formation
- Kcd — Cadomin Formation
- Km — Minnes Group
- Unconformity

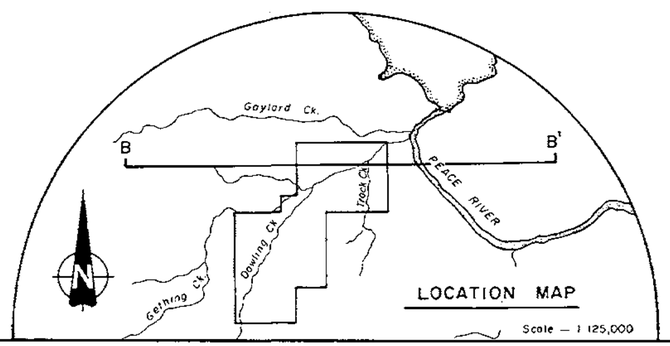


FIGURE — 6

UTAH MINES LTD.

BRI COAL PROJECT

EAST — WEST SECTION

@ 55° 59' 30" NORTH

Horizontal Scale — 1:50,000
Vertical Scale — 1:25,000

November 1979

DRILL HOLE DATA

A. WELL COMPLETION REPORT

D.D.H. BC-79-6

Location: 737 metres by access road (constructed by Utah Mines Ltd.) approximately north-northeast from 38.9 kilometres on Johnson Creek - Track Creek Road.

- McElhanney coordinates: 6,203,920mN x 544,000mE
- Coal Licence No. 3646

Elevation: 733 metres

Orientation: Vertical

Date Collared: May 26, 1979 Plugged: No

Overburden Depth: 104.85 metres

Casing Depth: 53.04 metres Casing Size: Hw 4.5" - recovered

Final Depth: 286.82 metres

Formation Encoutered:

0 to 104.85m	Overburden
104.85m to 140.75m	Moosebar Fm.
140.75m to 286.82m	Gething Fm.

Core Description By: N. Duncan and P. Cowley

Coal Seams Sampled:

Sample No.	Seam Name	Interval	Thickness Core	Thickness Density Log
1a	Trojan	169.00m to 169.23m	0.23m	0.9m
1b		169.29m to 169.92m	0.63m	
2a		186.85m to 187.35m	0.50	0.9m
2b		187.46m to 187.76m	0.30m	
3a	"Unnamed"	243.88m to 244.31m	0.43m	1.8m
3b		244.39m to 244.56m	0.17m	
3c		244.62m to 244.65m	0.03m	
3d		245.08m to 245.57m	0.49m	
4		261.88m to 262.69m	0.81m	0.65m

Logs Run: Gamma and Density - by Utah Mines Ltd.

D.D.H. BC-79-6

B. COMMENTS:

During the construction of drill site BC-79-6 and its access road, all slashed timber was bucked into short lengths and buried under the right-of-way. The site was cleaned up subsequent to the removal of the drilling rig on May 28, 1979 and reclamation of the road and site was completed on May 30, 1979. Disturbed ground was sown with the grass seed mixture recommended by the Reclamation Branch of the Ministry of Energy, Mines and Petroleum Resources for forested areas of the "North-east Coal Block".

Below 104.85 metres of overburden, D.D.H. BC-79-6 penetrated 35.90 metres of Moosebar Formation dark grey to black, marine shales and related sediments. Scattered pyrite nodules are common and the formation is glauconitic toward the base. A conglomeratic sandstone having a muddy matrix forms the basal unit of the formation. These sediments and the various sedimentary features observed are typical of the lower part of the Moosebar Formation.

The Gething Formation of the Bullhead Group was encountered at 140.75 metres below the surface and the upper 146.07 metres of the formation were cored. The sediments encountered are typical of the Gething Formation. Mudstones, siltstones and silty mudstones are predominant. They occur as discrete beds and as finely interlaminated sequences. Siltstones and strongly silty mudstones often display small scale sedimentary textures such as cross-bedding, current ripple laminations and very fine graded bedding.

Sandstone forms a relatively minor component of the section but is present as a few nearly homogeneous beds, as thin interlaminations with siltstone and mudstone and as inhomogeneous mixtures with finer sediments. Cross-bedding and graded bedding are common and inclusions of carbonaceous debris, fine coal streaks and mudclasts are often present. All of the sandstones cored in D.D.H. BC-79-6 are fine-grained.

Bedding observed in the Gething sediments is moderately variable with dip angles ranging from 80° to 87° to the core axis. Shallow bedding dips in this range conform well with expected local dip angles and dip angles measured on the core from adjacent drill holes. Two narrow (0.12m and 0.02m) fault zones were noted between 170.97m and 174.16m below the hole collar but are not considered to represent a major structural break. Occasionally, minor fine calcite veining was noted in particular beds.

Forty-one individual coal seams ranging in thickness from 0.03 of a metre to 0.81 of a metre were cored in D.D.H. BC-79-6. Many of these seams are of minor importance; eighteen are 0.10 of a metre or less in thickness and only three are 0.50 of a metre or more in thickness. Nine coal seams were sampled in four samples. Samples No. 1 and No. 2 comprised two seams each, Sample No. 3 comprised four seams and Sample No. 4 comprised one seam. The appearance and character of these seams varied considerably and this variation is equally evident in the analytical data. Recovery of the coal core ranged from 50% to 100% but in most cases, recoveries from 90% to 100% were recorded, providing reasonably complete samples and reasonably valid analytical data.

A. WELL COMPLETION REPORT

D.D.H. BC-79-7

Location: 773 metres by access road (constructed by Utah Mines Ltd.) approximately south-southwest from 38.5 kilometres of Johnson Creek - Track Creek Road.

- McElhanney Coordinates: 6,202,560mN x 543,280mE
- Coal Licence No. 3647

Elevation: 790 metres

Orientation: Vertical (assumed)

Date Collared: May 28, 1979

Date Completed: June 5, 1979 Plugged: No

Overburden Depth: 18.58 metres

Casing Depth: 18.90 metres Casing Size: Hw 4.5 in.

Final Depth: 446.84 metres

Formations Encountered:

0	to	18.58m	Overburden
18.58m	to	309.28m	Moosebar Fm.
309.28m	to	446.84m	Gething Fm.

Core Description By: P. Cowley and P. Zell

Coal Seams Sampled:

Sample No.	Seam Name	Internal	Thickness Core	Thickness Density Log
1	Superior	310.85m to 311.52m	0.67m	0.55m
2		344.05m to 344.85m	0.80m	0.70m
3		345.10m to 345.65m	0.55m	0.40m
4		393.79m to 394.21m	0.42m	0.45m
5a		406.38m to 406.91m	0.53m	1.10m
5b		407.02m to 407.19m	0.17m	
5c		407.24m to 407.31m	0.07m	
5d		407.42m to 407.52m	0.10m	
6	Little Mogul	421.44m to 422.07m	0.63m	0.45m

Logs Run: Gamma and Density - by Utah Mines Ltd.

D.D.H. BC-79-7

B. COMMENTS:

The access road and drill site for D.D.H. BC-79-7 were prepared early in the season in conjunction with camp construction and installation activities. (Serious problems were encountered due to deeply frozen ground and several flowing springs.) All movement of parts and supplies to and from the site was done using a Caterpillar tractor. Clean-up and reclamation work were done after the hole had been completed. The lower part of the access road was levelled and seeded on June 13, 1979. In order to allow the ground to dry, reclamation of the upper part of the access road and the drill site was not undertaken until July 31, 1979. At that time the Caterpillar excavated mud sump was refilled and the drill site and road were recontoured. All disturbed ground was sown with the prescribed grass seed mixture.

Below 18.58 metres of overburden, 290.70 metres of Moosebar Formation marine shales were penetrated. These shales are typically dark grey to black, display blocky to rubbly fracturing and contain varying but minor amounts of silt, both dispersed and as thin laminations and lenses. Three pale green, soft, altered ash laminations were noted in the interval from 148 metres to 181 metres below the hole collar and three thin sandstone laminations were noted in the interval from 301.62 metres to 302.23 metres below the hole collar. Shell debris, pyrite nodules and glauconite nodules were present in the basal few metres of the section. A pyritic and glauconitic conglomerate bed formed the base of the formation.

The Gething Formation of the Bullhead Group was encountered at 309.28 metres below the hole collar and was cored to a depth of 446.84 metres. A sequence of interbedded and interlaminated mudstones, siltstones, sandstones and coal seams of widely varying compositions and characters were cored.

Bedding dip angles of 80° to 85° to the vertical core axis were noted throughout the section. A single bedding dip angle of 70° to the vertical core axis was noted in a thick coarse-grained sandstone bed but this measurement probably was taken on a foreset bedding or large-scale crossbedding surface. Fracturing and veining were not prominent and no fault zones were observed.

Thirty-one coal seams ranging in thickness from 0.02 of a metre to 1.22 metres were cored in D.D.H. BC-79-7. Of these, nine seams of 0.10 of a metre or less in thickness were included. Six samples comprising nine individual coal seams were selected for analysis. Sample No. 5 was composed of four seams while all of the remaining five samples were of single seams. The sampled coals were of widely differing qualities as is indicated by the head analyses. The float products of the 1.4 specific gravity separations all showed marked reductions in ash content and corresponding increases in heat value. Greater than 35% by weight of Samples No. 1, No. 4, No. 5 ABCD and No. 6 was lost in the 1.4 specific gravity separations indicating the dirty nature of these coals. Sulphur content dropped considerably in the float product of Sample No. 1; probably indicating the loss from the sample of pyrite, while the float products of the remaining samples showed slight increases in their sulphur contents; indicating that the sulphur is an intrinsic part of the coal.

A. WELL COMPLETION REPORT

D.D.H. BC-79-8

Location: 20 metres to the east of the main Dowling Creek Road (constructed by Utah Mines Ltd.) at 1750 metres south-westerly from the junction of Dowling Creek Road with Johnson Creek - Track Creek Road at 40.17 kilometres.

- McElhanney Coordinates: 6,202,360mN x 542,055mE
- Coal Licence No. 3650

Elevation: 709 metres

Orientation: Vertical

Date Collared: June 7, 1979

Date Completed: June 14, 1979 Plugged: Yes

Overburden Depth: 21.96 metres

Casing Depth: 23.96 metres Casing Size: Hw 4.5 in.

Final Depth: 407.21 metres

Formation Encountered:

0	to	21.96m	Overburden
21.96m	to	238.11m	Moosebar Fm.
238.11m	to	407.21m	Gething Fm.

Core Description By: D.N. Duncan

Coal Seams Sampled:

Sample No.	Seam Name	Interval	Thickness Core	Thickness Density Log
1a	Superior	241.84m to 242.84m	1.00m	1.93m
1b		243.04m to 243.51m	0.47m	
2a	Trojan	262.86m to 263.12m	0.26m	?
2b		263.18m to 263.22m	0.04m	
2c		263.24m to 263.31m	0.07m	
2d		263.39m to 264.26m	0.87m	1.55m
2e		264.33m to 265.03m	0.70m	
2f		265.13m to 265.26m	0.13m	?
2g		265.36m to 265.64m	0.28m	0.30m
3		288.72m to 289.27m	0.55	0.65m
4	Falls	313.38m to 314.00m	0.62m	?
5		323.13m to 324.05m	0.92m	1.15m
6	Little Mogul	374.16m to 375.21m	1.05m	0.95m
7	Mogul	377.99m to 378.70m	0.71m	0.70m

Logs Run: Gamma and Density

D.D.H. BC-79-8

B. COMMENTS:

D.D.H. BC-79-8 was drilled adjacent to the main Dowling Creek Road and the site was a small patch cleared on the east side of the road. A minor gas flow occurred in this hole and therefore an aluminum and rubber grout plug and two wooden plugs were installed. The hole was then filled from the upper plug to the surface with a thick, fast setting cement slurry. Upon completion of the drilling and grouting operations, the drilling rig was removed from the site, the bulldozer excavated mud sump was refilled and the site was recontoured. On June 30, 1979 the site was sown with the recommended grass seed mixture.

Below 21.96 metres of overburden, D.D.H. BC-79-8 penetrated 216.15 metres of Moosebar Formation sediments. The section encountered is typical of the formation; being largely composed of dark grey to black, rubbly to blocky shales with varying amounts of silt present. Iron rich concretion bands were penetrated at numerous levels in the section. Scattered pyrite nodules are present throughout the section and in increasing numbers toward the base. The bottom few metres of the formation is typically glauconitic and a conglomerate bed 0.72 metres thick forms the base.

The Gething Formation of the Bullhead Group was encountered at 238.11 metres below the hole collar and the upper 169.10 metres of the formation were cored. The sedimentary sequence includes beds and laminations of varying combinations of shale, silt and sand size fractions. Numerous coal beds are included in the sequence and carbonaceous debris is present

in many beds. The many sedimentary textures associated with alluvial plain deposition are found in the sediments cored in this hole.

In the upper part of the Gething section, cored in D.D.H. BC-79-8, measured bedding dip angles to the vertical core axis are consistent at 80° while in the lower part all bedding dip angles to the vertical core axis are at 85°. In the middle part of the section from approximately 300 metres to 340.74 metres below the hole collar, bedding dip angles to the vertical core axis gradually steepen from 80° to 0°. A fault zone from 340.74 metres to 340.96 metres abruptly terminates this bedding irregularity. The gradual but continuous change in bedding orientation is probably drag folding produced by significant movement along the fault. The shallow fault angle, closely paralleling the dip angle of the underlying bedding, suggests that this is a thrust fault.

A second possible fault zone was noted at 291.84 metres to 291.87 metres below the hole collar. This fault occurs at a slight angle to the bedding, without secondary folding and is therefore considered of much less significance, although some displacement is probable. Some fracturing and occasional fine calcite veining were noted throughout the section.

Fifty coal seams were cored in D.D.H. BC-79-8. Of these, 22 seams were 0.10 of a metre or less in thickness while only two seams were 1.0 metre or greater in thickness. Seven samples comprising 14 individual coal seams were submitted for analysis. Sample No. 1 comprised two seams, Sample No. 2 comprised seven seams and Samples No. 3 to No. 7 were of single seams. Coal core recoveries ranged from 20% to 100% and with

an average of 82% for those seams selected for analysis. The head analyses of these coals shows the considerable range in their qualities. A 1.4 specific gravity float separation in all cases produced an improved product but in many samples the weight percent of reject material was approximately equal to or greater than the float sample.

A. WELL COMPLETION REPORT

D. D. H. BC-79-9

Location: on the flat-topped gravel ridge lying between Dowling and Gething Creeks and approximately 1350 metres southwesterly from their junction. 2750 metres by access road (constructed by Utah Mines Ltd.) from 40.17 kilometres on Johnson Creek - Track Creek Road.

- McElhanney Coordinates: 6,202,970mN x 541,910mE
- Coal Licence No. 3648

Elevation: 761 metres

Orientation: Vertical

Date Collared: June 16, 1979

Date Completed: June 20, 1979 Plugged: No.

Overburden Depth: 80.77 metres

Casing Depth: 80.77 metres Casing Size: Hw 4.5 in.

Final Depth: 256.34 metres

Formations Encountered:

0	to	80.77m	Overburden
80.77m	to	127.41m	Moosebar Fm.
127.41m	to	256.34m	Gething Fm.

Core Description By: D. N. Duncan and P. Zell

Coal Seams Sampled

Sample No.	Seam Name	Interval	Thickness Core	Thickness Density Log
1a	Superior	130.51m to 131.86m	1.35m	1.42m
1b		132.24m to 132.72m	0.48m	0.45m
2a	Trojan	156.82m to 158.28m	1.46m	1.35m
2b		158.41m to 158.75m	0.34m	0.30m
3		166.78m to 167.51m	0.73m	0.55m
4	Falls	197.16m to 197.76m	0.60m	0.65m
5a	Mogul	246.11m to 246.37m	0.26m	1.20m
5b		246.40m to 246.60m	0.20m	
5c		246.75m to 247.09m	0.34m	

Logs Run: Gamma and Density

D.D.H. BC-79-9

B. COMMENTS:

On June 22, 1979, after removal of the drilling rig from site BC-79-9, the site was cleaned up, the Caterpillar excavated mud sump was refilled and the site and access road were levelled. On July 10 and 11, 1979 all disturbed areas were sown with the recommended grass seed mixture.

Below 80.77 metres of overburden, 46.64 metres of basal Moosebar Formation marine shales were penetrated. These shales are dark grey to black, are rubbly to blocky fracturing and contain varying but minor amounts of silt both dispersed and as thin laminations and lenses. Minor numbers of pyrite nodules and shell molds and several light grey, altered ash bands were noted. Glauconite was noted in the basal few metres of the section and the contact of the Moosebar Formation with the underlying Gething Formation was established at the bottom of a sandy conglomeratic bed occuring from 126.59 metres to 127.41 metres below the hole collar.

Below this conglomerate, 128.93 metres of the Gething Formation of the Bullhead Group were cored to a depth of 256.354 metres below the hole collar. Mud, silt and sand components and widely varying mixtures of these components occur inter-laminated and as discrete beds. Intercalated throughout this sequence of particulate sediments are numerous coal seams that vary greatly in thickness, quality and physical character. The sediments and the sedimentary textures and structures present in the sediments are the product of deposition under the continually changing conditions of an alluvial plain environment.

Measured bedding dip angles throughout most of the Gething section were constant at 77° to 80° to the vertical core axis. A nine metres thick anomalous zone was observed from 236.94 to 246.11 metres below the hole collar. Here, bedding dip angles steepened markedly to a maximum of 47°. Many slickensided fracture surfaces were noted and a number of small faults were postulated. Large-scale displacement is considered improbable but certainly some movement accompanied by shearing occurred. Widely spaced tight fractures and occasional fine calcite veins are present throughout the formation.

Thirty-three coal seams ranging in thickness from 0.03 of a metre to 1.46 metres were cored in D.D.H. BC-79-9. Of these 33 seams, five were 0.10 of a metre or less in thickness and two were 1.0 metre or greater in thickness. Five samples comprising nine individual coal seams were removed from the core and submitted to the laboratory for analysis. The great variability in the quality and physical character of these coals is aptly demonstrated by the dissimilarity of individual seam analyses.

Percent by weight of ash ranges from 3.13% to 19.34% and corresponding heat values range from 14988 Btu/lb. to 11909 Btu/lb. Percent by weight of volatile matter ranges from 21.80% to 33.36% and percent by weight of sulphur from 0.69% to 1.66%. F.S.I. values from 1 to 8.5 were recorded. Most of these qualities were greatly improved where similar tests were performed on 1.4 specific gravity float products. In some samples, sulphur slightly increased indicating that the sulphur is an intrinsic component of the coal while in others it was significantly reduced, probably indicating the loss of pyrite with the sink fraction. In all wash tests a decrease in ash content was accompanied by a corresponding increase in BTU's.

A. WELL COMPLETION REPORT

D.D.H. BC-79-10

Location: 4.2 Km by access road (constructed by Utah Mines Ltd.) approximately southwest along Dowling Creek from 40.17 kilometres on Johnson Creek - Track Creek Road.

- McElhanney Coordinates: 6,200,995mN x 540,530mE
- Coal Licence No. 3651.

Elevation: 771 metres

Orientation: Vertical (assumed)

Date Collared: June 22, 1979

Date Completed: June 28, 1979 Plugged: No

Overburden Depth: 55.05 metres

Casing Depth: 55.47 metres Casing Size: Hw 4.5 in.

Final Depth: 356.62 metres

Formations Encountered:

0	to 55.05m	Overburden
55.05m	to 219.18m	Moosebar Fm.
219.18m	to 356.62m	Gething Fm.

Core Description By: D.N. Duncan and P. Ze..

Coal Seams Sampled:

Sample No.	Seam Name	Interval	Thickness Core	Thickness Density Log
1	Sub-Superior?	231.64m to 233.38m	1.74m	1.60m
2a		262.85m to 263.35m	0.50m	1.20m
2b		263.52m to 263.80m	0.28m	
3a		265.48m to 265.63m	0.15m	0.68m
3b		265.70m to 266.15m	0.45m	
4		271.92m to 272.85m	0.83m	0.75m
5	Titan	275.43m to 277.67m	2.24m	1.95m
6a		299.68m to 300.66m	0.98m	1.40m
6b		300.73m to 301.10m	0.37m	
7		326.90m to 327.67m	0.77m	0.78m
8		330.60m to 331.74m	1.14m	1.05m
9a	Little Mogul-	345.61m to 346.09m	0.48m	1.00m
9b	Mogul	346.25m to 346.70m	0.45m	

D.D.H. BC-79-10

Comments:

During construction of Site BC-79-10 and its access road all felled timber was slashed into short lengths and buried under the roadbed. A bulldozer excavated mud sump at the drill site was refilled and the site was recontoured upon completion of drilling and removal of the drilling rig. Reclamation procedures at the drill site and along the access road were completed on July 6 and 7, 1979.

Below 55.05 metres of overburden, 164.13 metres of Moosebar Formation shales were cored. These are typically dark grey to black, blocky to rubbly and often weakly silty. Numerous thin bands, thought to be kaolinitized ash beds were cored. Pyrite was common as nodules and increased in abundance toward the base of the formation. Two zones of intense slickensided fractures from 154.00 metres to 156.06 metres at 20° to the vertical core axis and from 163.20 metres to 165.30 metres at 10° to the vertical core axis were encountered. The bottom few metres of the formation were strongly glauconitic and a conglomeratic, coarse-grained sandstone formed the base of the formation.

The Moosebar Formation rests conformably on sediments of the Gething Formation. The contact was encountered at 219.18 metres below the hole collar and the upper 137.44 metres of the formation were cored. Mudstones, silty mudstones, muddy siltstones and siltstones comprise most of the sediments cored in D.D.H. BC-79-10. These sediments display many of the small-scale textures including convoluted bedding, cross-bedding, ripply marks, load casts and worm burrows associated with low energy, fine sediment, deltaic deposition. Discrete

homogeneous beds are generally from less than one centimetre to several centimetres in thickness but occasional massive beds are present. Alternating interlaminate beds or laminations of two or more sediment types and inhomogeneous mixtures are common.

Sandstones occur as individual beds and as thin inter-laminations with siltstone and mudstone. None are compositionally homogeneous and only a few are texturally homogeneous. Medium- to large-scale cross-bedding and crude to well defined graded bedding are common. Often carbonaceous plant debris or coaly streaks and occasionally thin laminations of mudstone or siltstone are present.

Bedding dip angles of 70° to 75° to the vertical core axis were recorded throughout much of the core with a slight flattening of the bedding to 80° to the vertical core axis noted near the bottom of the hole. Fracturing is of minor significance in D.D.H. BC-79-10 and calcite veining was only rarely noted. A narrow gouge zone was noted from 303.38 metres to 303.43 metres indicating a fault but this is not considered to be a major structural feature.

The section of Gething Formation sediments encountered in D.D.H. BC-79-10 is atypical with regard to the included coal seams. In this section, coal seams are fewer in number than are normally present and those that are present are generally thicker. Twenty-three seams were cored in D.D.H. BC-79-10 ranging in thickness from 0.04 of a metre to 2.24 metres. Only three seams were 0.10 of a metre or less in thickness while three others were 1.0 metre or greater in thickness.

Nine samples comprising 13 individual coal seams were removed for analysis. Samples No. 2, No. 3, No. 6 and No. 9 each consisted of two seams while sample No. 1, No. 4, No. 5, No. 7 and No. 8 were of single seams. Core recovery for the sampled seams ranged from 75% to 100% and averaged greater than 90%. Head analyses show considerable variability but the 1.4 specific gravity float products in general show significant improvement in quality.

DDH - BC - 79 - 11

A. WELL COMPLETION REPORT

Location: on the north side of a westerly flowing tributary of Dowling Creek, 5.64 kilometres south and east by Utah Mines Ltd. access road from 40.17 kilometres on Johnson Creek - Track Creek Road.

- McElhanney Coordinates: 6,200,760mN x 541,850mE
- Coal Licence No. 3650

Elevation: 837 metres

Orientation: Vertical

Date Collared: June 30, 1979

Date Completed: July 22, 1979 Plugged: yes

Overburden Depth: 16.46 metres

Casing Depth: 17.68 metres Casing Size: Hw 4.5"

Final Depth: 748.59 metres

Formations Encountered:

0	to	16.46m	Overburden
16.46m	to	99.30m	Gates Fm.
99.30m	to	661.25m	Moosebar Fm.
661.25m	to	748.59m	Gething Fm.

Core Description by: D.N. Duncan and A. T. Armstrong

Coal Seams Sampled:

Sample No.	Seam Name	Interval	Thickness Core	Thickness Density Log
1	Sub-Superior?	674.78m to 676.79m	2.01m	2.05m
2		684.38m to 685.13m	0.75m	0.70m
3	Trojan	694.47m to 697.20m	2.83m	3.00m
4		709.43m to 709.99m	0.56m	0.50m
5		740.95m to 742.49m	1.54m	1.40m

Logs Run: Gamma and Density

D.D.H. BC-79-11

Comments:

Access road construction and site preparation for D.D.H. BC-79-11 were completed intermittently throughout June, 1979. Clean up and seeding of the lower part of the road were completed on June 29 and 30, 1979 during the start-up of drilling operations at the site. Upon completion of the hole the drilling equipment was removed from the site and reclamation procedures including clean up, recontouring of the disturbed ground, refilling of the caterpillar excavated mud sup and seeding were conducted on July 24 and 25, 1979. The installation of waterbars on steep section of the road was requested by the Reclamation Inspector and these were completed in conjunction with the other reclamation work.

Below 16.46 metres of overburden, D.D.H. BC-79-11 penetrated 82.84 metres of sediments assigned to the Gates Formation of the Fort St. John Group. Here, the basal part of the formation was found to be largely made up of sandstone and interlaminated mudstone and sandstone with one thin conglomerate bed. The sedimentary textures present, including cross-bedding, graded bedding and worm burrows and the presence of carbonaceous plant debris indicate deposition in an alluvial plain environment. A six metre thick sandstone bed which occurs from 93.32 metres to 99.30 metres below the hole collar satisfied Stott's (1968, p. 51) requirement for the Gates - Moosebar contact to be "drawn at the base of the first thick succession of sandstone".

Starting at the base of this sandstone unit, 561.95 metres of the Moosebar Formation of the Fort St. John Group were

cored. The upper 80 metres of the Moosebar Formation is made up of beds of varying amounts of siltstone and mudstone and displays some of the sedimentary textures and structures and minor amounts of carbonaceous plant debris typically associated with alluvial plain deposition.

The remaining 482 metres of the Moosebar Formation is composed largely of the dark grey to black, rubbly to blocky shales typical of the formation. Silty lenses and a minor component of disperesed silt are commonly present in the upper shales and decrease downward. Iron rich concretion layers occur at various levels in the section. Several ash bands were noted in the middle and toward the base of the section. Glauconite was present in the bottom few metres of the formation and the base of the formation was formed by a thin muddy conglomeate bed. The section of Moosebar Formation sediments cored in D.D.H. BC-79-11 is the only complete and continuous section available on the property to date.

Because of the great thickness of overlying sediments at this location, only 87.34 metres of the Gething Formation were cored. A generally typical section of sediments comrpised of laminations and beds of mudstone, siltstone, and sandstone. Sedimentary textures and structures associated with alluvial plain deposition were noted throughout. Three relatively clean, coarse-grained sandstone beds similar to those in D.D.H. BC-78-5 were cored which probably represent river channel deposits.

Bedding dip angles measured near the top of the Gething are approximately 85° to the vertical core axis. Dip angles gradually steepen to the bottom of the hole where dip angles

approximate 0° to the core axis. The hole was stopped in a coarse-grained sandstone with bedding parallel to the core axis. No fault was encountered but this change in bedding orientation probably represents small scale drag folding associated with an underlying fault, similar to that occuring from 300 metres to 341 metres below the hole collar in D.D.H. BC-78-8. (See reprot - Anderson and Armstrong 1978)

Twenty coal seams were cored in D.D.H. BC-78-11 ranging in thickness from 0.06 of a metre to 2.01 metres in thickness. Two seams of 0.10 of a metre or less in thickness and two seams of 1.0 metre or greater in thickness were cored. Five samples, comprising 10 individual seams were submitted to the laboratory for coal quality analysis. Composite sample No. 3 consisted of five individual coal seams and their included partings. A 0.12 of a metre thick mudstone split was also included in the analysis of Sample No. 5 which was composed of two individual seams. The considerable variability in the character and quality of these coals is confirmed by the analytical data.

CORRELATION OF COAL SEAMS

The contact between the Moosebar Formation and the Gething Formation forms the most precisely correlatable horizon on the Bri Coal Property. The change in rock types from black marine shales of the Moosebar Formation to the mixed alluvial sediments of the Gething Formation is easily recognized. With the exception of D.D.H. BC-78-3 and D.D.H. BC-78-5, each of the eleven holes drilled during the 1978 and 1979 exploration programs conducted by Utah Mines Ltd. has penetrated this contact. Therefore, the Gething sediments encountered in each of the remaining nine holes represent a segment of the Gething Formation from the top downward.

Stott, 1969, provides some insight into the form and character of these seams and the complexity of the formation. He states on page 5 that "Current work shows that considerable variation occurs within each individual coal seam, that thickness may change rapidly, and that both coal seams and sandstone units are lenticular and have limited extent," p.8. It is apparent then that coal seam correlations be defined as best-fit solutions to a multi-parameter problem. Based on all available physical, chemical and geophysical drill derived data, a correlation (see figures 9a and 10b) has been produced. At present this correlation of Gething formation seams accurately illustrates our understanding of the property.

The drilling programs conducted by Utah Mines Ltd. have provided much data with which to evaluate the central part of the property although the present wide spacing between adjacent drill holes in such a complex sedimentary environment precludes positive coal seam correlations. Several seams are apparently continuous and do attain a certain prominence, at least over parts of the area drilled.

Figures 9a and 10b derived from a study of physical seam parameters, present a tentative correlation from drill hole to drill hole of coal seams cored during exploration programs conducted during 1978 and 1979. Undoubtedly, the "Trojan" seam is the most prominent seam present both in thickness and in areal extent. Several other seams of substantial thickness are present but their areal extent is more limited. An examination of the correlation diagrams show that coal seam development is much greater in the area delimited by drill holes BC-79-8, BC-79-9, BC-78-4, BC-79-10 and BC-79-11 than it is in the adjacent area to the north. No information is available to the west and south of this area and to the east, the excessive thickness of overlying sediments effectively limits the area.

The "Superior" seam is continuous throughout the northern part of the property and as far south as D.D.H. BC-79-8 and D.D.H. BC-79-9. It occurs somewhat deeper in the section toward its southern extremity. Drill holes BC-78-4, BC-79-10, and BC-79-11 each intersected a major seam (tentatively named the "Sub-Superior" seam) at approximately 13 metres below the Moosebar-Gething contact. This seam is apparently continuous throughout the drilled area of the property but is much thinner to insignificant in all other holes.

The "Trojan" seam, lying between 26 metres and 32 metres below the Moosebar-Gething contact is the only seam that maintains a considerable thickness throughout the drilled area of the property. It is absent in D.D.H. BC-79-7 but here a coarse-grained, coal streaked sandstone, thought to represent a major palaeodrainage channel deposit, occurs at the stratigraphic level of the "Trojan" seam.

Major coal intersections in D.D.H. BC-78-4 and D.D.H. BC-79-10 at approximately 60 metres below the Moosebar-Gething contact have been assigned to the "Titan" seam. This seam thins abruptly away from these two holes and is shown as being discontinuous in the areas of D.D.H. BC-79-7 and D.D.H BC-79-8. The "Falls", "Little Mogul" and "Mogul" seams, lying below the "Titan" seam, have been named on the correlation diagrams but this naming must be considered rather conjectural when the distance from the original named seam occurrences is considered.

SUMMARY AND RECOMMENDATIONS

Significant exploration work has been undertaken by Utah Mines Ltd. during the summers of 1978 and 1979 as a result of the company's conviction that the Bri-Dowling Creek Property has considerable potential to become a metallurgical coal producer. Exploration work to date has primarily involved 4313.64 metres of diamond drilling in 11 moderately widely spaced holes. Most additional activities are directly relatable to this drilling.

The five holes drilled during the 1978 exploration program were very widely separated and must be considered as an initial drilling reconnaissance of the property. D.D.H. BC-78-4 intersected several relatively thick coal seams in a normal sequence of Gething sediments and as a result, formed a focal point for much of the drilling completed during 1979.

A roughly triangular area delimited by drill holes BC-79-8, BC-79-9, BC-78-4, BC-79-10 and BC-79-11 appears to contain seams of sufficient quality and quantity as to possibly lend themselves to mining.

Further drilling on coal licences 3648 to 3653 is necessary to expand the size of this promising area and to further define the form and character of the major coal seams. The possibility of steepening bedding against the hill in coal licence 3653 to the west of BC-79-10 must be considered when locating additional drill holes in this area. Also, the fault encountered in D.D.H. BC-79-8 and thought to occur just below the bottom of D.D.H. BC-79-11 may cause stratigraphic disruption in this area depending on its orientation. Definition of the influence of these structural problems is necessary and care should be taken to identify and define any additional problems. A program

allowing considerable flexibility in the positioning and completion depth of drill holes is imperative.

Drill holes 76-1, 71-3, 76-4, and 71-1 each intersected a major thickness of the "Trojan" seam and as well, an 8.3 feet thick "Trojan" seam exposure was measured in Gething Creek Canyon. Further drilling on coal licences, 3442 to 3445 near Gething Creek, should be undertaken with the objective of expanding the defined area of the "Trojan" seam.

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APPENDIX III

COST STATEMENT

Note: - represents a consolidation of the costs included in the Applications to Extend the Term of Licence for Group #110 and Group #111.

On Property Costs

1)	Operator's Fees, Salaries and Wages; Professional and Technical	$ 15,882.72
2)	Contractors and Consultants: Longyear Canada Inc. (includes charges for direct drilling costs, drill mud and additives, rental of 15 KW generator, rental of storage - dry trailer, expenses for additional staff, certain shipping costs, etc.)	189,432.60
	P. Demeulemeester (includes charges for slashing, clearing and construction of roads, drill sites and camp area; installation of camp trailers, water supply system and sewer system; bridge and culvert installations; camp demobilization and reclamation work)	172,018.29
3)	Equipment and Instruments Used: Gerhart-Owen Model 3200 logging unit	8,188.00

4)	Field Camp Costs:		
	Food	$	1,410.92
	Accommodation		9,321.47
	Fuel		7,152.56
	Other		300.00
5)	Sampling, Analysis and Testing		
	Laboratory analysis of coal samples performed by Utah International Inc., Minerals Laboratory, Sunnyvale, California		1,770.00
	Production of Gamma Ray and Density Logs		16,372.00
6)	Supplies and Materials Costs		
	Process Supplies		922.12
	Operating and maintenance supplies		6,814.00
	Office and technical supplies		2,716.00
	Other supplies and materials		1,662.00
7)	Transportation Costs:		
	1 4-wheel drive 3/4 ton Chevrolet Pickup from Westminster Chev-Olds Leasing		2,441.28
	1 4-wheel drive Ford Bronco from Canuck Truck Rentals		2,798.00
	Bell 206 Jet Ranger from Maple Leaf Helicopters Ltd.		1,431.72

8)	Reclamation Work: grass seed mixture supplied by Buckerfield's Seed Division	$ 1,355.50
9)	Travel Expenditures:	1,200.00
	Total On-Property Costs	$443,189.18

Off-Property Costs

a)	Logistics and field support	$ 3,000.00
b)	Technical studies	10,000.00
c)	Preparation of report	5,000.00
d)	Supplies and services (drafting)	3,600.00
e)	Mobilization and demobilization of equipment	652.00
f)	Travelling expenses	2,538.11
	Total Off-Property Costs	$ 24,790.11
	TOTAL PROJECT COSTS	$467,979.29

APPENDIX IV

STATEMENT OF QUALIFICATIONS

I, ANDREW T. ARMSTRONG of #105 - 4001 Mount Seymour Parkway, North Vancouver, British Columbia, do hereby certify that:

I was granted a Bachelor of Science Degree in Geology by the University of British Columbia in 1970.

I have been continuously employed in various mining exploration activities from May 1970 to the present, throughout British Columbia.

I am an Associate of the Gelogical Association of Canada.

R.B. Anderson

for Andrew T. Armstrong
Geologist

Vancouver, B. C.

STATEMENT OF QUALIFICATIONS

I, ROBERT BRENT ANDERSON, of 6532 Cypress Street, Vancouver, British Columbia, do hereby certify that:

I am a graduate of the University of British Columbia, with a Bachelor of Science Degree in Geology, 1970.

Since graduation I have been engaged in Mineral and Coal Exploration in British Columbia, the Yukon, Alberta and Montana for Utah Mines Ltd.

I am a Fellow of the Geological Association of Canada and a member of the Canadian Institute of Mining and Metallurgy.

R. B. Anderson
Senior Geologist

Vancouver, B. C.

APPENDICES

APPENDIX I

CORE DESCRIPTION

HOLE# BC 79-6 From 0.00 To 142.71

Area BRI-DOWLING CREEK By N. Duncan & P. Cowley

FROM	TO	DESCRIPTION
0.00	79.86	Overburden
79.86	104.85	Tri-Coned. Overburden
104.85	139.75	Moosebar Formation - dark grey to black shale - massive abundant unbedded pyrite nodules up to 0.01 metres in diameter - glauconitic toward base - basal section coarser grained - gradational contact.
		GETHING FORMATION
139.75	140.75	Sandstone - salt and pepper with occasional pebbles - massive high mud content at top of section becoming cleaner toward base - grain size increases toward base - at base have pebbles up to 0.03 m in diameter.
140.75	140.79	Coal 0.04 metres black-bright vitrain bands - well developed cleat - bands of pyrite nodules through coal (∿ 90% recovery).
140.79	140.86	Pebble Conglomerate - salt and pepper matrix with pebbles of chert, sandstone and mudstone - massive, unbedded - high mud content in matrix.
140.86	141.27	Coal - 0.41 metres - black - bright vitrain bands in duller fusain at top of section becoming duller with lower vitrain content toward the base - bands of pyrite nodules at top of section (∿ 70% recovery).
141.27	142.04	Mudstone - dark grey to black - minor coaly streaks - unbedded pyrite nodules with one nodule ∿ 0.1 m in diameter but most are 0.01 m in diameter - abundant plant debris.
142.04	142.28	Coal - 0.24 metres - black - 90% recovery 142.04 to 142.10 m - bright vitrain bands in duller fusain - cleat visible in two directions. 142.10 to 142.28 m - dull with minor vitrain bands - numerous thin mudstone splits - pyrite nodules in bands.
142.28	142.71	Mudstone - dark grey to black - minor coaly streaks at top of section - pyrite nodules up to 0.005 m in diameter at top of section.

HOLE# BC 79-6 From _____ To _____

FROM	TO	DESCRIPTION
142.71	143.56	Mudstone and Siltsone - Interlaminated - mudstone is dark grey - siltstone is light medium grey - convoluted bedding - load structures - minor worm burrows - lenses of siltstone with graded bedding bedding ⊀ @ 83° to C/A.
143.56	147.13	Siltstone and Silty Mudstone - Mixed to Interlaminated - medium grey - abundant worm burrows - minor dark grey mudstone laminae with slickensides - Mudstone laminae increasing toward base of section - minor salt and pepper sandstone lense - convoluted bedding.
147.13	148.61	Mudstone - dark grey - coal streaks at top of section - plant debris minor siltstone laminae at base of section and minor siltstone lenses.
148.61	153.55	Siltstone and Mudstone - Interlaminated - Siltstone is light medium grey - mudstone is dark medium grey to dark grey - Siltstone predominant at top of section with mud content increasing toward the base - convoluted bedding - cross bedded - minor load structures - minor salt and pepper sandstone lenses - siltstone lenses common - coaly streaks at base of section.
153.55	153.75	Mudstone - dark grey to black - abundant thin (≤ 1 cm) coal seamlets throughout section - coal is high in vitrain content - plant debris.
153.74	154.00	Mudstone - dark grey - with minor siltstone (light medium grey) laminae and lenses - silt content increasing toward base.
154.00	155.20	Sandstone - very fine grained - salt and pepper to medium grey in colour - high mud content - poorly laminated - very minor coaly streaks.
155.20	155.38	Silty Mudstone - dark medium grey - coaly streaks - calcite veinlets @ 05° to C/A - minor worm burrows.
155.38	157.50	Sandstone and Siltstone - Interlaminated - cross bedded - sandstone is fine grained and salt and pepper colour - siltstone is light medium grey - minor coaly streaks - minor mudstone laminae - Sandstone predominant bedding ⊀ @ 85° to C/A.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
157.50	158.57	Mudstone and Siltstone - Interlmainated - Mudstone is dark grey to dark medium grey - Siltstone is light medium grey - Siltstone is predominant at top of section - mud content increases rapidly toward base - cross bedded - minor convoluted bedding - minor claystone pods - minor salt and pepper sandstone (fine grained) lenses with graded bedding - minor worm burrows - plant debris.
158.57	158.63	Sandstone and Mudstone - Interlaminated - salt and pepper sandstone predominant - abundant coal chips - convoluted bedding - sandstone is fine-medium grained.
158.63	158.80	Coal - 0.17 metres - black - bright - high vitrain content (i.e. abundant vitrain bands in fusain-durain) - highly broken - well developed cleat - 90% recovery.
158.80	159.65	Mudstone and Siltstone - Interlaminated - dark grey Mudstone predominant - minor ripple marks - minor plant debris - coal streaks at top of section - silt content increases toward base.
159.65	161.73	Sandstone and Siltstone - Interlaminated - Sandstone is salt and pepper colour and fine-grained - cross bedded - load structures - minor dark grey mudstone and brown-grey claystone laminae - minor coaly streaks - minor worm burrows.
161.73	161.88	Mudstone and Sandstone - Interlaminated - dark grey Mudstone predominant - Sandstone is salt and pepper colour with graded bedding from fine grained to silty - minor worm burrows - minor cross bedding.
161.88	163.37	Mudstone and Siltstone - Interlaminated - dark grey Mudstone predominant light medium grey Siltstone content decreases toward base - minor worm burrows - minor graded sandy lenses bedding ⊀ @ 80° to C/A.
163.37	165.26	Mudstone - dark grey - minor light medium grey siltstone lenses and laminae - minor plant debris.
165.26	165.43	Mudstone and Sandstone - Interbedded - dark grey mudstone predominant - sandstone is salt and pepper colour, fine to medium grained, and contains abundant shell fragments.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
165.43	166.82	Mudstone - dark grey - minor salt and pepper sandstone lenses which display graded bedding - minor coaly streaks - plant debris.
166.82	167.09	Sandstone and Mudstone - Interlaminated - Salt and pepper, fine grained sandstone predominant - Mudstone is dark grey - Sandstone laminae display graded bedding - minor coaly streaks - minor load structures - Sandstone at top of section (166.82 to 166.84 m) is coarse to medium grained - basal sandstone is rich in shell fragments.
167.09	167.17	Claystone - light brown-grey - massive - coaly streaks.
167.17	167.29	Sandstone and Silty Mudstone - Interlaminated - salt and pepper Sandstone predominant - convolute bedding - graded bedding from fine grained sandstone through siltstone to silty mudstone common in individual laminae.
167.29	168.28	Silty Mudstone - dark medium grey - minor siltsone laminae and lenses.
168.28	169.00	Mudstone - dark grey - coal streaks - plant debris - minor fine grained light grey sandstone lenses.
169.00	169.23	Coal - 0.23 metres - black - dull with few bright vitrain bands at top of section - becoming duller and almost canneloid at base of section. Sample 1a - 90% recovery.
169.23	169.29	Sandstone - fine grained - coal chips - light brown-grey in colour.
169.29	169.92	Coal - 0.63 metres - black - bright - vitrain rich at top of section with well developed cleat - at base is dull and canneloid - 50% recovery of core. Sample 1b.
169.92	170.97	Siltstone and Silty Mudstone - Interlaminated - light medium grey siltstone predominant - cross bedded - convoluted bedding - coal streaks plant debris - minor worm burrows.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
170.97	173.89	Mudstone - dark grey - coal streaks - abundant plant debris 172.07 to 172.19 metres - mudstone - very soft - possibly a fault zone where rock is highly ground up and disrupted (i.e. fault gouge??) - if it is a fault it is parallel to bedding. ⊁ 85° to C/A.
173.89	173.98	Coal - 0.09 m - black - dull - canneloid with minor vitrain bands.
173.98	175.15	Mudstone - dark grey - abundant coal streaks and seams ≤ 0.01 m thick - highly carbonaceous, shaly zone (fault zones) and a sandstone band @ 174.14 to 174.16 m containing coal chips.
175.15	176.55	Sandstone and Siltstone - Interlaminated - Sandstone is predominant, it is fine grained and salt and pepper - Siltstone is light medium grey to medium grey - minor cross bedding - convoluted bedding - minor worm burrows - minor coaly streaks.
176.55	176.60	Coal - 0.05 metres - black - dull - minor vitrain bands - high mud content - canneloid 100% recovery.
176.60	179.28	Mudstone - dark grey to black - abundant plant debris - coal streaks at top of section and in basal portion of section get abundant coal streaks and seams < 0.01 m.
179.28	179.37	Sandstone - salt and pepper - coal and mud chips - graded bedding - fine grained - bedding ⊁ @ 87° to C/A.
179.37	181.04	Silty Mudstone - dark medium gey - mud content increasing toward base of section - coal streaks at top and base of section - minor siltstone laminae and lenses.
181.04	181.17	Mudstone - dark grey to black - highly carbonaceous - abundant coal seams < 0.01 m and coal streaks - abundant plant debris.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
181.17	181.27	Coal - 0.10 metres - black - bright - vitrain rich - well developed cleat - highly broken - 80% recovery.
181.27	181.66	Silty Mudstone - dark medium grey - transitional contact with overlying coal seam - minor siltstone lenses and laminae - mud content increasing toward base of section - abundant coaly streaks and plant debris.
181.66	183.59	Siltstone and Mudstone - Interlaminated - light medium grey siltstone predominant at top of section - dark grey mudstone predominant at base of section - convoluted bedding - cross bedded - at base of section siltstone occurs as lenses - plant debris common.
183.59	184.20	Mudstone - dark grey - abundant plant debris - minor silty laminae.
184.20	184.32	Coal - 0.12 metres - black - bright - high vitrain content - 90% recovery.
184.32	185.82	Mudstone - dark grey - coal streaks - abundant plant debris.- coal streaks and seams < 0.01 abundant at top and base of section.
185.82	185.92	Coal - 0.10 metres - black - bright vitrain bands common in duller fusain - durain. 80% recovery.
185.92	186.85	Siltstone and Mudstone - Interlaminated - light medium grey siltstone predominant - cross bedded - convolute bedding - minor sandy units - sand content increasing toward base - coal chips at base - gradational contact with underlying coal seam - disseminated pyrite.
186.85	187.35	Coal - 0.50 metres - black - bright - high vitrain content - well developed cleat - highly broken - 95% recovery. Sample 2a.
187.35	187.46	Mudstone and Siltstone - Mixed - poorly laminated - medium grey - abundant coaly streaks.
187.46	187.76	Coal - 0.30 metres - black - bright - high vitrain content - well developed cleat - 100% recovery. Sample 2b.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
187.76	190.81	Siltstone, Sandstone and Mudstone - Interlaminated - pyrite laminae at top of section - gradual transition from top of section where mudstone is predominant with minor sandstone lenses - to base of section where salt and pepper sandstone is predominant with very minor mudstone laminae - coal streaks - cross bedded - graded bedding - convoluted bedding - minor worm burrows. bedding ⊀ @ 80° to C/A.
190.81	191.46	Mudstone and Siltstone - Interlaminated - dark grey mudstone predominant - silt content increases toward top of section - load structures - graded bedding - minor worm burrows.
191.46	192.15	Mudstone - dark grey - minor plant debris - minor siltstone laminae and lenses.
192.15	192.34	Siltstone, Mudstone, Sandstone - Interlaminated - light medium grey siltstone predominant - convolute bedding - sandstone is salt and pepper and occurs as lense-like channels.
192.34	192.56	Coal - 0.22 metres - black - bright - high vitrain content - well developed cleat - 100% recovery.
192.56	193.20	Mudstone - dark grey siltstone laminae at top of section - coaly streaks abundant.
193.20	193.31	Coal - 0.11 metres - black - dull - few bright vitrain bands - 100% recovery.
193.31	193.85	Mudstone - black - highly carbaceous - highly fractured and broken - abundant coal streaks - slickensides common.
193.85	195.10	Mudstone - dark grey - silty - minor coaly streaks - minor plant debris.
195.10	195.14	Coal - 0.04 metres - black - bright - vitrainous - 100% recovery.
195.14	195.21	Mudstone - dark grey - abundant coal streaks and plant debris.
195.21	195.34	Coal - 0.13 metres - black - dull at top of section brightening downward (i.e. higher vitrain content at base). 100% recovery.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
195.34	196.00	Mudstone and Siltstone - Mixed - unlaminaed - mudstone is predominant and dark grey - worm burrows - coaly streaks.
196.00	196.44	Mudstone - dark grey - minor coaly streaks.
196.44	196.54	Coal - 0.10 metres - black - bright - good cleat - highly broken - 90% recovery
196.54	197.51	Mudstone and Siltstone - Interlaminated to Mixed - Mudstone is dark grey and predominant - siltstone is light medium grey, increases toward the top of section and occurs as laminae and lenses - minor cross bedding - minor load structures - bedding ⊀ @ 85° to C/A.
197.51	197.63	Coal - 0.12 metres - black, dull, canneloid - 100% recovery.
197.63	198.06	Siltstone - light medium grey - highly brecciated by calcite and quartz veining - no predominant orientation to veins - quartz veins restricted to basal 5 cm of section.
198.06	199.00	Siltstone and Mudstone - Interlaminated - Siltstone predominant - Siltstone is light medium grey - mud content increasing toward base of section - cross bedded - graded bedding - convolute bedding - minor worm burrows - minor salt and pepper sandstone units - minor coaly streaks at top of section.
199.00	199.22	Coal - 0.22 metres - black - bright - vitrainous - highly broken - well devleoped cleat. 100% recovery.
199.22	199.26	Sandstone and Mudstone - Inerlaminated - evenly mixed - sandstone is salt and pepper and fine grained.
199.26	199.30	Coal - 0.04 metres - black - bright - vitrainous bands in duller durain - 100% recovery.
199.30	199.34	Mudstone - dark grey - coaly streaks.

HOLE# _____ From _____ To _____

FROM	TO	DESCRIPTION
199.34	199.50	Coal - 0.16 metres - black - bright vitrain bands in duller durain - 100% recovery.
199.50	200.22	Mudstone - dark grey - coal streaks - plant debris.
200.22	200.96	Sandstone and Mudstone - Inerlaminated - Sandstone predominant and salt and pepper colour - mud content increasing toward base - channel structures - gradded bedding and minor cross bedding - minor worm burrows.
200.96	202.50	Mudstone - dark grey - minor silty laminae toward base - minor coaly streaks and plant debris.
202.50	204.79	Mudstone and Siltstone - Interlaminated - dark grey mudstone predominant - minor worm burrows - convoluted bedding - minor cross bedding - minor sandy lenses - minor brown-grey claystone "nodules" bedding ⊀ @ 85° to C/A.
204.79	205.00	Mudstone - dark grey - massive and minor coaly streaks.
205.00	205.20	Sandstone - fine grained - salt and pepper - cross bedded - finely laminated - minor mudstone laminae - graded bedding.
205.20	206.90	Mudstone - dark grey - first 30 cm is inter-laminated with siltstone - gradational over next 10 cm into pure mudstone - minor coaly streaks.
X 206.90	206.96	Coal - 0.06 metres - black - bright - abundant vitrainous bands. 100% recovery.
206.96	207.22	Mudstone - dark grey - coaly streaks - plant debris.
207.22	207.27	Coal - 0.05 metres - black - dull - minor vitrain bands - mostly durain - 100% recovery.
207.27	208.39	Mudstone - dark grey - abundant coal streaks and seams < 0.01 metres and becoming silty toward base.
208.39	210.28	Siltstone and Mudstone - Interlaminated to Mixed - convoluted bedding - coaly streaks - minor worm burrows - siltstone content increasing toward base - minor sandy lenses at base - mudstone predominant at top of section.

HOLE# BC 79-6 From 210.28 To 217.05

FROM	TO	DESCRIPTION
210.28	210.92	Sandstone - salt and pepper - cross bedded - minor mudstone laminae - minor coaly streaks. bedding ⊀ @ 85° to C/A.
210.92	211.09	Sandstone, Siltstone and Mudstone - gradational contact.
211.09	212.41	Mudstone - dark grey - siltstone lenses at top of section - silt content reducing down section - toward base of section have abundant coal streaks and seams < 0.01 m increasing in number toward base - minor pyrite.
212.41	212.50	Coal - 0.09 metres - black - bright bitrain bands in duller durain - high mud content - 100% recovery
212.50	212.58	Mudstone - dark grey with abundant coal seams < 0.01 m.
212.58	214.29	Siltstone and Mudstone - mdeium grey - mixed - minor cross bedding - minor siltstone and mudstone laminations - minor brownish grey claystone nodules - minor plant debris - siltsonte concentration increasing towards base - minor coaly streaks.
214.29	215.46	Sandstone and siltsone - interlaminated - sandstone is fine grained, salt and pepper - siltstone is predominat and medium grey - cross bedding - convoluted bedding - siltstone becoming muddy towards base.
215.46	216.30	Mudstone and Claystone - claystone occurs as bands up to 0.3 m thick and as nodules - mudstone is dark grey and predominant - minor silty laminae.
216.30	216.57	Sandstone - salt and pepper - gradational contact over 0.02 metres - finely laminate - minor cross bedding - generally fine grained but coarsens towards the base - minor coaly streaks - bedding ⊀ @ 80° to C/A.
216.57	217.02	Mudstone - dark grey - massive - minor coaly streaks throughout section - highly broken at top of section with abundant coaly streaks.
217.02	217.05	Coal - 0.03 metres - black - bright - mainly durain with minor vitrain bands - 75% recovery.

HOLE# BC 79-6 From 217.05 To 228.79

FROM	TO	DESCRIPTION
217.05	219.06	Mudstone - dark grey to dark medium grey - minor siltstone laminae - minor claystone bands - coal streaks and seams < 0.01m increasing in number toward base of section.
219.06	220.05	Siltstone and Sandstone - Interlaminated to mixed becoming very fine grained towards base - siltstone is predominant and light medium grey - sandstone is fine grained salt and pepper - convoluted bedding - minor mudstone laminae.
220.05	220.81	Mudstone - dark grey - minor plant debris.
220.81	221.95	Siltstone and Silty Mudstone - Interlaminated - siltstone is light medium grey and predominant - mudstone is medium grey - sandstone laminae and minor sandstone lenses near base of section - sandstone is salt and pepper - cross bedding.
221.95	223.18	Mudstone - dark grey - minor coaly streaks - minor plant debris.
223.18	224.05	Mudstone and Siltstone - mudstone is dark grey and predominant - interlaminated to mixed.
224.05	224.65	Sandstone - salt and pepper - cross bedding - minor calcite bands - fine grained - coarsening toward base - intermittent mud clasts throughout - minor pyrite nodules.
224.65	226.00	Siltstone and Mudstone - Interlaminated to mixed - abundant plant debris - siltstone is light medium grey - mudstone is medium to dark grey - minor sandstone bands up to 0.02 metres - bioturbated.
226.00	228.19	Mudstone - dark to medium grey - increase in mud content towards base - minor claystone bands - minor siltstone laminae at top - minor calcite and pyrite parallel to bedding - minor clam casts present.
228.19	228.60	Coal - 0.41 metres - black - dull and bright - highly broken and well cleated from 228.48m to 228.53m coal with high mudstone and banded and nodular pyrite - 100% core recovery.
228.60	228.79	Mudstone - dark to medium grey to black - muddy at top grading to siltstone at base - frequent plant debris - frequent coaly streaks - rare calcite veins.

HOLE# BC 79-6 From 228.79 To 240.76

FROM	TO	DESCRIPTION
228.79	230.12	Siltstone - dark to medium grey - muddy at top - increases in grain size to base.
230.12	231.29	Sandstone - siltstone - sandstone light to medium grey - up to fine-grained - salt and pepper - siltstone medium grey - interbedded and with sandstone in lenses - minor mudstone laminae - worm burrowed occasionaly.
231.29	232.10	Mudstone - medium to dark grey - silty at top grading to pure mudstone at base - siltstone laminae - minor bioturbation in one zone.
232.10	232.24	Coal - 0.14 metres - black - 100% recovery. From 232.10 to 232.15 m dull canneloid coal - blocky From 232.15 m to 232.24 m brighter coal - minor vitrain.
232.24	233.22	Siltstone - mudstone - light to medium grey - siltstone and mudstone mixed - heavily bioturbated with bottom 0.26 m cross-bedded fine-grained sandstone contains worm burrows.
233.22	235.17	Sandstone - salt and pepper - fine-grained - finely laminated - cross-bedded - minor mudstone laminae - minor disturbed zone - worm burrows at base bedding $\measuredangle$ @ 80° to C/A.
235.17	238.94	Mudstone and Siltstone - Interlaminated - dark grey mudstone predominant - siltstone is light medium grey and occurs as laminae and lenses - minor salt and pepper sandstone lenses, fine grained at top of section - abundant worm burrows - graded bedding - cross-bedding - mud cracks - minor convoluted bedding - minor claystone nodules toward top of section.
238.94	239.07	Coal - 0.13 metres - black - bright - high vitrain content - highly broken - 20% recovery.
239.07	240.76	Mudstone - dark grey - abundant coal streaks and seams < 0.01 m - abundant plant debris - fault gouge and slichensides from 240.66 to 240.69 m very minor siltstone bands at base of section

HOLE# BC 79-6 From 240.76 To 249.72

FROM	TO	DESCRIPTION
240.76	243.61	Siltstone - light medium grey to medium grey - muddy - minor mudstone laminae - minor coaly streaks - poorly laminated - minor worm borrows - mud content increasing toward base.
243.61	243.88	Mudstone - dark grey - massive - plant debris.
243.88	244.31	Coal - 0.43 metres - black - bright - vitrain content increasing toward base - well developed cleat - 100% recovery. Sample 3a.
244.31	244.39	Mudstone - dark grey - abundant coal streaks and seams < 0.01m
244.39	244.56	Coal - 0.17 metres - black - bright - abundant vitrain bands in durain - good cleat - 100% recovery Sample 3b
244.56	244.62	Mudstone - dark grey - abundant plant debris and coal streaks.
244.62	244.65	Coal - 0.03 metres - black - bright - high vitrain content - well developed cleat - 100% recovery. Sample 3c.
244.65	245.08	Muddy Siltstone - medium grey - coaly streaks - brown-grey claystone band from 244.86 to 245.00m with abundant coaly streaks.
245.08	245.57	Coal - 0.49 metres - black - bright - well developed cleat - minor mudstone bands < 0.01m at top of seam - mainly durain with abundant vitrain bands - 100% recovery. Sample 3d.
245.57	247.65	Siltstone and Mudstone - Interlaminated - siltstone is light medium grey and predominant - mud content is higher toward top of section - convoluted bedding - cross bedding - minor worm burrows - minor fine grained salt and pepper sandstone lenses and bands.
247.65	248.72	Sandstone - salt and pepper - fine to medium grained (top to bottom) minor mudstone laminae - almost massive at top of section becoming finely laminated and coarser grained at base - cross bedded toward base - minor worm burrows - abundant plant debris.
248.72	249.72	Siltstone and Mudstone - Interlaminated to Mixed - light medium grey siltstone predominant - mixed section in middle of unit - cross bedding - minor worm burrows - mud content increasing toward base - plant debris common.

HOLE# BC 79-6 From 249.72 To 261.88

FROM	TO	DESCRIPTION
249.72	249.80	Coal - 0.08 metres - black - bright - high vitrain content - well developed cleat - 50% recovery.
249.80	252.88	Mudstone and Siltstone - Interlaminated - dark grey Mudstone predominat (highly) - convoluted bedding - coaly streaks at top of section - load structures - cross bedded - minor salt and pepper sandstone lenses.
252.88	253.79	Mudstone - dark grey to black - highly carbonaceous - abundant coal streaks.
253.79	254.10	Coal - 0.31 metres - black dull to bright - durain with minor vitrain bands - highly broken - 100% recovery.
254.10	254.85	Siltstone and Mudstone - Mixed - highly disturbed - little or no lamination - coaly streak - claystone at top of section - siltstone is light medium grey and predominant.
254.85	256.18	Siltstone - light medium grey - minor mudstone laminae - mainly massive - minor plant debris.
256.18	257.15	Mudstone and Siltstone - Interlaminated - dark grey mudstone predominant - convoluted bedding - graded bedding - minor plant debris.
257.15	258.73	Mudstone - dark grey - minor plant debris - minor siltstone laminae.
258.73	258.82	Coal - 0.09 metres - black - bright - vitrain rich - well developed cleat - highly broken - 90% recovery.
258.82	259.52	Siltstone and Silty Mudstone - Mixed - Siltstone predominant and light medium grey - abundant small calcite filled fractures - minor coaly streaks - mud content increasing toward base.
259.52	259.69	Coal - 0.17 metres - black - bright - dull - durain with vitrain bands - 100% recovery.
259.69	261.42	Mudstone - dark grey to dark medium grey - silty at top of section - minor convolute siltstone laminae - minor coaly streaks.
261.42	261.88	Silty Mudstone and Mudstone - Interlaminated - Mudstone is dark grey and predominant - mud content increases toward base - minor load structures - minor worm burrows.

HOLE# BC 79-6 From 261.88 To 274.40

FROM	TO	DESCRIPTION
261.88	262.69	Coal - 0.81 metres - black - bright to dull - abundant vitrain bands in durain - becomes duller toward bottom of seam - well developed cleat - sections of core are highly broken - 60% recovery. Sample 4
262.69	262.87	Mudstone - dark grey - coal streaks - plant debris - massive.
262.87	268.45	Siltstone and Mudstone - Interlaminated - light medium grey siltstone predominant at top of section - mud content increasing toward base - cross bedded - minor worm burrows - minor fine grained, salt and pepper sandstone lenses - minor plant debris.
268.45	269.12	Mudstone - dark grey - coal streaks and seams < 0.01 metres thick - light brown to grey claystone bands - minor worm burrows - plant debris.
269.12	270.19	Mudstone and Siltstone - Interlaminated - Mudstone predominant and dark grey - mud content increasing toward base - siltstone occurs as lenses toward base - claystone bands - minor convolute bedding.
270.19	270.23	Tuff (?) - light grey - soft - contains coaly streaks << 0.01 metres.
270.23	270.32	Coal - 0.09 metres - black - dull to bright - durain with minor vitrain bands - 100% recovery.
270.32	270.66	Mudstone and Siltstone - Interlaminated - dark grey Mudstone predominant - Silt content increasing toward base - convolute bedding - minor cross bedding.
270.66	272.63	Siltstone and Muddy Siltstone - Interlaminated - fine grained, salt and pepper sandstone predominant - cross bedded - minor mudstone laminae - minor coaly streaks - trough-shaped cross bedding at base.
272.63	274.40	Mudstone and Siltstone - Interlaminated - Mudstone dark grey and predominant - minor cross bedding - mud content increasing toward base - minor coaly streaks.

HOLE# BC 79-6 From 274.40 To 286.82

FROM	TO	DESCRIPTION
274.40	274.89	Mudstone - dark grey - massive - coaly streaks.
274.89	274.96	Coal - 0.07 metres - black - bright - high vitrain content - well developed cleat - 100% recovery.
274.96	275.59	Mudstone - dark grey - massive - coaly streaks - claystone band at base of section.
275.59	278.43	Silty Mudstone - dark medium grey - finely laminated - minor claystone bands - minor siltstone laminae - silt content increasing toward base - minor coaly streaks - abundant plant debris - 277.36 to 277.48m - silt with abundant coal chips.
278.43	285.09	Mudstone and Siltstone - Interlaminated - dark grey Mudstone predominant - mud content increasing toward base - abundant worm burrows - cross bedded - minor graded bedding - minor claystone bands - minor sandy lenses. Shell fragment layer 0.01m thick @ 281.80m. Minor coaly streaks. bedding ⊀ @ 85° to C/A.
285.09	285.47	Mudstone - dark grey - massive.
285.47	285.56	Coal - 0.09 metres - black - bright - high vitrain content - well developed cleat - highly broken - 100% recovery.
285.56	286.30	Siltstone and Mudstone - Mixed to Interlaminated - Siltstone light medium grey and predominant - minor sandstone lenses toward base of section - minor cross bedding.
286.30	286.82	Mudstone - Silty at top of section becoming pure mudstone toward base - dark medium grey to dark grey - minor siltstone lenses and laminations.

CORE DESCRIPTION

HOLE# BC-79-7 From 0.00 To 311.82

Area BRI-DOWLING CREEK By P. Cowley & P. Zell

FROM	TO	DESCRIPTION
0.00	15.58	OVERBURDEN
18.58	308.98	MOOSEBAR FORMATION - dark grey shale.
		148.18 to 148.31 - pale green, soft ash band (?)
		with shale chips contained within
		and same unit from 175.30 to 175.31m
		and from 180.01 to 180.03m
		301.62 to 301.65 Sandstone unit - salt and pepper
		302.08 to 302.10
		302.20 to 302.23
		Moosebar Formation contains minor shell fossils
		near the base.
		Abundant pyrite nodules near the base (within 2
		metres from base)
		306.51 to 307m
		Abundant Glauconite nodules
		307.14 to 307.71
		Moosebar Formation becomes much siltier - light grey.
308.98	309.28	Conglomerate - black and white cherts - glauconite -
		carbonaceous - minor pyrite nodules.
309.28	309.70	COAL - black - bright - well cleated - abundant
		(0.42 metres) pyrite nodules near upper contact -
		bottom portion becomes dull and bright.
309.70	310.13	Mudstone and fine grained Sandstone - interlaminated
		- sandstone is medium grey - mudstone is dark grey -
		abundant pyrite nodules - minor coaly streaks -
		becomes siltiter near base.
310.85	311.52	COAL - black - dull and bright - abundant pyrite
		nodules (0.67 metres) near upper contact -
		approximately 80% recovery. Sample 1.
311.52	311.82	Mudstone - dark grey - abundant plant debris -
		minor coaly streaks - minor siltstone laminations.

HOLE# BC-79-7 From 311.82 To 326.73

FROM	TO	DESCRIPTION
311.82	318.82	Mudstone and Silty Sandstone - mudstone dark medium grey - sandstone is light grey - bioturbated - worm burrows interlaminated mudstone and silty sandstone 316.22 to 316.51 - silty sandstone band
318.82	320.09	Mudstone and Silty Sandstone - mudstone dark medium grey - sandstone light grey - sandstone in occassional bands - mudstone more abundant - no bioturbation.
320.09	320.33	Mudstone and COAL - mudstone dark grey - coal black and occurs as abundant vitrain streaks and bands.
320.33	320.65	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - siltstone as minor laminations and bands from 321.07 to 321.11 occurs fine to medium-grained sandstone medium grey.
320.65	323.63	Sandstone - medium to light grey - fine to medium-grained - top grades from mudstone siltstone to sandstone - cross-bedded.
323.63	324.76	Sandstone, Siltsone and Mudstone - sandstone medium grey - fine to medium-grained - siltstone medium grey - mudstone dark grey - all interlaminated - some minor sandstone bands - at base coming finer grained - minor bands of bioturbation - bedding $\measuredangle$ 83° to C/A
324.76	324.92	COAL-0.16 metres - black - dull and bright - blocky
324.92	325.75	Mudstone - dark grey - minor coaly streaks - abundant plant debris.
325.75	326.42	Mudstone, Siltstone and Sandstone - mudstone dark grey - siltstone medium grey - sandstone medium grey - heavily bioturbated but interlaminations present - increase in greain size at base - sandstone fine to medium-grained.
326.42	326.54	Mudstone and Siltstone -mudstone dark grey - siltstone medium grey - laminated
326.54	326.73	Sandstone - medium grey - fine to medium-grained - cross-bedded.

HOLE# BC-79-7 From 326.73 To 333.51

FROM	TO	DESCRIPTION
326.73	327.96	Mudstone, Siltsone and Sandstone - mudstone dark grey - siltstone medium grey - sandstone medium grey fine to very fine-grained - laminated - sandstone in occassional minor bands - some worm burrows.
327.96	328.79	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - laminated
328.79	329.02	Mudstone, Siltstone and Sandstone - mudstone dark grey - siltstone medium grey - sandstone medium to light grey fine-grained - mudstone and siltstone interlaminated - sandstone as minor bands - pyrite nodules present.
329.02	330.22	Mudstone and Siltstone - Mudstone dark grey - siltstone medium grey - laminated.
330.22	330.36	Claystone - light brown - top 5cm is claystone with abundant shell fragments.
330.36	330.95	Mudstone - dark grey - sandstone clasts, lenses and minor sandstone bands - sandstone is fine grained medium grey
330.95	331.72	Mudstone - dark grey - fine grained sandstone lenses 331.46 to 331.61 - shear zone - slicken sides - abundant calcite veinlets - minor claystone bands.
331.72	331.76	Sandstone - fine grained - salt and pepper colour.
331.76	332.15	Mudstone and Sandstone - mudstone dark grey - sandstone is salt and pepper - sandstone bands becoming predominant near base - minor sandstone clasts in mudstone - worm burrows - coaly streaks - abundant shell remains throughout section.
332.15	332.37	Sandstone and Siltstone - sandstone is salt and pepper colour - siltstone is light medium grey - cross-bedded and poorly laminated - minor coal streak - minor coaly streaks.
332.37	333.51	Claystone and mudstone - interbedded - claystone is grey-brown - mudstone is dark medium grey - section becomes muddier towards base.

HOLE# BC-79-7 From 333.51 To 344.85

FROM	TO	DESCRIPTION
333.51	333.80	Mudstone - dark medium grey - very silty - minor plant debris.
333.80	334.61	Mudstone and COAL - predominantly mudstone with coal bands less than 0.02 metres - coal is black and bright - mudstone is dark grey
		333.95 to 334.00 - fine grained sandstone unit - coaly streaks - plant debris.
334.61	336.35	Mudstone and Siltstone - grading from mudstone into siltstone - minor plant debris - minor coaly streaks grading from dark grey to light medium grey as one goes down through section.
336.35	336.55	Mudstone - very coaly - abundant coaly streaks - brownish dark grey - well graded from siltstone section over 0.05 metres.
336.55	340.85	Sandstone - salt and pepper grey - coarse grained grading to fine grained then grading back to coarse grained sandstone - cross-bedded - abundant coaly streaks - numerous zones of - mudstone rip-up clasts
		Bedding $\measuredangle$ 70° to C/A
340.85	341.80	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated.
341.80	343.43	Sandstone - medium light grey - salt and pepper - fine to medium grained - cross-bedded - carbonaceous laminations - some mudstone bands at top.
343.43	343.70	Siltstone and Sandstone - sandstone salt and pepper - siltstone medium grey - interlaminated - plant debris - at base contains mudstone rip-up clasts.
343.70	344.05	Siltstone and Mudstone - mudstone dark grey - siltstone medium grey - unit grades from siltstone at top to mudstone at base - siltstone has wavy discontinuous laminations.
344.05	344.85	COAL 0.80 metres - black - dull and bright - well cleated - Sample 2.
		from 344.34 to 344.41 sandy siltstone with coaly streaks.

HOLE# BC-79-7 From 344.85 To 359.16

FROM	TO	DESCRIPTION
344.85	345.10	Mudstone - dark grey - highly carbonaceous - one 2 cm coal band - at basal 5 cm is a sandy siltstone medium brown.
345.10	345.65	COAL - 0.55 metres - black - dull and bright - 2cm band of coaly mudstone - 60% recovery - Sample 3.
345.65	347.77	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - convolute bedding - bioturbated in some zones - some fine-grained sandstone minor bands - sandstone salt and pepper.
347.77	348.37	Mudstone - dark grey - minor coaly streaks at base.
348.37	348.82	COAL - 0.45 metres - black - cannaloid coal - blocky - grades to lower unit over 5cm.
348.82	349.57	Mudstone - dark grey - some coaly streaks and one 2cm coal band - grades into lower unit.
349.57	352.55	Siltstone and Sandstone - siltstone medium grey - sandstone salt and pepper - entire unit grades alternating from one predominant grain size to the other - sandstone fine-grained but rock units are interlaminated - some mudstone bands.
352.55	354.45	Sandstone - medium grey - fine-grained - some convolute laminations - some interlaminations of siltstone.
345.45	355.00	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey brown - interlaminated.
355.00	356.22	COAL - 1.22 metres - black - bright - well cleated - 15 % recovery - from 356.12 to 356.16 is a mudstone band.
356.22	356.42	Mudstone - dark grey - plant debris.
356.42	358.44	Siltstone and Sandstone - siltstone medium grey - sandstone fine-grained salt and pepper - interlaminated and convolute bedding - carbonaceous laminae - unit gets muddier towards base.
358.44	359.16	Mudstone - dark grey - numerous thin lenses of medium grey siltstone - basal 1cm is a salt and pepper fine-grained sandstone.

HOLE# BC-79-7 From 359.16 To 366.68

FROM	TO	DESCRIPTION
359.16	359.43	COAL - 0.27 metres - black - dull banded - blocky from 359.35 to 359.36 is a highly pyritiferous mudstone band.
359.43	360.00	Mudstone - dark grey - numerous coaly streaks - occasional coal band < 1cm thick.
360.00	360.32	COAL - 0.32 metres - black - dull and bright - well cleated - grades into next unit over 5cm.
360.32	361.25	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - unit grades from mudstone to siltstone to mudstone at base - the middle siltstone has interlaminations of mudstone.
361.25	361.52	COAL - 0.27 metres - black - top 5cm is cannaloid coal followed by dull banded coal follwed by dull coal.
361.52	362.43	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - unit grades from mudstone to siltstone and mudstone interlaminated with siltstone content increasing to base.
362.43	362.84	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated with mudstone predominant - minor lenses of very fine-grained salt and pepper sandstone.
362.84	363.22	Mudstone - dark grey.
363.22	363.47	COAL - 0.25 metres - black - top 20cm is bright coal followed by 1cm of highly pyritiferous mudstone followed by 4cm of dull banded coal - blocky.
363.47	364.75	Mudstone - dark grey with one siltstone band < 1cm and 2 sandstone bands each 1cm thick of fine-grained medium brown sandstone - some coal streaks in mudstone.
364.75	365.88	Mudstone, Siltstone and Sandstone - mudstone dark grey - siltstone medium grey - sandstone salt and pepper fine-grained - all interlaminated - sandstone displays some cross-bedding (Festoon)
365.88	366.68	Mudstone with minor siltstone - mudstone dark grey - siltstone medium grey - interlaminated.

HOLE# BC-79-7 From 366.68 To 374.06

FROM	TO	DESCRIPTION
366.68	367.22	Mudstone - dark grey.
367.22	368.00	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - some salt and pepper fine-grained sandstone bands < 2cm thick.
368.00	368.14	Mudstone - dark grey
368.14	368.20	COAL 0.06 metres - black - bright banded - well cleated.
368.20	368.46	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - plant debris.
368.46	368.67	Siltstone and Sandstone - siltstone medium grey - sandstone fine-grained salt and pepper - irregular bedding - interlaminated - plant debris.
368.67	369.92	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - plant debris.
369.92	370.92	Mudstone - dark grey - some coaly streaks - plant debris - one pyrite nodule 1cm thick.
370.92	371.54	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated.
371.54	372.03	Sandstone and Siltstone - sandstone salt and pepper fine-grained - siltstone medium grey - interbedded - irregular laminations - plant debris.
372.03	372.81	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - some coaly streaks - plant debris.
372.81	372.96	Coaly Mudstone - mudstone dark grey - abundant coaly streaks.
372.96	373.12	COAL 0.16 metres - black - dull and bright - 20% recovery.
373.12	373.17	Mudstone - dark grey - plant debris.
373.17	373.41	Sandstone and Siltstone - sandstone salt and pepper fine-grained - siltstone medium grey - carbonaceous laminae - irregular laminae.
373.41	374.06	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - plant debris.

HOLE# BC-79-7 From 374.06 To 382.75

FROM	TO	DESCRIPTION
374.06	374.71	Siltstone and Sandstone - siltstone medium grey - sandstone salt and pepper fine-grained - interlaminated - irregular laminae.
374.71	376.87	Sandstone - salt and pepper fine to medium-grained - cross-bedded - some mudstone bands - some zones of mudstone rip-up clasts - some calcite veining (minor) - some carbonaceous laminae - plant debris.
376.87	377.68	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated.
377.68	378.12	COAL - 0.44 metres - black - cannoloid coal with the bottom 5cm dull banded coal - blocky.
378.12	378.28	Mudstone - dark grey - plant debris.
378.28	378.60	Siltstone and Sandstone - siltstone medium grey - sandstone salt and pepper fine-grained - carbonaceous laminae - irregular laminae - plant debris - some bioturbation.
378.60	379.10	Mudstone - dark grey - coaly streaks.
379.10	379.57	Sandstone and Siltstone - sandstone salt and pepper fine-grained - siltstone medium grey - interlaminated - carbonaceous laminations.
379.57	379.74	Mudstone and Siltstone - mudstone dark grey - siltstone medium grey - interlaminated - some coaly streaks.
379.74	382.07	Sandstone - medium grey - fine-grained - plant debris - some minor siltstone bands and laminations - generally poorly laminated - one mudstone band near base.
382.07	382.40	COAL - 0.33 metres - dull banded - very muddy near the base of the section - dirt bands throughout - blocky - black.
382.40	382.75	Mudstone - mudstone is grading from mudstone to mudstone and siltstone - plant debris - coaly streaks - grades to sandstone at the base.

HOLE# BC-79-7 From 382.75 To 393.00

FROM	TO	DESCRIPTION
382.75	383.28	Fine Grained Sandstone - dirty salt and pepper - cross-bedded - carbonaceous laminae - minor plant debris.
383.28	383.75	Mudstone - dark medium grey - grading from mudstone to siltstone in this section - dark medium grey to light medium grey - plant debris.
383.75	384.51	Fine Grained Sandstone and Mudstone - sandstone is salt and pepper - mudstone is dark grey - inter-laminated - cross-bedded - carbonaceous laminae - bedding ⫽ @ 85° to C/A.
384.51	384.69	Siltstone - medium grey.
384.69	386.08	Mudstone and Siltstone - interbedded - interlaminated - siltstone is medium grey - mudstone is dark medium grey - minor claystone bands.
386.08	386.13	COAL 0.05 metres - canneloid coal - black and blocky.
386.13	387.23	Sandstone - grades from a fine to a medium grain - mudstone rip-up clasts - mudstone bands near base poorly cross-bedded - minor plant debris.
387.23	387.89	Mudstone - dark medium grey - plant debris - minor fine grained sandstone bands - minor worm burrows.
387.89	389.05	Sandstone and Siltstone - interbedded - sandstone is fine grained and salt and pepper - siltstone is medium grey - bioturbated - abundant plant debris.
389.05	391.00	Mudstone - dark medium grey - minor pyrite nodules - minor shell molds.
391.00	392.05	Mudstone - dark medium grey - sandstone lenses - sandstone bands - worm burrows - plant debris - minor slicken sides - minor coaly streaks.
392.05	392.23	COAL 0.18 metres - black - dull and bright - blocky - abundant calcite veins.
392.23	393.00	Siltstone and Sandstone - siltstone is medium grey - sandstone is fine grained - sandstone in bands as convolute bedding - plant debris - minor calcite veinlets - minor coaly streaks.

HOLE# BC-79-7 From 393.00 To 406.91

FROM	TO	DESCRIPTION
393.00	393.79	Siltstone - medium grey - minor coaly streaks - plant debris - minor calcite veinlets.
393.79	394.21	COAL - 0.42 metres - dull and bright - black - calcite veins in a zone < 0.02 metres - Sample 4.
394.21	395.04	Siltstone and Mudstone - siltstone is light medium grey - mudstone is medium grey - interbedded and interlaminated - coaly streaks - minor plant debris.
395.04	395.77	Sandstone and Siltstone - interbedded highly bioturbated - sandstone is fine grained salt and pepper - plant debris.
395.77	397.60	Sandstone - medium grained grading to fine grained - salt and pepper - cross-bedding and convolute bedding - mudstone and carbonaceous laminae becoming more abundant towards base of section.
		Bedding ⊀ @ 85° to C/A.
397.60	400.66	Mudstone and Siltstone - mudstone is dark medium grey - siltstone is light grey - siltstone occur as small laminae and lenses.
400.66	402.21	Mudstone - dark grey - minor pyrite nodules - coaly streaks - minor plant debris - coal bands occur at
		400.66 to 400.69m
		401.28 to 401.30m
402.21	402.56	Mudstone - dark grey - contains siltstone lenses and bands - plant debris - one large claystone nodule near base of section.
402.56	402.81	Mudstone - dark grey - abundant pyrite nodules near base.
402.81	402.85	COAL - 0.04 metres - bright banded - blocky
402.85	403.86	Mudstone - dark grey - numerous coal bands < 0.02 metres - abundant plant debris - coaly streaks.
403.86	406.38	Mudstone - dark grey becoming medium grey in centre of section and then becoming dark grey at base of section - some interbedded and interlaminated silty mudstone layers - minor plant debris - one lagre pyrite nodule at 405.85 metres.
406.38	406.91	COAL - 0.53 metres - black - cannaloid coal - blocky - Sample 5A.

HOLE# BC-79-7 From 406.91 To 423.29

FROM	TO	DESCRIPTION
406.91	407.02	Siltstone - dark grey - very carbonaceous - some fine-grained sandstone lenses.
407.02	407.52	COAL and Mudstone - Samples 5B, C, and D.
407.52	409.31	Mudstone, Siltstone and Sandstone - mudstone dark grey - siltstone medium grey - sandstone dirty salt and pepper fine-grained - unit grades from mudstone to siltstone to sandstone towards base.
409.31	409.55	Sandstone and Siltstone - sandstone fine-grained dirty salt and pepper - siltstone medium grey - inter-laminated and interbedded.
409.55	413.75	Sandstone - dirty salt and pepper - fine-grained - poorly laminated - some zones of cross-bedding.
413.75	414.58	Sandstone - dirty salt and pepper - fine-grained - bioturbated - some lenses of cleaner fine-grained sand.
414.58	415.11	Sandstone - salt and pepper - fine-grained - some coal streaks - poorly laminated - minor mudstone bands.
415.11	415.92	Siltstone - medium grey - some fine-grained sandstone bands - numerous coaly streaks.
415.92	416.33	Siltstone - medium grey- some mudstone bands and fine-grained sandstone bands - sandstone is cross-bedded.
416.33	416.41	COAL - 0.08 metres - black - dull and bright - blocky.
416.41	419.70	Mudstone - dark grey - grades from rare fine-grained sandstone bands and lenses to numerous sandstone bands and lenses at base - some pyrite nodules at base - some plant debris.
419.70	420.83	Mudstone - dark grey - plant debris - towards base get frequent coaly streaks.
420.83	420.95	COAL - 0.12 metres - black - dirty - blocky.
420.95	421.44	Mudstone - dark grey - minor siltstone laminations and lenses - plant debris.
421.44	422.07	COAL - 0.63 metres - black - dull banded - dirty - Sample 6.
422.07	423.29	Mudstone - dark grey - minor siltstone bands - rare plant debris.

HOLE# BC-79-7 From 423.29 To 435.96

FROM	TO	DESCRIPTION
423.29	423.49	Siltstone - medium grey - bioturbated - rare plant debris.
423.49	424.26	Mudstone - dark grey - minor siltstone bands - rare plant debris.
424.26	424.86	COAL - 0.60 metres - black - dull - blocky from 424.57 to 424.77 coal has 4 dirty bands each < 2cm.
424.86	428.55	Mudstone and Siltstone - predominantly mudstone at top of section grading to predominantly siltstone at bottom of section - interlaminated - bioturbated - plant debris - coaly streaks - minor worm burrows.
428.55	431.54	Sandstone and Siltstone - sandstone is salt and pepper and fine-grained - siltstone is light medium grey - cross-bedded with mudstone laminae throughout - section becomes muddier towards base - worm burrows - plant debris.
431.54	433.72	Mudstone - well graded from last section over 0.10 metres - contains siltstone laminae - contains minor coaly streaks - minor fine-grained sandstone lenses.
433.72	434.07	Sandstone and Silty Mudstone - sandstone is salt and pepper - cross-bedded and convoluted - section has a predominantly mudstone bed near center of section - contains carbonaceous debris.
434.07	435.00	Mudstone - dark medium grey - minor siltstone lenses - minor plant debris and shell remains.
435.00	435.22	Sandstone and Mudstone - convolute bedding - bioturbated - worm burrows - plant debris - sandstone is fine-grained - mudstone is medium grey.
435.22	435.37	Mudstone - dark medium grey - contains minor sandstone lenses.
435.37	435.51	Mudstone and Siltstone - cross-bedded - interlaminated and some convolute bedding (minor).
435.51	435.87	Mudstone - dark grey - contains a coal band at base.
435.87	435.91	Claystone - light brownish grey.
435.91	435.96	COAL - 0.04 metres - black - dull and bright - well cleated.

HOLE# BC-79-7 From 435.96 To 446.84

FROM	TO	DESCRIPTION
435.96	436.27	Mudstone and Siltstone - light medium grey - convoluted - minor coaly streaks.
436.27	436.74	Sandstone and Silty Mudstone - minor plant debris - minor convolute bedding - minor calcite veinlets - mudstone laminae - carbonaceous laminae.
436.74	438.17	Sandstone - fine-grained - dirty salt and pepper - cross-bedded - well laminated - carbonaceous laminae - minor calcite veinlets - minor mudstone laminae.
438.17	438.64	Mudstone and Sandstone - sandstone is dirty salt and pepper - fine-grained - bioturbated - worm burrows - interbedded and interlaminated.
438.64	440.74	Mudstone - grading from dark grey to medium grey - becoming siltier towards base - minor sandstone lenses and bands - minor calcite veinlets - slicken sides and plant debris.
440.74	440.87	COAL - 0.13 metres - black - dull banded - blocky.
440.87	443.10	Mudstone - dark grey - minor plant debris.
443.10	443.19	Claystone - light brownish grey.
443.19	445.40	Mudstone and Siltstone - mudstone is dark grey and grades from dark grey to dark medium grey - contains more siltstone towards base - minor coaly bands - minor pyrite nodule - minor sandstone lenses towards base of section.
445.40	445.72	Sandstone - dirty salt and pepper - fine-grained - convolute bedding - carbonaceous laminae - bioturbated.
445.72	446.84	Sandstone and Mudstone - well laminated - interbedded - sandstone is salt and pepper and fine-grained - cross-bedded - minor worm burrows - minor calcite veinlets - plant debris.

CORE DESCRIPTION

HOLE# BC 79-8 From 0.00 To 243.51

Area BRI-DOWLING CREEK By D. N. Duncan

FROM	TO	DESCRIPTION
0.00	21.96	OVERBURDEN
21.96	237.39	MOOSEBAR FORMATION - dark grey to black shale, minor silty sections toward base, minor pyrite nodules - increasing in quantity toward base of section. Light grey - soft - volcanic ash bands(?) from: 226.79 to 226.82m 229.23 to 229.25m 229.36 to 229.38m - minor shell molds throughout section, glauconitic at base of section, minor claystone bands and nodules.
237.39	238.11	CONGLOMERATE - Gething formation, pebble size clasts < 0.01m - dark medium grey - clasts composed of chert and shale fragments - well rounded - abundant pyrite both disseminated and in bands <0.01m. thick - abundant thin calcite veinlets <0.01m thick.
238.11	238.68	SANDSTONE AND SILTSTONE - interlaminated to massive - salt and pepper sandstone predominant - minor cross bedding - minor graded bedding.
238.68	241.84	MUDSTONE AND SILTSTONE - Interlaminated - dark grey mudstone predominant and increasing in abundance toward base - abundant pyrite nodules and thin laminae <<0.01m - minor worm burrows - minor convoluted bedding - minor salt and pepper, fine grained sandstone units at top of section - gradational contact with overlying unit - bedding ⨯ @ 80° to C/A, coaly streaks at base of section.
241.84	242.84	COAL - 1.00m - black - bright - abundant vitrain bands in durain - vitrain more abundant toward top of seam - cleat in present,.but not well developed - 100% recovery - sample 1a.
242.84	243.04	MUDSTONE - dark grey to black - abundant coaly streaks - minor sandy lenses at base.
243.04	243.51	COAL - 0.47m - black - bright- abundant vitrain bands in durain - poorly cleated - vitrain content increases toward base of seam - 90% recovery - sample 1b.

HOLE# BC 79-8 From 243.51 To 249.52

FROM	TO	DESCRIPTION
243.51	243.59	SANDSTONE AND MUDSTONE - Interlaminated to mixed - dark medium grey, fine grained sandstone predominant at top of section with minor mudstone pebble clasts <0.01m - becoming regularly interlaminated toward base of section - mudstone content increasing toward base of section - sandstone laminae are salt and pepper
243.59	244.41	MUDSTONE - dark grey to black - coaly streaks at top of section - minor salt and pepper sandstone lenses at top of section - becoming silty at base.
244.41	245.84	SILTY MUDSTONE AND SANDSTONE - interlaminated - dark medium grey silty mudstone predominant - sandstone is salt and pepper in colour and fine grained - minor convoluted bedding - minor graded bedding - bedding ⊀ @ 80° to C/A.
245.84	246.00	COAL - 0.16m - black vitrain bands in duller durain - poorly cleated - 100% recovery.
246.00	246.15	MUDSTONE - dark grey to black - massive - coaly streaks.
246.15	247.48	SANDY SILTSTONE AND SILTY MUDSTONE - Interlaminated to mixed - light medium grey sandy siltstone predominant at top of section decreasing in quantity toward base of section. - minor trough-shaped cross bedding - graded bedding
247.48	247.98	SILTY MUDSTONE - dark medium grey to dark grey - minor siltstone laminae - very minor coaly streaks.
247.98	248.04	COAL - 0.06m - black - dull durain with minor bright vitrain bands - poorly cleated - 100% recovery.
248.04	248.19	MUDSTONE - dark grey - abundant coaly streaks and seamlets <0.01m.
248.19	248.27	COAL - 0.08m - black - broken - abundant bright vitrain in duller durain - well cleated - 100% recovery.
248.27	248.98	MUDSTONE - dark grey to dark medium grey - massive - abundant coaly streaks and plant debris at top of section, decreasing toward base - becoming silty toward base.
248.98	249.52	SANDY SILTSTONE - dark medium grey to medium grey - sand content increasing toward base - poorly laminated.

HOLE# BC 79-8 From 249.52 To 254.67

FROM	TO	DESCRIPTION
249.52	249.59	SANDSTONE - salt and pepper - medium grained -massive.
249.59	249.74	SILTSTONE AND SANDSTONE - mixed - grey siltstone predominant - minor coaly streaks - abundant disseminated pyrite.
249.74	250.27	SILTY SANDSTONE AND MUDSTONE - Interlaminated - silty sandstone, light grey to salt and pepper, fine grained and predominant - bedding ⚹ @ 81° to C/A.
250.27	251.47	SANDSTONE - salt and pepper - fine to medium grained - trough shaped cross bedding - minor mudstone and muddy siltstone laminae - graded bedding.
251.47	252.33	SANDSTONE AND MUDDY SILTSTONE - Interlaminated - siltstone predominant and light medium grey to grey - minor mudstone laminae - sandstone is fine grained and salt and pepper - minor cross bedding - graded bedding - mud content increasing toward base.
252.33	252.67	SANDSTONE, SILTSTONE AND MUDSTONE - bioturbated to laminated - abundant worm burrows - sandstone is salt and pepper, medium to fine grained and predominant - section is well laminated at base - minor coaly streaks.
252.67	253.09	COAL - 0.42 metres - black - bright - abundant vitrain well developed cleat - highly broken at base - top of seam (0.08m) is poorer in vitrain than rest of seam - 100% recovery.
253.09	253.85	MUDSTONE - dark grey to black - abundant plant debris coaly streaks at top of section - minor light medium grey siltstone lenses.
253.85	254.19	SANDSTONE AND MUDSTONE - Interlaminated - sandstone is fine grained, salt and pepper and predominant in basal portion of section - mudstone is dark grey and predominant at top of section - minor pyrite nodules minor coaly streaks - rip up clasts of mudstone in sandstone at base of section.
254.19	254.67	MUDSTONE - dark medium grey to dark grey - minor siltstone laminae and lenses - abundant plant debris and coaly streaks.

HOLE# BC 79-8 From 254.67 To 263.12

FROM	TO	DESCRIPTION
254.67	256.03	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper - sandstone laminae grade up into siltstone - cross-bedded - worm burrows - minor convolute bedding - mud content increasing toward base
256.03	258.82	MUDSTONE - dark grey - minor siltstone laminae and lenses - minor plant debris - shell molds localized into thin zones where they are abundant - minor sandstone lenses.
258.82	259.20	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper, medium to fined grained and occurs as laminae and channels in mudstone - minor coaly streaks - highly fractured by calcite veinlets from 259.10 to 259.16m - sandstone with shell fragments at base of section.
259.20	259.45	MUDSTONE - dark grey to black - minor coaly streaks and plant debris.
259.45	259.49	SANDSTONE - salt and pepper - fine grained - finely laminate - minor cross bedding - bedding $\measuredangle$ @ 80° to C/A.
259.49	260.52	MUDSTONE - dark grey - minor siltstone lenses and laminae from 260.43 to 260.52m have abundant calcite veinlets @ $\measuredangle$ of 80° to C/A - at 259.88m have shell fragments in a claystone nodule.
260.52	261.06	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper, fine grained and grades upwards into siltstone - minor sandstone lenses - minor worm burrows - minor convoluted bedding.
261.06	261.68	SANDSTONE AND MUDDY SILTSTONE - Interlaminated - sandstone predominant, salt and pepper and fine grained - cross-bedded - graded bedding - muddy siltstone is dark and medium grey.
261.68	262.86	MUDSTONE - dark grey - minor siltstone lenses and laminae.
262.86	263.12	COAL - 0.26 metres - black - bright - abundant vitrain bands in durain - highly broken - 65% recovery - Sample 2a.

HOLE# BC 79-8 From 263.12 To 267.84

FROM	TO	DESCRIPTION
263.12	263.18	SANDSTONE - salt and pepper - fine grained - high mud content - coal chips and streaks - finely laminated.
263.18	263.22	COAL - 0.04 metres - black - dull - durain with minor vitrain bands - 90%
263.22	263.24	SANDSTONE - light grey - very fine grained - coaly streaks - finely laminate.
263.24	263.31	COAL - 0.07 metres - black - dull to bright - durain with few vitrain bands - 100% recovery - Sample 2c
263.31	263.39	MUDSTONE - dark grey to black - highly carbonaceous - abundant coal streaks and seamlets < 0.01m.
263.39	264.26	COAL - 0.87 metres - black - bright - abundant vitrain well developed cleat - minor muddy sections - 68% recovery - Sample 2d.
264.26	264.33	SANDSTONE AND MUDSTONE - Mixed - Sandstone is salt and pepper, fine grained and predominant - abundant coal chips - mudstone predominant at base of section.
264.33	265.03	COAL - 0.70 metres - black - bright - abundant vitrain well cleated - broken at base - 60% recovery - Sample 2e.
265.03	265.13	MUDSTONE - dark grey to black - abundant coal streaks and seamlets < 0.01 m.
265.13	265.26	COAL - 0.13 metres - black - bright - abundant vitrain highly broken - good cleat - 100% recovery - Sample 2f
265.26	265.31	MUDSTONE - dark grey to black - abundant coal streaks
265.31	265.36	SANDSTONE - light brown - grey - fine grained - minor coaly streaks - finely laminate.
265.36	265.64	COAL - 0.28 metres - black - bright - abundant vitrain well cleated - broken by drill at base - 57% recovery Sample 2g.
265.64	267.53	MUDSTONE AND SILTSTONE - Interlaminated - dark grey mudstone predominant - siltstone is light medium grey and increasing in content toward base of section - abundant plant debris - minor coaly streaks - minor graded bedding.
267.53	267.63	MUDSTONE - dark grey to black - abundant coal streaks-
267.63	267.84	COAL - 0.21 metres - black - bright - abundant vitrain well cleated - lightly broken at base of seam - 87% recovery.

HOLE# BC 79-8 From 267.84 To 279.48

FROM	TO	DESCRIPTION
267.84	268.79	MUDSTONE - dark grey - abundant plant debris - minor coaly streaks - minor siltstone laminae.
268.79	269.02	SANDSTONE AND MUDDY SILTSTONE - mixed to interlaminated - salt and pepper, fine grained sandstone predominant - siltstone is dark medium grey - minor cross bedding.
269.02	269.60	MUDSTONE - dark grey - abundant plant debris - coal streaks and seamlets < 0.01 m.
269.60	269.96	SILTSTONE - light medium grey - massive - minor plant debris - minor coaly streaks.
269.96	270.00	COAL - 0.04 metres - black - bright - abundant vitrain - 100% recovery.
270.00	275.22	SILTSTONE AND MUDSTONE - Mixed to Interlaminated - light medium grey siltstone predominant - mudstone is dark medium grey and increases toward base - convoluted bedding - minor coaly streaks - minor plant debris.
275.22	275.30	COAL - 0.08 metres - black - bright - well developed cleat - abundant vitrain - 100% recovery.
275.30	275.32	SILTSTONE - light medium grey - coaly streaks.
275.32	275.90	COAL - 0.58 metres - black - bright - high vitrain content - well cleated - 20% recovery.
275.90	276.16	MUDSTONE - dark grey - abundant coal streaks and plant debris - highly carbonaceous.
276.16	276.31	COAL - 0.15 metres - black - dull to bright - vitrain bands in durain - 100% recovery.
276.31	276.56	MUDSTONE - dark grey - abundant coal streaks and plant debris - minor salt and pepper sandstone units < 0.01 m.
276.56	278.06	SANDSTONE - salt and pepper - fine grained - cross-bedded - minor mudstone laminae - interlaminated for basal 0.15m with mudstone ie. gradational contact - minor worm burrows.
278.06	279.48	MUDSTONE AND SILTSTONE - Interlaminated - dark grey mudstone predominant - mud content increasing toward base - coal seamlets < 0.01 m. abundant at base and coal streaks - calcite veinlet at 279.35m. <0.01m thick. Bedding ∢ @ 81° to C/A.

HOLE# BC 79-8 From 279.48 To 287.14

FROM	TO	DESCRIPTION
279.48	280.67	SILTSTONE AND MUDSTONE - Interlaminated - light medium grey siltstone predominant - cross bedded - graded bedding - convolute bedding - minor load structures - minor sandy lenses
280.67	281.17	MUDSTONE AND CLAYSTONE - interbedded - equally abundant - mudstone is dark grey - claystone is light brown-grey - minor plant debris.
281.17	281.85	MUDSTONE - dark-grey - abundant coal streaks and plant debris - silty at top of section.
281.85	282.12	COAL - 0.27 metres - black - abundant bright vitrain in durain, poorly cleated - 56% recovery.
282.12	282.79	MUDSTONE - dark grey - abundant coaly streaks and plant debris - minor siltstone lenses and laminae.
282.79	284.80	MUDDY SILTSTONE AND SANDSTONE - Interlaminated - muddy siltstone is dark medium grey to medium grey and predominant - sandstone is salt and pepper and fine grained - cross-bedded - minor convolute bedding minor graded bedding - calcite veinlet and 282.55m << 0.01 m. thick with slickensides: possible fault(?)
284.80	285.23	MUDSTONE AND SILTSTONE - Interlaminated - dark grey mudstone predominant - minor salt and pepper, fine grained sandstone laminae and lenses - calcite veinlets <0.01m throughout section - minor coaly streaks - minor worm burrows.
285.23	285.88	MUDSTONE - dark grey - massive - minor plant debri and coaly streaks.
285.88	286.14	COAL - 0.26 metres - black - bright - abundant vitrain well cleated-65% recovery.
286.14	286.16	MUDSTONE - highly brecciated by calcite vein 0.02m thick - possible fault(?).
286.16	286.78	MUDDY SILTSTONE - poorly laminated - medium grey - convolute bedding - minor salt and pepper sandstone bands 0.01m. thick or less.
286.78	287.14	SANDSTONE AND SILTY MUDSTONE - Interlaminated - salt and pepper, fine to medium grained sandstone predominant - minor cross bedding - minor convolute bedding - minor coaly streaks.

HOLE# BC 79-8 From 287.14 To 293.00

FROM	TO	DESCRIPTION
287.14	288.72	MUDSTONE - dark grey - minor coaly streaks - calcite veinlets < 0.01m thick at 288.60m, 288.36m and 287.68m abundant plant debris.
288.72	289.27	COAL - 0.55 metres - black - 90% recovery 288.72 to 289.11m - dull - canneloid 289.11 to 289.27m - bright - abundant vitrain bands - well cleated Sample 3.
289.27	289.36	MUDSTONE - dark grey - abundant coaly streaks and plant debris - minor calcite veinlets
289.36	290.41	MUDSTONE AND SANDSTONE - interlaminated - light medium grey to salt and pepper, fine grained sandstone predominant - mudstone content decreasing toward base - graded bedding - minor cross bedding - minor worm burrows.
290.41	291.89	MUDSTONE - dark grey - Interlaminated with light medium grey siltstone at top of section but grades into pure mudstone at base - minor light brown-grey claystone bands - at 291.84m. have a possible fault zone with calcite stringers over 0.03m and ⊁ @ 75° to C/A. Bedding ⊁ @ 80° to C/A.
291.89	291.99	COAL - 0.10m - black - bright vitrain bands in durain - small mudstone bands < 0.01m within coal - 100% recovery
291.99	292.23	MUDSTONE - dark grey - abundant coaly streaks and plant debris.
292.23	292.27	COAL - 0.04m - black - bright vitrain bands in durain - 100% recovery.
292.27	292.36	MUDSTONE - dark grey to black - highly carbonaceous abundant coal streaks and seamlets < 0.01m - abundant plant debris, silty bands at base of section with coal chips.
292.36	292.66	COAL - 0.30 metres - black - bright - abundant vitrain bands - well developed clat - 67% recovery.
292.66	293.00	MUDSTONE - dark grey - abundant coaly streaks and plant debris

HOLE# BC 79-8 From 293.00 To 305.75

FROM	TO	DESCRIPTION
293.00	296.41	MUDSTONE AND SILTSTONE - Interlaminated - dark grey mudstone predominant - siltstone - is light medium grey and decreasing toward base where have pure mudstone - cross bedded - convolute bedding - bedding ⊀ @ 80° to C/A.
296.41	296.49	COAL - 0.08 metres - black - dull to bright - minor vitrain in durain, 90% recovery.
269.49	297.75	MUDSTONE - dark grey - minor salt and pepper sandstone and light medium grey siltstone laminae and lenses - mudstone becomes lighter in colour and siltier toward base - minor coal streaks.
297.75	297.81	COAL - 0.06 metres - black - bright - abundant vitrain bands - 90% recovery.
297.81	297.94	MUDSTONE - dark grey - abundant coal streaks and plant debris.
297.94	302.73	MUDSTONE AT SILTSTONE - Interlaminated - Mudstone is dark grey and highly predominant - siltstone is light medium grey - cross bedded - minor salt and pepper, fine grained sandstone lenses - minor worm burrows - mudstone becoming siltier toward base. Gradational contact with underlying unit over 0.20m.
302.73	303.58	SANDSTONE - salt and pepper - medium to coarse grained - minor cross bedding - minor mudstone laminae at top of section - minor coaly streaks in middle of section.
303.58	304.84	SILTSTONE AND SANDSTONE - Interlaminated - light medium grey siltstone predominant - sandstone is medium grained and salt and pepper in colour - have muddy siltstone at top of section for 0.10m - cross bedded - graded bedding - minor coaly streaks.
304.84	305.14	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper fine grained and occurs as lenses and laminae - abundant plant debris.
305.14	305.75	MUDSTONE - dark grey - minor siltstone laminae - abundant fossils: brachiopods and gastropods both as casts and replaced by calcite.

HOLE# BC 79-8 From 305.75 To 312.54

FROM	TO	DESCRIPTION
305.75	306.00	COAL - 0.25 metres - black - dull - canneloid - 100% recovery
306.00	306.12	MUDSTONE - dark medium grey - minor silty laminae - minor calcite veinlets - minor coaly streaks.
306.12	306.26	COAL - 0.14 metres - black - abundant bright vitrain bands in durain - pyrite nodules at top of seam - well cleated - broken - 90% recovery.
306.26	307.70	MUDSTONE AND SILTY SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is silty, salt and pepper and fine grained. Sandstone content increasing toward base of section - minor cross bedding - minor convolute bedding - minor worm burrows.
307.70	309.32	MUDSTONE - dark grey to black - minor coaly streaks minor plant debris - minor bivalve casts and molds.
309.32	311.35	MUDDY SILTSTONE - light medium grey to grey - poorly laminated - convolute bedding - abundant calcite - talc veinlets at top of section @ 20° to C/A on average - minor plant debris - minor bivalve casts and molds - minor coaly streaks - calcite-talc veinlets may be fault zone(?)
311.35	311.99	MUDSTONE - dark grey - minor siltstone laminae - minor plant debris, bedding ⊁ @ 65° to C/A
311.99	312.12	COAL - 0.13 metres - black - bright - abundant vitrain bands - poorly cleated - 100% recovery.
312.12	312.15	MUDSTONE - dark grey - carbonaceous - abundant coaly streaks
312.15	312.23	COAL - 0.08 metres - black - bright - abundant vitrain bands - highly broken - poorly cleated - 100% recovery.
312.23	312.33	MUDSTONE - dark grey - carbonaceous abundant coaly streaks
312.33	312.54	COAL - 0.21 metres - black - bright vitrain bands in durain - well cleated - highly broken - 30% recovery.

HOLE# BC 79-8 From 312.54 To 324.05

FROM	TO	DESCRIPTION
312.54	313.38	MUDDY SILTSTONE - dark medium grey - poorly laminated - convolute bedding - abundant coal streaks and seamlets < 0.01m thick toward top of section -
313.38	314.00	COAL - 0.62 metres - black - bright vitrain bands in durain - vitrain content increasing toward base well cleated - highly broken - 68% recovery - bedding ⊁ @ 60° to C/A - Sample 4
314.00	315.94	SANDSTONE - salt and pepper - fine to medium grained well laminated - minor mudstone laminae - minor cross bedding - minor calcite veinlets <0.01m thick - gradational contact with underlying unit over 0.10m
315.94	317.11	MUDSTONE AND SANDSTONE - interlaminated - dark grey mudstone, predominant - sandstone is salt and pepper and fine grained - mud content increasing toward base of section - minor worm burrows.
317.11	317.73	SANDSTONE - salt and pepper - finely laminate - medium grained - minor mudstone laminae - cross bedding - bedding ⊁ @ 49° to C/A - gradational contact with underlying unit.
317.73	318.08	MUDSTONE AND SANDSTONE - Interlaminated - mudstone predominant and dark grey - sandstone is salt and pepper and fine grained - minor worm burrows - this is actually a gradational contact between overlying and underlying units.
318.08	321.00	MUDSTONE - dark grey - massive
321.00	322.45	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper, fine grained and increasing in content toward base of section, it is minor constituent at top of section - convolute bedding - minor worm burrows - bedding ⊁ @ 27° to C/A.
322.45	323.13	MUDSTONE - dark grey - abundant coally streaks at base of section - minor silty lenses toward base - plant debris.
323.13	324.05	COAL - 0.92 metres - black - dull - canneloid - fine grained sandstone laminae at base of seam - very minor vitrain bands at base of seam - 67% recovery - bedding ⊁ @ 30° to C/A. - Sample 5

HOLE# BC 79-8 From 324.50 To 344.23

FROM	TO	DESCRIPTION
324.05	324.86	MUDSTONE - dark grey - abundant plant debris - slickensides @ 28° to C/A - minor coaly streaks - gradational contact with underlying unit.
324.86	329.49	MUDSTONE AND SANDSTONE - Interlaminated - Mudstone predominant and dark grey - sandstone is salt and pepper and fine to medium grained - sandstone content is highest in middle of section, decreasing toward top and base - minor cross bedding - bedding ⊀ @ 35° to C/A
329.49	331.01	MUDSTONE - dark grey - gradational contact with overlying unit - becoming carbonaceous toward base and black in colour - coaly streaks toward base.
331.01	331.21	COAL - 0.21 metres - black - bright - abundant vitrain - well cleated - highly broken - 25% recovery.
331.21	331.66	MUDSTONE - dark grey to black - abundant coaly streaks and plant debris - gradational contact with underlying unit.
331.66	332.74	SANDSTONE AND MUDSTONE - Mixed to Interlaminated - dark medium grey, mudstone predominant - convoluted bedding - bioturbated at top of section - light grey, fine grained sandstone increasing in content toward base.
332.74	340.74	SANDSTONE - salt and pepper, fine grained - trough-shaped cross bedding, graded bedding - minor mudstone laminae - abundant calcite veinlets toward base. bedding ⊀ 20° to C/A at 334m bedding ⊀ 10° to C/A at 337.30m bedding ⊀ 0° to C/A at 339.50m Core highly broken from 340.16 to 340.74.
340.74	340.89	MUDSTONE - dark grey - highly broken - slickensides - possible fault zone.
340.89	340.96	CALCITE-TALC VEIN - abundant mudstone fragments within vein (breccia) - fault? - vein ⊀ @ 80° to C/A
340.96	344.23	SILTY MUDSTONE AND SANDSTONE - Interlaminated - dark medium grey, silty mudstone predominant - sandstone is salt and pepper and fine grained - mud content increasing toward base of section - cross bedded - minor plant debris bedding ⊀ @ 85° C/A throughout section.

HOLE# BC 79-8 From 344.23 To 358.50

FROM	TO	DESCRIPTION
344.23	344.71	MUDSTONE - dark grey to black - massive - plant debris
344.71	344.97	COAL - 0.26 metres - black - broken - 100% recovery 344.71 to 344.87m. - dull - canneloid 344.87 to 344.97m. - bright - well cleated - abundant vitrain
344.97	345.06	MUDSTONE - dark grey to black - abundant coaly streaks and plant debris.
345.06	345.90	SANDSTONE AND MUDSTONE - Mixed to Interlaminated - dark grey mudstone predominant at top of section - fine grained, salt and pepper. Sandstone predominant at base of section - minor plant debris.
345.90	348.27	SANDSTONE - salt and pepper - fine to medium grey - finely laminate - cross bedded - convoluted bedding at top of section. Minor dark grey mudstone laminae increasing in abundance toward base - bedding ⊀ @ 83^{o} to C/A.
348.27	352.33	MUDSTONE AND SILTSTONE - Interlaminated - dark medium grey mudstone predominant - minor fine grained, salt and pepper sandstone laminae at top of section- siltstone is light medium grey - minor worm burrows- mudstone content increasing toward base where have minor siltstone laminae and lenses.
352.33	353.18	MUDSTONE - dark grey - abundant coal streaks and seamlets <0.01 m - highly broken from 352.75 to 353.00m
353.18	353.58	MUDSTONE AND SILTSTONE - Interlaminated - dark grey mudstone predominant - abundant plant debris - convoluted bedding
353.58	358.12	MUDSTONE - dark grey - abundant plant debris - coal streaks and seamlets <0.01m toward top of section - minor siltstone lenses and laminae.
358.12	358.50	SANDSTONE - salt and pepper - fine grained - cross bedded and finely laminated - minor convolute bedding.

HOLE# BC 79-8 From 358.50 To 363.84

FROM	TO	DESCRIPTION
358.50	359.59	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant and increasing in abundance toward base - sandstone is salt and pepper and fine grained - abundant plant debris - Mudstone is slightly silty at top of section - bedding ⊀ @ 85° to C/A.
359.59	359.65	COAL - 0.06 metres - black - dull to bright - vitrain bands in durain - 100% recovery.
359.65	359.77	MUDSTONE AND SILTSTONE - Mixed - dark medium grey mudstone predominant - convolute bedding - sandstone chips, fine grained at base (rip-up clasts?)
359.77	359.83	COAL - 0.06 metres - black - bright - abundant vitrain - 100% recovery.
359.83	359.91	MUDSTONE - dark grey to black - abundant coaly streaks and plant debris.
359.91	359.97	COAL - 0.06 metres - black, bright, abundant vitrain 100% recovery.
359.97	360.53	MUDDY SILTSTONE - massive - medium grey - abundant plant debris
360.53	361.15	SANDSTONE AND SILTSTONE - Interlaminated - sandstone is salt and pepper, fine grained and predominant - cross bedded - siltstone is light medium grey - bedding ⊀ @ 85° to C/A.
261.15	362.10	SILTSTONE - medium grey - massive - becoming muddy toward base - minor coaly streaks.
362.10	362.20	COAL - 0.10 metres - black - bright - abundant vitrain 100% recovery - well developed cleat
362.20	362.27	MUDSTONE - dark grey to black - coaly streaks - plant debris.
362.27	362.37	COAL - 0.10 metres - black - bright - abundant vitrain - well cleated, 100% recovery.
362.37	363.08	MUDSTONE - dark grey to black - abundant plant debris - abundant coal streaks and seamlets <0.01m.
363.08	363.84	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper and fine grained - graded bedding - worm burrows - minor cross bedding, minor coaly streaks - minor convolute bedding.

HOLE# BC 79-8 From 363.84 To 376.92

FROM	TO	DESCRIPTION
363.84	366.55	SANDSTONE - salt and pepper - fine grained - cross bedded - convolute bedding at top and base of section - minor mudstone laminae - mudstone laminae increase in abundance toward top and base of section - minor worm burrows.
366.55	370.64	MUDSTONE - dark grey to black - abundant plant debris and coaly streaks - minor siltstone and sandstone lenses and laminae - sandstone is salt and pepper, fine to medium grained and increasing toward base - minor worm burrows - minor cross bedding - minor pyrite nodules toward base, have high silt content toward base, becomes interlaminated with sandstone.
370.64	371.77	MUDSTONE - dark grey to black - abundant coal streaks and seamlets <0.01 m thick - abundant plant debris.
371.77	372.92	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant and increasing toward base - sandstone is salt and pepper and fine grained - minor worm burrows - minor coaly streaks and plant debris. Bedding @ 85° to C/A.
372.92	372.97	COAL - 0.05 metres - black - bright - abundant vitrain - well developed cleat - highly broken - 100% recovery.
372.97	373.03	MUDSTONE - dark grey to black - abundant plant debris and coaly streaks.
373.03	373.20	COAL - 0.17 metres - black - bright - abundant vitrain bands - well cleated - highly broken - 100% recovery.
373.20	374.16	MUDSTONE - dark grey to black - massive - minor coaly streaks and plant debris.
374.16	375.21	COAL - 1.05 metres - black - bright - abundant vitrain bands in durain - well cleated - unbroken - 100% recovery, Sample 6.
375.21	376.92	MUDSTONE AND SANDSTONE - Interlaminated - Mudstone dark medium grey and predominant - sandstone is fine grained, silty and salt and pepper - minor plant debris - minor coaly streaks - convoluted bedding.

HOLE# BC 79-8 From 376.92 To 387.55

FROM	TO	DESCRIPTION
376.92	376.96	COAL - 0.04 metres - black - bright vitrain bands on durain - approximately 95% recovery.
376.96	377.24	MUDSTONE - dark grey to dark medium grey - abundant coal streaks at top of section - abundant plant debris - becoming silty toward base.
377.27	377.68	SANDSTONE AND SILTSTONE - Interlaminated to Mixed - light medium grey siltstone predominant - sandstone is fine grained and salt and pepper - abundant worm burrows and bioturbation toward base.
377.68	377.99	SILTY MUDSTONE - dark medium grey - mud content increasing toward base - minor plant debris.
377.99	378.70	COAL - 0.71 metres - black - 90% recovery. Sample 7 377.99 to 378.44m - dull - canneloid 378.44 to 378.70m - dull to bright - vitrain bands in durain.
378.70	378.83	MUDSTONE - black - highly carbonaceous - abundant coal streaks and plant debris.
378.83	384.86	SANDSTONE AND MUDSTONE - Interlaminated - salt and pepper, fine grained - sandstone predominant - mudstone is dark medium grey and slightly silty - cross bedded - worm burrows - coaly streaks at top of section 382.42 to 382.72 - massive - fine grained light grey sandstone, 382.72 to 384.86 - dark grey mudstone predominant with sandstone laminae bedding ⊁ @ 85° to C/A.
384.86	384.93	COAL - 0.07 metres - black - bright - abundant vitrain bands - well cleated - 100% recovery.
384.93	385.39	MUDSTONE - dark grey - abundant coaly streaks and plant debris.
385.39	385.70	SILTSTONE AND SANDSTONE - Interlaminated - medium grey siltstone predominant - sandstone is fine grained and salt and pepper cross bedded - minor graded bedding.
385.70	386.01	MUDSTONE - dark grey - coal streaks and calcite veinlets at base
386.01	387.55	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is fine grained and salt and pepper - minor plant debris - minor worm burrows.

HOLE# BC 79-8 From 387.55 To 395.18

FROM	TO	DESCRIPTION
387.55	387.57	COAL - 0.02 metres - black - bright - abundant vitrain - well cleated - 100% recovery.
387.57	387.63	SANDSTONE - salt and pepper - fine grained - coal chips - unlaminated
387.63	387.72	COAL - 0.05 metres - black - bright - abundant vitrain - well cleated - 100% recovery.
387.72	392.01	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is fine to medium grained and salt and pepper - sandstone content highest toward middle of section - from 389.16 to 389.51m have pure sandstone - cross bedding - abundant worm burrows - minor convolute bedding - abundant coal streaks at top and base of section bedding ⨯ @ 85° to C/A.
392.01	392.51	COAL - 0.50 metres - black - bright - abundant vitrain bands in durain - well cleated - 100% recovery.
392.51	393.91	SILTY MUDSTONE AND SANDSTONE - Interlaminated - dark medium grey, silty mudstone predominant - sandstone is fine grained and salt and pepper and most abundant at middle of section - convoluted bedding - worm burrows - abundant plant debris - coaly streaks at top of section.
393.91	394.63	SANDSTONE - salt and pepper - fine grained - finely laminated - minor mudstone laminae - minor cross bedding - minor convolute bedding - minor coaly streaks.
394.63	394.86	MUDSTONE AND SANDSTONE - Interlaminated - dark medium grey mudstone predominant - sandstone is fine grained and salt and pepper - abundant plant debris - minor coaly streaks - section contains sandstone in a channel approximately 0.06m wide
394.86	395.18	SANDSTONE - salt and pepper - fine grained - convoluted bedding - cross bedded - minor worm burrows - minor mudstone laminae.

HOLE# BC 79-8 From 395.18 To 407.21

FROM	TO	DESCRIPTION
395.18	401.18	MUDSTONE AND SILTY SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper and fine grained - mud content increasing toward base - abundant bivalve molds throughout section - from 397.41 to 397.47m have abundant shell fragments in silty sandstone - abundant worm burrows - minor convolute bedding - from 399.95 to 400.00m have coarse grained salt and pepper sandstone with abundant mud and coal chips - minor coaly streaks toward base of section - bedding ⊁ @ 85° to C/A.
401.18	401.21	COAL - 0.03 metres - black - bright - vitrain bands in durain, 100% recovery.
401.21	401.37	CONGLOMERATE - clasts up to 0.03m in length - muddy matrix with siltstone and claystone clasts, well rounded - minor coaly streaks (possibly in clasts).
401.37	401.49	MUDSTONE - dark grey - abundant coaly streaks and plant debris
401.49	402.72	SILTSTONE AND SANDSTONE - Mixed to interlaminated - light medium grey siltstone predominant - sandstone is salt and pepper and fine grained - minor plant debris - minor cross bedding.
402.72	404.02	SILTSTONE - light medium grey - massive.
404.02	404.88	SILTSTONE AND MUDSTONE - Mixed to interlaminated - light medium grey siltstone predominant - mudstone is dark grey - minor sandy laminae - minor coaly streaks and plant debris.
404.88	405.29	MUDSTONE - dark grey - abundant coaly streaks and plant debris
405.29	406.20	SILTSTONE AND SANDSTONE - Interlaminated - siltstone is light medium grey and predominant - sandstone is salt and pepper, fine grained and increasing toward base - convoluted bedding - cross bedding - minor coaly streaks of top of section.
406.20	407.21	SANDSTONE - salt and pepper - medium grained - cross bedded to massive.

CORE DESCRIPTIO

HOLE# BC-79-9 From 0.00 To 131.86

Area BRI-DOWLING CREEK By D.N. Duncan & P. Zell

FROM	TO	DESCRIPTION
0.00	80.47	OVERBURDEN
80.47	126.59	MOOSEBAR FORMATION
		dark grey to black shale
		minor pyrite nodules
		minor shell nodules
		light grey volcanic ash bands (?) from:
		118.31 to 118.33m
		118.37 to 118.40m
		Glauconitic toward base
		minor silty units.
		GETHING FORMATION
126.59	127.41	Conglomerate - medium grey - pebble clasts < 0.005m
		- clasts are well rounded and composed of chert,
		shale and sandstone - matrix is fine-grained
		sandstone, muddy at top of section.
127.41	128.18	Sandstone - salt and pepper - fine grained -
		laminated - cross-bedded - minor mudstone laminae
		- minor graded bedding.
128.18	128.68	Silty Mudstone - dark medium grey - minor plant
		debris - minor pyrite nodules - minor sandy lenses
		toward base.
128.68	130.11	Sandstone and Mudstone - interlaminated - salt
		and pepper, fine grained sandstone predominant -
		mudstone is dark grey and increasing toward base -
		minor cross bedding - minor bands of pyrite nodules
		bedding ⚡ @ 78° to C/A
130.11	130.51	Mudstone - dark grey - minor silty laminae -
		minor pyrite nodule bands.
130.51	131.86	COAL - 1.35 metres - black - dull to bright -
		hard - minor pyrite nodules at top of seam - poorly
		cleated at top of seam, improving toward base -
		vitrain bands in durain - vitrain content increasing
		toward base - 100% recovery - Sample 1A.

HOLE# BC-79-9 From 131.86 To 141.17

FROM	TO	DESCRIPTION
131.86	132.24	Mudstone - dark grey to black - abundant coaly streaks and plant debris - minor silty lenses and laminae toward base.
132.24	132.72	COAL - 0.48 metres - black - bright - abundant vitrain bands in durain - well cleated - broken at base - 95% recovery - Sample 1B.
132.72	133.26	Mudstone - dark grey - minor coaly streaks and plant debris.
133.26	135.25	Mudstone and Sandstone - interlaminated - dark grey mudstone predominant - sandstone is fine grained and salt and pepper - minor cross bedding - minor worm burrows - minor coaly streaks.
135.25	135.49	COAL - 0.24 metres - black - bright - abundant vitrain bands in durain - well cleated - 100% recovery
135.49	135.61	Mudstone - dark grey - abundant coaly streaks and plant debris.
135.61	137.19	Sandstone and Mudstone - interlaminated - sandstone is salt and pepper, fine grained and predominant - mudstone is dark grey and increasing in content toward base where it is predominant - coaly streaks at base.
137.19	137.47	COAL - 0.28 metres - black - bright - highly broken - mudstone split approximately 1/2 way through seam which is 0.05m thick - abundant vitrain bands in durain - well cleated - 90% recovery.
137.47	138.08	Mudstone - dark grey - abundant coal streaks at top of section, decreasing toward base - minor plant debris - pyrite laminae at top of section.
138.08	138.16	Sandstone - salt and pepper - fine grained - laminated
138.16	138.37	Muddy Siltstone - dark medium grey - minor plant debris.
138.37	139.74	Sandstone and Siltstone - interlaminated - fine to medium grained, salt and pepper sandstone predominant - siltstone is light medium grey - minor cross bedding - minor plant debris.
139.74	141.17	Sandstone - salt and pepper - fine to medium grained - laminated - cross-bedded - minor mudstone laminae toward base - bedding ⊀ @ 80° to C/A.

HOLE# BC-79-9 From 141.17 To 156.82

FROM	TO	DESCRIPTION
141.17	142.31	Sandstone and Mudstone - interlaminated - sandstone is fine grained, salt and pepper and predominant - mudstone is dark grey - minor cross bedding - minor coaly streaks at base.
142.31	142.75	COAL - 0.44 metres - black - bright - abundant vitrain bands in durain - broken - 100% recovery.
142.75	144.32	Mudstone and Sandstone - interlaminated - dark grey mudstone predominant - sandstone is fine grained and salt and pepper - sandstone content increasing toward base - minor cross bedding - coaly streaks at top of section and plant debris - minor worm burrows.
144.32	145.13	Sandstone - salt and pepper - fine grained - cross bedded - minor silty laminae.
145.13	145.72	Mudstone and Sandstone - interlaminated - cross bedded - convoluted bedding near base of section - section becomes muddier towards base of section minor claystone bands.
145.72	145.81	Mudstone - dark grey - minor siltstone and fine grained sandstone laminae and lenses.
145.81	146.01	Mudstone - medium grey - very silty - contains 3 bands of pyrite less than 0.03 metres.
146.01	151.18	Mudstone - dark medium grey - fine grained sandstone laminae and lenses - pyrite nodules - minor calcite veinlets 150.15 to 150.24 metres - fault zone - very finely broken 150.45 to 150.54 metres - siltstone section with fine grained sandstone laminae - light medium grey.
151.18	156.82	Mudstone - dark grey becoming dark medium grey at base of section - minor claystone nodules and siltstone laminae 156.26 to 156.32 metres - COAL - 0.06 metres - black - dull and bright - minor coaly streaks at base of section.

HOLE# BC-79-9 From 156.82 To 169.32

FROM	TO	DESCRIPTION
156.82	158.28	COAL - 1.46 metres - black - minor silty sandstone lenses - minor pyrite specs - dull and bright Recovery approx. 95% - Sample 2A.
158.28	158.35	Mudstone - dark grey - coaly streaks.
158.35	158.41	Sandy Ash Band - light medium grey - coaly streaks - mudstone laminae.
158.41	158.75	COAL - black - dull and bright - well cleated Recovery approx. 100% Sample 2B. 0.34 metres - highly broken.
158.75	159.89	Mudstone - dark medium grey - siltstone laminae and lenses.
159.89	160.80	Mudstone and Siltstone - convoluted bedding - worm burrows - dark medium grey - siltstone lenses and laminae.
160.80	162.25	Mudstone - dark medium grey - abundant coal streaks at top of section - minor calcite veinlets - section grading to a silty mudstone at base.
162.25	165.84	Sandstone - salt and pepper - grading from fine grained to coarse grained - minor mudstone clasts near base of section.
165.84	166.78	Mudstone and Sandstone - mudstone is dark medium grey - sandstone is fine grained grey - interlaminated and interbedded - minor cross bedding - minor siltstone laminae.
166.78	167.51	COAL - 0.73 metres - black - dull and bright - contains minor pyrite rich bands Recovery approx 65% - Sample 3.
167.51	168.13	Mudstone - dark medium grey - very broken up - very carbonaceous - abundant coaly streaks.
168.13	168.66	Mudstone and Sandstone - mudstone is dark medium grey - sandstone is fine grained salt and pepper - mudstone and sandstone are mixed.
168.66	169.32	Mudstone and Siltstone - interlaminated - convoluted bedding - minor worm burrows - minor cross bedding. Bedding ∢ @ 80° to C/A.

HOLE# BC-79-9 From 169.32 To 185.32

FROM	TO	DESCRIPTION
169.32	172.26	Mudstone - dark medium grey - abundant plant debris towards base of section - base of section is very broken up with minor coaly streaks.
172.26	172.47	Sandstone - salt and pepper - medium grained - poorly laminated.
172.47	173.59	Mudstone - dark medium grey - quite silty - minor calcite bands.
173.59	173.86	COAL - 0.27 metres - black - dull - poorly cleated approx. 80% recovery.
173.86	178.71	Mudstone - dark medium grey - cyclic sections with siltstone and fine grained sandstone laminae - minor calcite bands - minor claystone nodules.
178.71	178.96	COAL - 0.25 metres - black - dull and bright poorly cleated - recovery approx. 70%.
178.96	180.24	Mudstone - dark medium grey - minor siltstone laminae.
180.24	180.76	COAL - 0.52 metres - dull black becoming shinier towards base of section recovery approx. 90%.
180.76	181.72	Mudstone - dark medium grey - coaly streaks at top of section - calcite veinlets - increase in sandstone and siltstone laminae towards base of section.
181.72	182.39	Sandstone - fine grained - salt and pepper - mudstone laminae increasing in size and number towards base of section - cross bedded and convoluted - worm burrows Bedding (@ 80° to C/A
182.39	183.06	Mudstone - dark medium grey.
183.06	183.20	COAL - 0.14 metres - black - bright - abundant vitrain - recovery approx. 50%.
183.20	183.90	Mudstone - dark medium grey - abundant coaly streaks and bands - some siltstone laminae loss through section is approx. 0.10 metres
183.90	185.32	Mudstone - dark medium grey - siltstone laminae - sandstone laminae.

HOLE# BC-79-9 From 185.32 To 196.16

FROM	TO	DESCRIPTION
185.32	186.71	Muddy Siltstone - dark medium grey to medium grey - massive - mud content increasing toward base of section.
186.71	188.78	Mudstone - dark grey to black - abundant plant debris and coaly streaks - minor salt and pepper, fine grained sandstone laminae toward middle of section.
188.78	188.98	COAL - 0.20 metres - black - dull to bright - vitrain bands in durain - poorly cleated - abundant bands of pyrite nodules at middle of seam - 50% recovery.
188.98	189.16	Mudstone - dark grey to black - abundant coal streaks and plant debris - highly broken.
189.16	189.51	Silty Mudstone - dark medium grey - coaly streaks and plant debris - siltstone laminae at top of section.
189.51	190.50	Mudstone - dark grey - minor silty sections - minor coaly streaks - minor disseminated pyrite 190.34m to base of section have abundant coaly streaks.
190.50	192.48	Mudstone and Siltstone - interlaminated - dark grey mudstone predominant - siltstone is light medium grey and decreasing in abundance toward base - toward base get abundant coaly streaks and plant debris. Bedding) @ 80° to C/A.
192.48	193.92	Siltstone and Mudstone - interlaminated - light medium grey siltstone predominant - mudstone content increasing twoard base - minor fine grained, salt and pepper sandstone laminae.
193.92	196.16	Sandstone and Muddy Siltstone - interlaminated - fine grained, salt and pepper sandstone predominant - muddy siltstone is medium grey - minor cross bedding - minor convolute bedding - sandstone content increasing toward base - abundant calcite veinlets at base.

HOLE# BC-79-9 From 196.16 To 205.00

FROM	TO	DESCRIPTION
196.16	197.16	Mudstone - dark grey - minor plant debris - silty at top of section.
197.16	197.76	COAL - 0.60 metres - black - 90% recovery - Sample 4 197.16 to 197.58m - dull - canneloid 197.58m to 197.76m - dull to bright - vitrain bands in durain - poorly cleated.
197.76	200.82	Mudstone - dark grey - plant debris and coaly streaks - minor salt and pepper, fine grained sandstone laminae Bedding) @ 80° to C/A
200.82	202.79	Sandy Siltstone - medium grey - minor plant debris - minor fine grained, salt and pepper sandstone laminae.
202.79	203.31	Mudstone - dark grey - minor silty laminae.
203.31	203.46	COAL - 0.15 metres - black - bright - abundant vitrain bands in durain - well cleated - 90% recovery.
203.46	203.54	Mudstone - dark grey - abundant plant debris and coaly streaks.
203.54	203.58	COAL - 0.04 metres - black - bright - abundant vitrain bands in durain - well cleated - 90% recovery
203.58	203.67	Mudstone - dark grey - abundant coaly streaks and plant debris.
203.67	203.70	COAL - 0.03 metres - black - bright - abundant vitrain - 70% recovery.
203.70	204.03	Mudstone - dark grey - abundant plant debris and coaly streaks.
204.03	204.46	COAL - 0.43 metres - black - bright - abundant vitrain bands in durain - highly broken - 25% recovery (?)
204.46	204.50	Mudstone - dark grey - abundant plant debris and coaly streaks.
204.50	204.55	COAL - 0.05 metres - black - bright - abundant vitrain bands in durain - 100% recovery.
204.55	205.00	Mudstone - dark grey - abundant plant debris and coaly streaks - minor siltstone laminae toward base.

HOLE# BC-79-9 From 205.00 To 217.28

FROM	TO	DESCRIPTION
205.00	206.80	Sandstone - salt and pepper - fine grained - cross bedded - minor mudstone laminae and coaly streaks at top of section - minor ripple marks - minor graded bedding. Bedding) 80° to C/A.
206.80	208.67	Muddy Siltstone and Sandstone - interlaminated - medium grey muddy siltstone predominant - sandstone is salt and pepper and fine grained - minor convolute bedding - minor plant debris - minor cross bedding - mud content increasing toward base - minor worm burrows.
208.67	210.50	Mudstone - dark grey - massive - minor bivalve molds.
210.50	211.93	Mudstone and Sandstone - interlaminated - dark grey mudstone predominant - sandstone is salt and pepper and fine grained - minor cross bedding - minor worm burrows - minor load structures.
211.93	212.14	COAL - 0.21 metres - black - dull - canneloid - 80% recovery - very minor vitrain bands at base of section.
212.14	212.86	Mudstone and Sandstone - interlaminated to interbedded - dark grey mudstone preominant - sandstone is fine grained and salt and pepper - minor cross bedding - abundant plant debris and coaly streaks - rip-up clasts at base of sandstone units - graded bedding - minor disseminated pyrite.
212.86	213.07	Mudstone - dark grey - massive - abundant plant debris and coaly streaks.
213.07	213.42	COAL - 0.35 metres - black - bright - abundant vitrain - well cleated - highly broken - 60% recovery
213.42	213.98	Mudstone - dark grey - abundant coaly streaks and plant debris - minor silty laminae.
213.98	217.28	Sandstone and Mudstone - interlaminated - fine medium grained, salt and pepper sandstone predominate - mudstone is dark grey and most common at top and base of section - cross bedded - minor coaly streaks - band of mudstone pebble conglomerate from 215.56 to 215.58 in sand matrix mudstone predominant at base of section.

HOLE# BC-79-9 From 217.28 To 233.49

FROM	TO	DESCRIPTION
217.28	221.30	Mudstone - dark grey - minor silty laminae - highly broken at base with abundant coaly streaks and plant debris.
221.30	221.40	COAL - 0.10 metres - black - bright - abundant vitrain bands in durain - 100% recovery.
221.40	228.68	Mudstone - dark grey - minor fine grained, salt and pepper sandstone laminae from 223.00 to 223.41m - interlaminated with light grey siltstone from 227.49 to 227.90m - abundant plant debris - minor coaly streaks throughout section - most abundant toward top and base.
228.68	228.85	COAL - 0.17 metres - black - dull - minor vitrain bands in durain - broken - 90% recovery.
228.85	230.39	Mudstone and Siltstone - interlaminated - dark grey mudstone predominant - siltstone is light medium grey and increasing in abundance toward base - minor coaly streaks, abundant at base of section Bedding (@ 78° to C/A.
230.39	230.60	COAL - 0.21 metres - black - bright - abundant vitrain - well cleated - 50% recovery.
230.60	230.66	Mudstone - dark grey - abundant plant debris and coaly streaks - abundant pyrite nodules and bands.
230.66	231.05	COAL - 0.39 metres - black - bright - abundant vitrain - well cleated - 50% recovery.
231.05	231.20	Mudstone - dark grey to black - abundant plant debris and coal streaks.
231.20	232.28	Silty Sandstone and Mudstone - interlaminated - light medium grey to salt and pepper, fine grained silty sandstone predominant - mudstone is dark medium grey - minor coaly streaks - minor cross bedding - minor worm burrows.
232.28	233.49	Sandstone - salt and pepper - fine grained - minor silty laminae.

HOLE# BC-79-9 From 233.49 To 244.14

FROM	TO	DESCRIPTION
233.49	235.81	Sandstone and Siltstone - interlaminated - sandstone is salt and pepper, fine grained and predominant - siltstone is light medium grey - minor mudstone laminae - minor worm burrows - cross bedded - convoluted bedding - minor coaly streaks - minor claystone clasts in sandstone (conglomerate) - mud content increasing toward base. Bedding ⊁ @ 77° to C/A.
235.81	236.94	Mudstone - dark grey - abundant plant debris and coaly streaks.
236.94	241.85	Mudstone and Sandy Siltstone - interlaminated - dark grey mudstone predominant - sandy siltstone is light medium grey and far less abundant than mudstone - minor salt and pepper sandstone lenses - minor graded bedding - @ 237.90m have calcite vein 0.01m thick @ 80° to C/A with mudstone breccia - abundant slicken sides toward top of section - possibly faulted - basal part of section bedding ⊁ @ 50° to C/A.
241.85	242.01	COAL - 0.16 metres - black - bright - abundant vitrain - well cleated - broken - 50% recovery - fault zone (?)
242.01	242.07	Mudstone - dark grey - abundant plant debris and coaly streaks.
242.07	242.52	COAL - 0.45 metres - black - birght - abundant vitrain - well cleated - broken - 30% recovery - fault zone (?)
242.52	242.98	Mudstone - dark grey - abundant coaly streaks and plant debris.
242.98	243.44	COAL - 0.46 metres - black - bright - abundant vitrain - well cleated - broken - slicken sides - fault zone (?) - 40% recovery.
243.44	244.14	Mudstone - dark grey - abundant plant debris - minor coaly streaks - becoming silty toward base - bedding ⊁ @ 47° to C/A.

HOLE# BC-79-9 From 244.14 To 252.97

FROM	TO	DESCRIPTION
244.14	246.11	Mudstone and Siltstone - interlaminated - dark grey mudstone predominant - siltstone is light medium grey - minor coaly streaks toward base - at base beddin ⊀ @ 70° to C/A - minor worm burrows - minor calcite veinlets.
246.11	246.37	COAL -0.26 metres - black - bright - abundant vitrain bands in durain - 100% recovery - Sample 5A.
246.37	246.40	Mudstone - dark grey - abundant plant debris and coaly streaks.
246.40	246.60	COAL - 0.20 metres - black - bright - abundant vitrain bands in durain - 100% recovery - Sample 5B.
246.60	246.75	Mudstone - dark grey - abundant plant debris - abundant coaly streaks and coal seamlets < 0.01m.
246.75	247.09	COAL - 0.34 metres - black - bright - abundant vitrain bands in durain - 100% recovery - Sample 5C.
247.09	247.66	Mudstone and Siltstone - interlaminated - dark grey mudstone predominant - light medium grey siltstone increasing toward base - abundant plant debris - minor coaly streaks.
247.66	252.51	Sandstone and Siltstone - interlaminated - salt and pepper, fine grained sandstone predominant - siltstone is light medium grey - cross bedded - minor ripple marks - minor graded bedding - coaly streaks at base - bedding ⊀ @ 80° to C/A - minor coaly streaks throughout section.
252.51	252.97	COAL - 0.46 metres - black - dull to bright - vitrain bands in durain - poorly cleated - broken - 100% recovery.

HOLE# BC-79-9 From 252.99 To 256.34

FROM	TO	DESCRIPTION
252.97	256.34	Sandstone, Siltstone and Mudstone - interlaminated - salt and pepper, fine grained sandstone predominant - light medium grey siltstone second in abundance - mudstone is dark medium grey to dark grey - cross bedded - worm burrows - graded bedding - minor ripple marks - minor coaly streaks. Bedding ⊀ @ 80° to C/A.
		End of Hole T.D. - 256.34m

CORE DESCRIPTIO

HOLE# BC 79-10 From 0.00 To 223.18

Area BRI-DOWLING By D. N. Duncan

FROM	TO	DESCRIPTION
0.00	55.05	OVERBURDEN
55.05	218.58	MOOSEBAR FORMATION - dark grey to black shale, minor bright medium grey silstone laminae, very minor coal streaks from approximately 67m to 69m - highly pyritic and at 120.00m, minor volcanic ash bands(?) from: 143.68 to 143.70m 143.91 to 143.96m 146.02 to 146.74m 146.72 to 146.74m 146.90 to 146.94m minor pyrite nodules. Abundant slickensides and highly broken rock from: 154.00 to 156.06m Slickensides ⚹ @ 20° to C/A 163.20 to 165.30m Slickensides ⚹ @ 10° to C/A possible fault zones 210.34 to 210.36m Very ashy sandstone 210.47 to 210.50m Ash - light grey 215.65 to 216.09m Glauconite bands and nodules Abundant pyrite nodules.
218.58	219.18	CONGLOMRATE - appearance of coarse grained sandstone with minor pebbles < 0.01 metres in size
219.18	219.89	MUDSTONE AND SILTSTONE - Interlaminated medium grey grading to light grey - claystone bands at base of section - abundant pyrite nodules - convoluted bedding
219.89	220.08	MUDSTONE - dark grey - abundant coaly streaks and seamlets <0.01m - coal is black and shiny - abundant pyrite nodules through section.
220.08	220.39	SILTY MUDSTONE - medium grey - convoluted bedding - coaly streaks, pyrite nodules - section grades into a sandier unit below.
220.39	222.21	SANDSTONE - salt and pepper - fine grained grading to medium grained towards base of section - minor mudstone laminae - minor calcite veinlets, bedding ⚹ @ 70° to C/A.
222.21	222.54	SILTY MUDSTONE - medium grey - minor dark mudstone laminae.
222.54	223.18	MUDSTONE - dark medium grey - minor sandstone bands minor coaly streaks.

HOLE# BC 79-10 From 223.18 To 235.00

FROM	TO	DESCRIPTION
223.18	224.63	SANDSTONE - fine to medium grained, salt and pepper - cross bedding and convoluted bedding - well graded from section over 0.05 metre region.
		224.33 to 224.45m Minor mudstone band - very broken- very silty.
224.63	225.24	MUDSTONE - medium grey - minor coaly streaks - minor plant debris.
225.24	225.75	SANDSTONE - fine grained - salt and pepper - minor cross bedding - minor convolute bedding, minor siltstone laminae.
225.75	226.92	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is fine to medium grained and salt and pepper - sandstone content increasing toward base of section - minor coaly streaks
226.92	227.58	SANDSTONE - salt and pepper - fine to medium grained- laminated - minor cross bedding - minor mudstone laminae - minor convolute bedding.
227.58	230.59	MUDSTONE AND SANDSTONE - Interlaminated to Interbedd- ed - equally abundant - mudstone is dark medium grey sandstone is salt and pepper and fine to medium grained - minor coarse grained sandstone units at base of section - cross bedded - minor graded bedding minor worm burrows - interbedded at top of section to interlaminated toward base, bedding ⊀ @ 70° to C/A.
230.59	231.64	MUDSTONE AND SILTSTONE - Interlaminated to mixed - dark grey mudstone predominant - siltstone is medium grey - bioturbated at top of section with abundant sand.
231.64	233.38	COAL - 1.74 metres - black - bright - abundant vitrain bands in durain - minor (approximately 5%) fusain - well cleated - broken at base - 100% recovery - Sample 1.
233.38	235.00	MUDSTONE AND SANDY SILTSTONE - dark grey mudstone predominant - sandy siltstone is light medium grey - minor cross bedding - minor plant debris - mudstone content increasing toward base.

HOLE# BC 79-10 From 235.00 To 247.31

FROM	TO	DESCRIPTION
235.00	236.46	MUDSTONE - dark grey - abundant coal bands at top of section - abundant plant debris - minor siltstone laminae - minor sandstone laminae increasing in abundance toward base.
236.46	237.43	SANDSTONE - salt and pepper - fine to medium grained- minor cross bedding - minor worm burrows - minor mudstone laminae
237.43	238.06	MUDSTONE - dark grey - massive
238.06	238.77	SILTY SANDSTONE AND MUDSTONE - Interlaminated - minor cross bedding - minor worm burrows - minor convolute bedding.
238.77	239.11	COAL - 0.34 metres - black - bright - abundant vitrain highly broken - 20% recovery.
239.11	240.12	MUDSTONE - dark grey - abundant plant debris and minor coaly streaks at top of section - minor silt- stone laminae - gradational contact with underlying unit over 0.10 metres.
240.12	240.32	SANDSTONE - salt and pepper - fine grained cross- bedded - coaly streaks at base.
240.32	240.72	SANDY SILTSTONE - light medium grey - poorly laminat- ed - minor coaly streaks
240.72	240.94	SANDSTONE AND MUDSTONE - finely interlaminated - salt and pepper, fine grained sandstone predominant - mudstone is dark grey - minor coaly streaks.
240.94	245.93	MUDSTONE AND SANDSTONE - interlaminated dark grey mudstone predominant- sandstone is salt and pepper and fine grained and much less abundant than mudstone- minor worm burrows - minor bivalve molds - sandstone content highest at top and base of section - shell fragments in sandstone band ∿ 0.01m thick at 245.08m- bedding ⊀ @ 75° to C/A.
245.93	247.21	SANDSTONE - salt and pepper - fine grained - cross bedded - minor siltstone laminae - minor coaly streaks at base of section.
247.21	247.31	COAL - 0.10 metres - black - dull to bright - minor vitrain bands in durain - very minor fusain, 100% recovery - poorly cleated.

HOLE# BC 79-10 From 247.31 To 262.85

FROM	TO	DESCRIPTION
247.31	247.57	MUDSTONE - dark grey to black - highly carbonaceous- abundant coal streaks and bands.
247.57	247.64	COAL - 0.07 metres - black - dull to bright - minor vitrain bands in durain - 100% recovery - poorly cleated
247.64	247.69	SILTSTONE AND MUDSTONE - Interlaminated - abundant coaly streaks
247.69	247.93	COAL - 0.21 metres - black - bright to dull - abundant vitrain bands in durain - high mudstone content - siltstone splits common from 247.72 to 247.80 < 0.01m each - 100% recovery.
247.93	248.70	MUDSTONE - dark grey - abundant coal streaks and bands at top - abundant plant debris at top - becoming silty toward base.
248.70	249.48	SANDSTONE AND SILTSTONE - Interlaminated - salt and pepper, fine grained sandstone predominant - siltstone is light medium grey - cross bedded - convoluted bedding - minor ripple marks, bedding $\measuredangle$ @ 75° to C/A.
249.48	254.96	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper and fine grained - convoluted bedding - cross bedded - minor plant debris - minor calcite veinlets orientated parallel to bedding - minor worm burrows - sandstone content increasing toward base - mudstone becoming siltier toward base - 253.22 to 253.53 - sandstone predominant - slickensides in calcite veinlets, minor coaly streaks.
254.96	256.44	MUDSTONE - dark grey - minor plant debris and coaly streaks - minor light medium grey siltstone laminae.
256.44	256.92	SANDSTONE AND SILTSTONE - Interlaminated - salt and pepper, fine grained sandstone predominant - siltstone is medium grey - minor cross bedding, minor convolute bedding - load structures - minor coaly streaks and plant debris.
256.92	262.85	MUDSTONE - dark grey - minor siltstone laminae at top of section - abundant coaly streaks and plant debris - minor sandy units at base - mudstone highly carbonaceous with very abundant coal streaks at base.

HOLE# BC 79-10 From 262.85 To 271.92

FROM	TO	DESCRIPTION
262.85	263.35	COAL - 0.50 metres - black - bright - abundant vitrain bands in durain - from 263.00 to 263.25 have abundant mud bands in coal < 0.01m thick - broken at base - 100% recovery - well cleated. Sample 2a
263.35	263.52	MUDSTONE AND SANDSTONE - Interlaminated - mudstone dark grey and predominant at top of section - sandstone is salt and pepper, fine grained and predominant at base-fault gouge at centre of section - coal chips in sandstone at base
263.52	263.80	COAL - 0.28 metres - black - bright - abundant vitrain bands in durain - minor fusain - highly broken at base - well cleated - 100% recovery. Sample 2b.
263.80	265.48	MUDSTONE AND SANDY SILTSTONE - Interlaminated - dark grey mudstone predominant - siltstone is light medium grey - minor fine grained, salt and pepper sandstone lenses and laminae - bedding ⨯ @ 75° to C/A.
265.48	265.63	COAL - 0.15 metres - black - bright to dull - vitrain bands in durain - minor fusain - poorly cleated - broken at base - 80% recovery - Sample 3A.
265.63	265.70	SILTY SANDSTONE - light medium grey - fine grained with 0.02m coal seam in middle of split.
265.70	266.15	COAL - 0.45 metres - black - bright to dull - vitrain bands in durain - from 265.80 to 265.87 - abundant calcite in coal - from 265.98 to 266.70m muddy bands < 0.01m - highly broken - well cleated - 90% recovery Sample 3B.
266.15	268.75	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper, fine grained and predominant at top of section - cross bedded - minor worm burrows - minor graded bedding.
268.75	270.05	SANDSTONE AND SILTSTONE - Interlaminated - equally abundant - sandstone is salt and pepper and fine grained - siltstone is light medium grey - minor cross bedding - minor coaly streaks - minor worm burrows.
270.05	271.92	MUDSTONE - dark grey - plant debris - minor coaly streaks - minor light medium grey siltstone laminae.

HOLE# BC 79-10 From 271.92 To 284.40

FROM	TO	DESCRIPTION
271.92	272.85	COAL - 0.83 metres - black - bright - abundant vitrain in durain - minor fusain - well cleated broken - 272.59 to 272.75m - dark grey mudstone splits 50.01m - 100% recovery - Sample 4.
272.85	273.13	MUDSTONE - dark grey - abundant plant debris and coaly streaks
273.13	274.58	MUDSTONE AND SANDSTONE - Interlaminated - equally abundant - mudstone is dark grey - sandstone is salt and pepper and fine to medium grained - minor convoluted bedding - minor cross bedding - minor claystone chips in sand - minor worm burrows.
274.58	275.43	MUDSTONE - dark grey - abundant plant debris and coaly streaks - minor light medium grey siltstone laminae.
275.43	277.67	COAL - 2.27 metres - black - bright to dull - vitrain bands in durain - minor fusain - poorly cleated - broken at base - 100% recovery - Sample 5.
277.67	278.52	MUDSTONE - dark grey - plant debris and coaly streaks
278.52	279.10	SANDSTONE AND MUDSTONE - Interlaminated - salt and pepper, fine grained, sandstone predominant - minor coaly streaks - minor cross bedding - bedding ⊀ @ 70° to C/A
279.10	279.40	MUDSTONE - dark grey - minor siltstone laminae.
279.40	280.11	SANDSTONE AND MUDSTONE - Interlaminated - salt and pepper, fine to medium grained sandstone predominant-cross bedded, - minor ripple marks - minor worm burrows - minor convolute bedding
280.11	281.50	MUDSTONE - dark grey - plant debris and coaly streaks at base of section - becoming more carbonaceous toward base.
281.50	281.78	COAL - 0.28 metres - black - bright - abundant vitrain bands in durain, - minor fusain - poorly cleated - 100% recovery.
281.78	284.40	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper and fine grained - sandstone content increasing toward base of section - convoluted bedding - cross bedded - minor plant debris - minor ripple marks - minor worm burrows.

HOLE# BC 79-10 From 284.40 To 300.66

FROM	TO	DESCRIPTION
284.40	285.05	MUDSTONE - dark grey - minor plant debris and coaly streaks
285.05	285.29	COAL - 0.24 metres - black - bright - abundant vitrain bands in durain - well cleated - 100% recovery.
285.29	286.07	MUDSTONE - dark grey - abundant coaly streaks and plant debris - minor siltstone laminae.
286.07	286.11	COAL - 0.04 metres - black - abundant vitrain bands in durain - well cleated - 100% recovery.
286.11	286.15	MUDSTONE - dark grey - abundant plant debris and coaly streaks
286.15	286.47	COAL - 0.32 metres - black - bright - abundant vitrain bands in durain - well cleated - broken at base - 100% recovery.
286.47	288.60	SILTY MUDSTONE AND SANDSTONE - Interlaminated - medium grey silty mudstone predominant - sandstone is salt and pepper and fine grained, minor convoluted bedding - minor load structures.
288.60	290.00	SILTSTONE - light medium grey - minor salt and pepper, fine grained sandstone laminae.
290.00	295.65	MUDDY SILTSTONE AND SANDSTONE - Interlaminated - medium grey muddy siltstone predominant - sandstone is salt and pepper and fine grained - minor plant debris - minor cross bedding - minor convoluted bedding - bedding ⊀ @ 75° to C/A. Minor muddy siltstone clasts in sandstone toward base of section.
295.65	297.86	SANDSTONE - salt and pepper - fine to medium grained - abundant silty mudstone clasts - minor silty mudstone laminae - cross bedded - minor convoluted bedding - minor ripple marks.
297.86	299.23	SANDSTONE - medium to coarse grained from top to bottom - salt and pepper - minor silty mudstone clasts - minor cross bedding - minor coaly streaks - poorly laminated, bedding ⊀ @ 75° to C/A.
299.23	299.68	MUDSTONE - dark grey - minor coaly streaks and plant debris
299.68	300.66	COAL - 0.98 metres - black - dull to bright - vitrain bands in durain - minor fusain - vitrain content increasing toward base - poorly cleated - Sample 6A. 90% recovery.

HOLE# BC 79-10 From 300.66 To 314.03

FROM	TO	DESCRIPTION
300.66	300.73	MUDDY SANDSTONE - dark medium grey - abundant coaly streaks and plant debris - fine grained.
300.73	301.10	COAL - 0.37 metres - black - dull to bright - minor vitrain bands in durain - poorly cleated - high mud content toward base, 100% recovery - Sample 6B.
301.10	305.94	MUDSTONE - dark grey - abundant coaly streaks and plant debris - minor silty laminae - fault gouge(?) from 303.38 to 303.43 in with ⊁ @ 90° to C/A.
305.94	306.63	SANDSTONE AND MUDSTONE - Interlaminated - dark grey mudstone predominant at top of section - salt and pepper, fine grained sandstone predominant at base - abundant plant debris and coaly streaks at top of section - cross bedded (trough and festoon) at base - bedding ⊁ @ 75° to C/A. Sandstone is medium grained at base.
306.63	307.18	MUDSTONE - dark grey - abundant plant debris - silty at top of section - calcite veinlet with slickensides of contact with underlying unit.
307.18	307.48	SANDSTONE - salt and pepper - fine to medium grained - minor cross bedding - minor coaly streaks.
307.48	307.91	MUDSTONE - dark grey - minor plant debris.
307.91	308.85	SANDSTONE - salt and pepper - fine to medium grained minor dark grey, mudstone laminae - cross bedded - minor graded bedding - minor ripple marks.
308.85	309.48	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is fine grained, salt and pepper and occurs in laminae and lenses - minor cross bedding - bioturbated at top of section.
309.48	311.97	MUDSTONE - dark grey - massive.
311.97	312.91	MUDSTONE - dark grey to black - abundant plant debris and coal streaks and bands <0.01m. - calcite veinlet with slickensides @ 312.89m.
312.91	314.03	SILTSTONE AND SANDSTONE - Interlaminated - light medium grey, siltstone predominant - sandstone is salt and pepper and fine to medium grained - minor cross bedding - coaly streaks.

HOLE# BC 79-10 From 314.03 To 330.60

FROM	TO	DESCRIPTION
314.03	315.33	MUDSTONE - dark grey - abundant plant debris and coaly streaks - coal bands < 0.01m at base of section.
315.33	315.50	COAL - 0.17 metres - black - bright to dull - abundant vitrain in durain - vitrain content decreasing toward base - well cleated - broken at top of seam - 100% recovery.
315.50	319.08	SANDSTONE - fine grained salt and pepper grading to medium grained through section - laminated cross bedding - minor calcite veinlets - minor mudstone laminae, bedding ⊀ @ 75° to C/A.
319.08	319.49	MUDSTONE AND SANDSTONE - mudstone is dark medium grey sandstone is fine grained salt and pepper - interbedded and interlaminated.
319.49	320.29	MUDSTONE - dark medium grey - abundant siltstone and fine grained sandstone lenses and laminae throughout section - convoluted bedding.
320.29	323.08	MUDSTONE - dark grey - siltstone lenses and laminae
323.08	323.44	SANDSTONE AND MUDSTONE - predominantly fine grained sandstone - quite muddy - convoluted bedding - carbonaceous debris.
323.44	323.70	MUDSTONE - dark medium grey - coaly streaks - calcite veinlets plant debris.
323.70	326.90	MUDSTONE AND SANDSTONE - mudstone is predominant and is very silty - sandstone is light grey, convoluted and mixed - minor calcite veinlets, minor coaly streaks toward base of section.
326.90	327.67	COAL - 0.77 metres - recovery 100% - black - shiny with muddy section 326.95 to 327.05 metres, well cleated Sample #7.
327.67	329.36	MUDSTONE - grading from medium grey to light medium grey through section - very silty toward base of section - minor plant debris.
329.36	329.91	MUDSTONE AND SANDSTONE - sandstone is fine grained and dirty salt and pepper - convoluted and cross bedded - worm burrows - carbonaceous debris.
329.91	330.60	MUDSTONE - dark grey - contains sandstone and siltstone lenses and laminae.

HOLE# BC 79-10 From 330.60 To 344.79

FROM	TO	DESCRIPTION
330.60	331.74	COAL - 1.14 metres - recovery 75-80%
		330.60 - 330.72 - muddy - shiny - quite hard
		330.72 - 331.01 - very broken - well cleated - very shiny - mostly vitrain
		331.01 - 331.74 - dull and bright - also broken up Sample #8
331.74	333.80	MUDSTONE, SILTSTONE AND SANDSTONE - interlaminated - cross bedded - sandstone is quite muddy and fine grained - minor calcite veinlets.
333.80	334.53	SANDSTONE - salt and pepper - very clean at top of section becoming siltier towards base, carbonaceous and mudstone laminae at base of section. Bedding ⊀ @ 75° to C/A
334.53	337.60	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone very predominant - sandstone is salt and pepper and fine grained - abundant plant debris - coaly streaks - cross bedded - convoluted bedding.
337.60	338.31	SANDSTONE AND MUDSTONE - interlaminated - salt and pepper, fine grained sandstone predominant - worm burrows - minor cross bedding - minor convoluted bedding - minor pyrite nodules - minor ripple marks.
338.31	338.87	MUDSTONE - dark grey - abundant plant debris - minor coaly streaks - minor light medium grey siltstone laminae.
338.87	339.54	SANDSTONE AND MUDDY SILTSTONE - Interlaminated - fine grained, salt and pepper, sandstone predominant - muddy siltstone is medium grey - minor cross bedding - minor ripple marks - minor worm burrows.
339.54	340.13	MUDSTONE - dark grey - abundant plant debris - minor light medium grey, siltstone laminae and lenses.
340.13	344.79	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant and becoming silty toward base- sandstone is salt and pepper and fine grained - minor worm burrows - minor cross bedding. Bedding ⊀ @ 80° to C/A.

HOLE# BC 79-10 From 344.79 To 356.62

FROM	TO	DESCRIPTION
344.79	345.12	COAL - 0.33 metres - black - dull to bright - vitrain bands in durain - vitrain content increasing toward base - minor fusain - well cleated and broken at base, 100% recovery.
345.12	245.61	MUDDY SILTSTONE - medium grey - abundant clay nodules and coaly streaks and bands toward top of section - abundant calcite veinlets at base
345.61	346.09	COAL - 0.48 metres - black - 100% recovery - Sample 9A 345.61 to 345.85m bright - abundant vitrain bands in durain - minor fusain - well cleated. 345.85 to 346.09 - dull - canneloid - minor vitrain bands.
346.09	346.25	MUDSTONE - dark grey to black - highly carbonaceous - abundant coal streaks.
346.25	346.70	COAL - 0.45 metres - black - 100% recovery - Sample 9B. 346.25 to 346.45m - dull - canneloid 346.45 to 346.70m - bright to dull - vitrain bands in durain - minor fusain - cleated.
346.70	346.82	MUDSTONE - dark grey - abundant plant debris and coaly streaks.
346.82	347.23	SANDSTONE AND MUDSTONE - Interlaminated - fine grained, salt and pepper, sandstone predominant - cross bedded- minor ripple marks - minor coaly streaks and bands.
347.23	347.78	MUDSTONE - dark grey - abundant plant debris and coaly streaks and bands becoming very abundant toward base.
347.78	348.28	SILTY, MUDSTONE - dark medium grey - abundant plant debris and coaly streaks.
348.28	349.79	MUDSTONE - dark grey - abundant plant debris and coaly streaks.
349.79	356.62	MUDSTONE AND SANDSTONE - Interlaminated - dark grey mudstone predominant - sandstone is salt and pepper, fine grained and most abundant toward top of section- abundant plant debris and coaly streaks at top and base of section - abundant worm burrows - abundant cross bedding - minor ripple marks - graded bedding. Bedding ⊀ @ 80° to C/A.

CORE DESCRIPTION

HOLE# BC-79-11 From 0.00 To 99.30

Area BRI-DOWLING CREEK By D.N. Duncan

FROM	TO	DESCRIPTION
0.00	16.59	Triconed GATES FORMATION
16.59	27.44	Interlaminated dark medium grey Mudstone and fine-grained, salt and pepper Sandstone - cross-bedded - worm burrows - Bedding ⊀ @ 70° to C/A.
27.44	40.42	SANDSTONE - medium to coarse-grained - salt and pepper - minor dark grey Mudstone beds < 0.05m worm burrows - poorly laminated - minor trough-shaped cross-bedding.
40.42	93.32	SANDSTONE AND MUDSTONE - Interlaminated to Inter-bedded - equally abundant - Sandstone is salt and pepper, medium-grained and occurs as lenses, laminae and beds up to 1.00m in thickness - Mudstone is dark grey to dark medium grey - abundant plant debris and worm burrows in sandy zones - very minor coaly streaks - Bedding ⊀ 75° to C/A @ 56.96m cross-bedding common - minor graded bedding - minor ripple marks - Mud content increasing toward base - Sandstone becoming fine-grained and silty toward base - from 62.00m on, dark grey, silty Shale highly predominant highly bioturbated from 69.00 to 72.00m Shale and Siltstone 84.56 to 84.60 - conglomerate - pebbles up to 0.02m in length composed of claystone, mudstone and sandstone - sand matrix and pyrite cement - pyrite cement is very abundant from 83.70 to 88.00m - fine-grained, salt and pepper Sandstone increased in abundance.
93.32	99.30	SANDSTONE - salt and pepper - medium to coarse-grained - minor dark grey silty Mudstone laminae and beds - minor worm burrows - minor cross-bedding - Mudstone becoming very silty toward base - minor plant debris Bedding ⊀ 75° to C/A.

HOLE# BC-79-11 From 99.30 To 660.72

FROM	TO	DESCRIPTION
		MOOSEBAR FORMATION
99.30	107.76	SILTSTONE AND MUDSTONE - Interlaminated - light medium grey Siltstone predominant at top of section - dark grey Mudstone predominant at base of section - minor fine-grained, salt and pepper Sandstone laminae and lenses - very minor coaly streaks and plant debris - minor cross-bedding - minor worm burrows - minor ripple marks.
107.76	111.56	SILTSTONE - muddy - medium grey to light medium grey - highly bioturbated - minor salt and pepper, fine-grained Sandstone lenses and laminae - minor plant debris and coaly streaks.
111.56	113.46	SILTY MUDSTONE - dark medium grey - silt content highest at base - minor salt and pepper, fine-grained Sandstone laminae - very minor plant debris.
113.46	142.00	MUDDY SITLSTONE - medium grey - abundant plant debris - minor coaly streaks - minor fine-grained, salt and pepper Sandstone laminae, increasing toward base - minor pyrite noduels - minor worm burrows - Sandstone laminae are cross-bedded.
142.00	179.00	SILTY MUDSTONE - dark medium grey - minor Siltstone laminae - very minor fine-grained, salt and pepper Sandstone laminae and lenses - minor coaly streaks - minor pyrite nodules.
179.00	660.72	MUDSTONE - dark grey - Silty sections, minor salt and pepper, fine-grained Sandstone lenses - minor plant debris - minor pyrite nodules - minor bivalve molds - partial mold of ammonite shell obseved @ 204.16m - minor claystone nodules - Silty sections decreasing toward base of section - by 233.00m have a massive dark grey Mudstone (i.e. Moosebar Shale) - very minor coaly streaks - minor claystone nodules from 418.80 to 418.96m - light grey volcanic tuff (?) has black "spots" (shale?) within it (baritic?) also from : 440.21 to 440.27m 440.89 to 440.95m

HOLE# BC-79-11 From 660.72 To 665.66

FROM	TO	DESCRIPTION
179.00	660.72	CONTINUED
		- concretion 480.87m to 480.98m - circular calcite filled fractured core.
		- ash band 488.35m
		- occasional pyrite nodules up to 2cm diameter from 490.30 to 495.40m
		- high density baritic bands from 490.85 to 494.80m; 571.2m to 571.4m; 573.68 to 573.75m; 577.73 to 577.93m; 635.81 to 636.03m (concretionary)
		- ash bands 649.80 to 649.81m; 650.37 to 650.41m; 650.53 to 650.57m
		Glauconitic toward base - abundant pyrite nodules toward base.
		GETHING FORMATION
660.72	661.25	CONGLOMERATE - clasts of Chert, Sandstone and Mudstone ≤ 0.005m in mud matrix - minor coaly streaks - minor pyrite nodules - grain size increasing toward base of section.
661.25	661.53	SILTY MUDSTONE AND SILTSTONE - Interlaminated - dark medium grey Silty Mudstone predominant - Siltstone is light medium grey - abundant pyrite nodules - minor coaly streaks toward base Bedding ⊀ @ 84° to C/A.
661.53	661.71	COAL - 0.18 metres - black - bright - vitrain bands in durain - abundant fusain - well cleated - 100% recovery (?)
661.71	665.66	SANDSTONE AND SILTY MUDSTONE - Interlaminated - salt and pepper, fine to medium-grained Sandstone predominant - Silty Mudstone is dark medium grey - minor cross-bedding - minor graded bedding - minor ripple marks - pyrite nodles abundant in Muddy sections - minor worm burrows - minor coaly streaks at top of section.

HOLE# BC-79-11 From 665.66 To 685.13

FROM	TO	DESCRIPTION
665.66	667.43	MUDSTONE - dark grey - minor silty laminae toward base of section - minor plant debris - gradational contact with underlying unit from 665.90 to 667.43m.
667.43	674.55	SANDSTONE - salt and pepper - coarse-grained - poorly laminated - minor coaly streaks - minor cross-bedding.
674.55	674.78	MUDSTONE - dark grey - massive - minor slicken sides - abundant plant debris toward base.
674.78	676.79	COAL - 2.01 metres - black - 100% recovery 674.78 to 675.64m - hard - bright to dull - vitrain bands in durain - abundant fusain - poorly cleated - methane sample taken from 674.91 to 675.17m 675.64 to 676.79 - bright - abundant vitrain bands in durain - minor fusain - very well cleated - Sample 1.
676.79	678.91	SANDSTONE AND MUDDY SILTSTONE - Interlaminated - salt and pepper, fine-grained Sandstone highly predominant - Muddy Siltstone is medium grey and increasing in content toward base - cross-bedded - graded bedding - minor worm burrows.
678.91	681.80	MUSTONE - dark grey - abundant plant debris and coaly streaks and bands < 0.01m thick - minor Siltstone laminae.
681.80	684.38	MUDSTONE AND SILTSTONE - Interlaminated - dark grey Mudstone predominant and increasing toward base - Siltstone is light medium grey - minor salt and pepper, fine-grained Sandstone lenses - bioturbated at top of section - minor plant debris and coaly streaks Bedding ⊁ @ 80° to C/A.
684.38	685.13	COAL - 0.75 metres - black - bright - abundant vitrain bands in durain - minor fusain - well cleated - broken - 85% recovery - Sample 2.

HOLE# BC-79-11 From 685.13 To 697.20

FROM	TO	DESCRIPTION
685.13	687.41	MUDSTONE AND SANDSTONE - Interlaminated - dark grey Mudstone predominant - Sandstone is salt and pepper and fine-grained - abundant worm burrows - plant debris and coaly streaks at top of section - minor cross-bedding - minor convolute bedding.
687.41	691.86	MUDSTONE - dark grey - minor salt and pepper, fine-grained Sandstone and light medium grey Siltstone laminae - minor plant debris and coaly streaks - Bedding ⊁ @ 85° to C/A - coal streaks and bands abundant toward base.
691.86	692.21	SANDSTONE - salt and pepper - fine to medium-grained - minor Mudstone laminae - cross-bedded - graded bedding - minor worm burrows - minor ripple marks - abundant coal chips toward base.
692.21	694.47	MUDSTONE AND SILTSTONE - Interlaminated to Mixed - dark grey Mudstone predominant - convolute bedding - minor worm burrows - Mud content increasing toward base.
694.47	697.20	COAL - 2.83 metres - black - abundant volcanic ash band (?) splits - 100% recovery 694.47 to 694.68m - Coal - bright - abundant vitrain bands in durain - well cleated - minor ash bands ∿ 0.01m thick in middle of seam. 694.68 to 694.72m - volcanic ash band (?) - light medium grey - very soft - abundant plant debirs and coaly streak 694.72 to 694.82m - coal - dull to bright - minor vitrain bands in durain - minor fusain - fairly well cleated 694.82 to 694.89m - volcanic ash band (?) - light medium grey - very soft - abundant plant debris and coaly streaks 694.89 to 696.06m - coal - bright - abundant vitrain bands in durain - minor fusain - well cleated - minor ashy layers << 0.01m thick toward base of section 696.06 to 696.18m - volcanic ash band (?)

HOLE# BC-79-11 From 684.47 To 708.05

FROM	TO	DESCRIPTION
694.47	697.20	CONTINUED
		696.18 to 696.98m - coal - bright - abundant vitrain bands in durain - minor fusain - very well cleated toward top of section - vitrain content decreasing toward base - minor Mudstone splits << 0.01m toward base of seam.
		696.98 to 697.09m - volcanic ash band (?)
		697.09 to 697.20 - coal - dull to bright - vitrain bands in durain - minor fusain - minor muddy bands
		Methane gas sample from 696.77 to 696.98m
		Sample 3
697.20	699.28	MUDSTONE AND SILTSTONE - Interlaminated - dark grey Mudstone predominant - abundant plant debris and coaly streaks toward top of section and at base of section - minor salt and pepper, fine-grained Sandstone lenses - bedding ⊀ @ 80° to C/A.
699.28	699.63	CARBONACEOUS MUDSTONE AND SANDSTONE - Interlaminted - black Carbonaceous Mudstone predominant - Sandstone is salt and pepper and fine-grained - abundant plant debris and coaly streaks - minor worm burrows - minor convolute bedding.
699.63	700.97	MUDSTONE - dark grey to black - abundant coaly streaks and plant debris.
700.97	702.08	SANDY SILTSTONE - dark medium grey - poorly laminated - minor Sandstone lenses and laminae - becoming sandier toward base.
702.08	703.35	SANDSTONE - salt and pepper - fine to medium grained - cross bedded - laminated - minor convolute bedding - minor ripple marks.
703.35	708.05	SILTSTONE AND SANDSTONE - Interlaminated - medium grey Siltstone predominant - salt and pepper, fine-grained Sandstone increasing towards base - Siltstone is very muddy in sections - minor plant debris - minor convolute bedding - minor cross-bedding.

HOLE# BC-79-11 From 708.05 To 712.96

FROM	TO	DESCRIPTION
708.05	708.96	SANDSTONE - salt and pepper - fine to medium-grained - poorly laminated - minor Mudstone laminae - very minor Mudstone rip-up clasts towards base.
708.96	709.43	MUDSTONE AND SANDSTONE - Interlaminated - dark grey Mudstone predominant and increasing toward base - Sandstone is salt and pepper and fine-grained - abundant plant debris and coaly streaks toward base - Bedding ∤ 82° to C/A.
709.43	709.99	COAL - 0.55 metres - black - bright - abundant vitrain bands in durain - well cleated - highly broken toward base - minor muddy bands at top of seam - 95% recovery. Sample 4.
709.99	710.32	MUDSTONE - dark grey - abundant plant debris and coal streaks and bands < 0.01m thick.
710.32	710.38	COAL - 0.06 metres - black - dull to bright - vitrain bands in durain - minor fusain - poorly cleated - 100% recovery.
710.38	710.66	MUDSTONE - dark grey - abundant plant debris and coal streaks - abundant calcite veinlets from 710.44 to 710.48m
710.66	711.74	SILTY SANDSTONE - light medium grey to salt and pepper - fine-grained - convoluted bedding - graded bedding - minor cross-bedding - very minor Mudstone laminae - minor calcite veinlets at top of section.
711.74	712.59	MUDSTONE AND SILTY SANDSTONE - Interlaminated - dark grey Mudstone predominant and increasing toward base - Silty Sandstone is fine-grained and salt and pepper - calcite veinlet ∿ 0.01m thick @ 711.77m - minor cross-bedding - minor graded bedding - minor plant debris and coaly streaks.
712.59	712.96	COAL - 0.37 metres - black - dull to bright - vitrain bands in durain - minor fusain - poorly cleated - minor muddy bands at top of seam - 100% recovery.

HOLE# BC-79-11 From 712.96 To 717.92

FROM	TO	DESCRIPTION
712.96	714.24	MUDSTONE - dark grey - abundant coaly streaks and plant debris - abundant calcite veinlets - minor silty bands.
714.24	715.35	SANDSTONE AND SILTSTONE - Interlaminated to Mixed - fine-grained, salt and pepper Sandstone predominant - Siltstone is medium grey - bioturbated at top of section - minor cross-bedding - convoluted bedding - Bedding ⊀ @ 80° to C/A.
715.35	715.55	MUDSTONE - dark grey - abundant coaly streaks and plant debris.
715.55	715.76	COAL - 0.21 metres - black - dull - canneloid - 100% recovery.
715.76	715.88	MUDSTONE - dark grey - abundant plant debris and coaly streaks.
715.88	716.35	COAL - 0.47 metres - black - dull to bright - vitrain bands in durain - minor fusain - poorly cleated - abundant Mudstone bands - 100% recovery.
716.35	716.60	MUDSTONE - dark grey - abundant plant debris and coaly streaks - minor calcite veinlets.
716.60	716.82	SANDSTONE AND MUDSTONE - Interlaminated - salt and pepper, fine-grained Sandstone predominant - cross-bedded - minor ripple marks - minor graded bedding - Bedding ⊀ @ 75° to C/A.
716.82	717.38	MUDSTONE - dark grey to medium grey - abundant plant debris and coaly streaks - becoming silty toward base - abundant calcite veinlets at top of section.
717.38	717.92	SANDSTONE AND SILTY MUDSTONE - Mixed - salt and pepper, fine-grained Sandstone predominant - Silty Mudstone is medium grey - minor cross-bedding - minor plant debris.

HOLE# BC-79-11 From 717.92 To 723.10

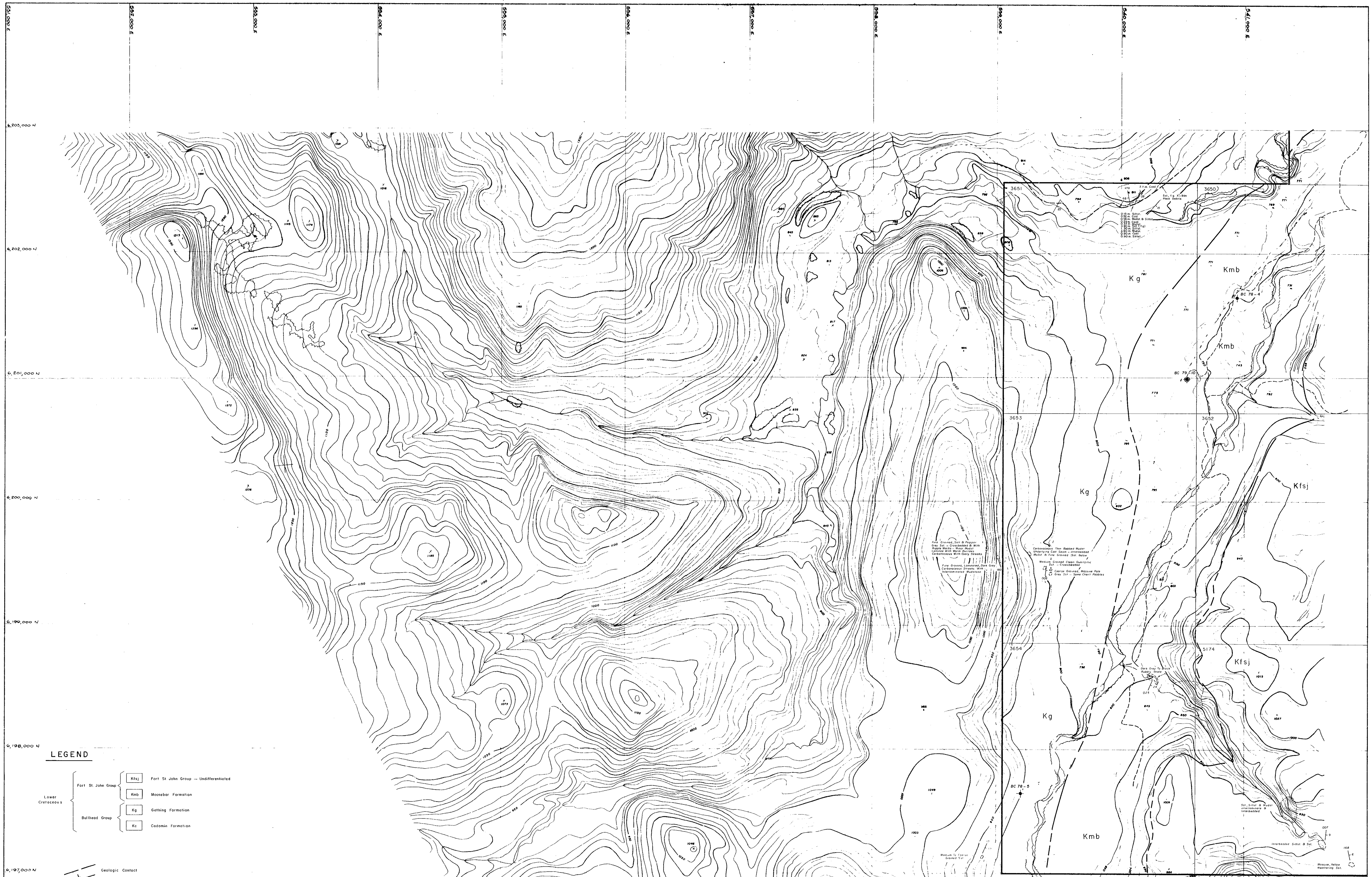
FROM	TO	DESCRIPTION
717.92	718.80	MUDSTONE - dark grey - abundant plant debris - silty toward top of section - abundant coaly streaks and coal bands < 0.01m at base - abundant calcite veinlets at top of section with slicken sides - possible fault (?) - attitude of veinlets @ ∠ of 80° to C/A.
718.80	719.16	COAL - 0.36 metres - black - dull to bright - minor vitrain bands in durain with minor fusain - vitrain content increasing toward base of seam - at base coal is bright with abundant vitrain and well cleated - most of seam is poorly cleated - 100% recovery.
719.16	720.12	MUDSTONE - dark grey - abundant plant debris and coaly streaks - minor fine-grained, salt and pepper Sandstone laminae.
720.12	721.13	MUDSTONE AND SANDSTONE - Interlaminated - equally abundant - Mudstone is dark grey - Sandstone is salt and pepper and fine-grained - cross-bedded - minor worm burrows - minor graded bedding - Mudstone predominant at top of section with Sandstone content increasing toward base.
721.13	722.37	MUDSTONE - dark grey - minor fine-grained, salt and pepper Sandstone lenses and laminae toward top of section - abundant plant debris and coaly streaks at base, decreasing toward top of section.
722.37	722.74	COAL - 0.37 metres - black - bright - abundant vitrain - minor durain and fusain - well cleated - minor mudstone bands toward base - volcanic ash band (?) from 722.52 to 722.55m - well cleated - 90% recovery.
722.74	723.10	MUDSTONE - dark grey - abundant plant debris and coaly streaks - minor salt and pepper, fine-grained Sandstone lenses toward base - abundant calcite veinlets at top of section.

HOLE# BC-79-11 From 723.10 To 736.56

FROM	TO	DESCRIPTION
723.10	726.53	SANDSTONE - salt and pepper - fine-grained and well laminated - abundant cross-bedding - minor ripple marks - minor coaly streaks toward base - two Mudstone bands: from 725.90 to 725.93m and 726.10 to 726.13m - Bedding ∤ 80° to C/A.
726.53	727.43	MUDSTONE - dark grey - minor coaly streaks and plant debris.
727.43	727.55	COAL - 0.12 metres - black - dull - minor vitrain bands in durain - minor fusain - minor Mudstone bands < 0.01m - poorly cleated - 100% recovery.
727.55	730.08	MUDSTONE - dark grey to medium dark grey - minor Sandstone lenses at top of section - Silty toward top of section - minor plant debris and coaly streaks.
730.08	730.38	COAL - 0.30 metres - black - bright - abundant vitrain - minor durain and fusain - well cleated - 70% recovery.
730.38	731.00	MUDSTONE - dark grey - abundant plant debris and coaly streaks - minor coal bands < 0.01m thick at base.
731.00	731.20	COAL - 0.20 metres - black - bright to dull - vitrain bands in durain - minor fusain - poorly cleated - 100% recovery.
731.20	733.00	MUDDY SILTSTONE - medium grey - abundant plant debris toward top of section - minor fine-grained, salt and pepper Sandstone lenses - minor coaly streaks.
733.00	736.56	SANDSTONE AND SILTY MUDSTONE - Mixed - fine-grained, salt and pepper Sandstone predominant - Silty Mudstone is dark medium grey - abundant fractures with calcite at top of section; very high angle @ 10° to C/A - minor coaly streaks - convoluted bedding - graded bedding - minor cross-bedding - minor laminae of Sandstone and Mudstone - worm burrows abundant in sections.

HOLE# BC-79-11 From 736.56 To 748.59

FROM	TO	DESCRIPTION
736.56	737.99	SANDSTONE - salt and pepper - medium-grained - poorly laminated - cross-bedded - minor Mudstone laminae - Bedding ⊁ @ 65° to C/A.
737.99	738.31	MUDSTONE - dark grey - minor plant debris - minor sandy lenses and laminae.
738.31	739.60	SANDSTONE - salt and pepper - medium to coarse grained - cross-bedded - minor ripple marks - minor graded bedding - Bedding ⊁ @ 60° to C/A.
739.60	740.95	MUDSTONE - dark grey - minor sandy lenses and laminae - minor plant debris.
740.95	742.49	COAL - 1.54 metres - black - 75% recovery 740.95 to 741.85m - dull to bright - vitrain bands in durain - minor fusain - highly broken - poorly cleated - abundant slicken sides. 741.85 to 741.97m - Mudstone - dark grey - abundant coaly streaks and plant debris - slicken sides 741.97 to 742.49m - coal - dull to bright - vitrain bands in durain - minor fusain - highly broken - poorly cleated - abundant slicken sides. Sample 5.
742.49	743.03	SANDSTONE - salt and pepper - medium to coarse grained - cross-bedded - minor Mudstone laminae - Bedding ⊁ @ 20° to C/A.
743.03	745.13	MUDSTONE - dark grey - minor plant debris and coaly streaks - abundant calcite veinlets - minor slicken sides.
745.13	748.59	SANDSTONE - salt and pepper - medium to coarse grained - cross-bedded - abundant calcite veinlets - bedding ⊁ @ 10° to C/A at top of section - bedding ⊁ @ 0° to C/A at bottom of section.
		END OF HOLE.



LEGEND

Lower Cretaceous

- Fort St. John Group
  - Kfsj — Fort St. John Group — Undifferentiated
  - Kmb — Moosebar Formation
- Bullhead Group
  - Kg — Gething Formation
  - Kc — Cadomin Formation

- Geologic Contact
- Syncline
- Anticline
- (Outcrop) – Strike And Dip Of Bedding
- Drill Hole Location
- X 2.0 Coal Outcrop, Measured Thickness Where Indicated
- Outcrop
- Access Road
- 3652 Coal Licence Number

PR-BRI-DOWLING 79(2)*A *(1)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

BRI COAL PROJECT

BEDROCK GEOLOGY AND DRILL HOLE LOCATIONS

Work by: R.B. Anderson, A. Armstrong	Date: January 1979	NTS Ref. 94 B/1, 93 O/16
Drawn by: T. Drews	Revised:	Scale – 1:10,000

MAP — 2

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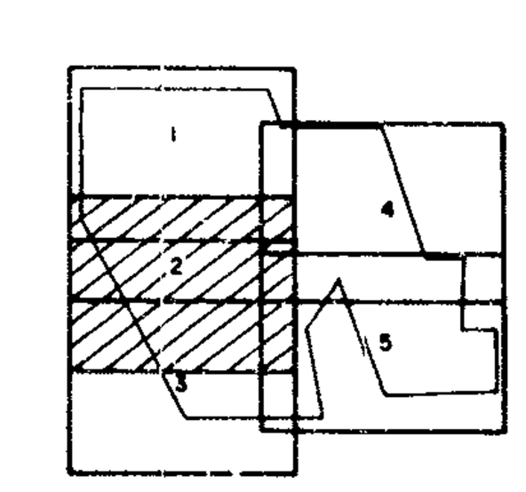


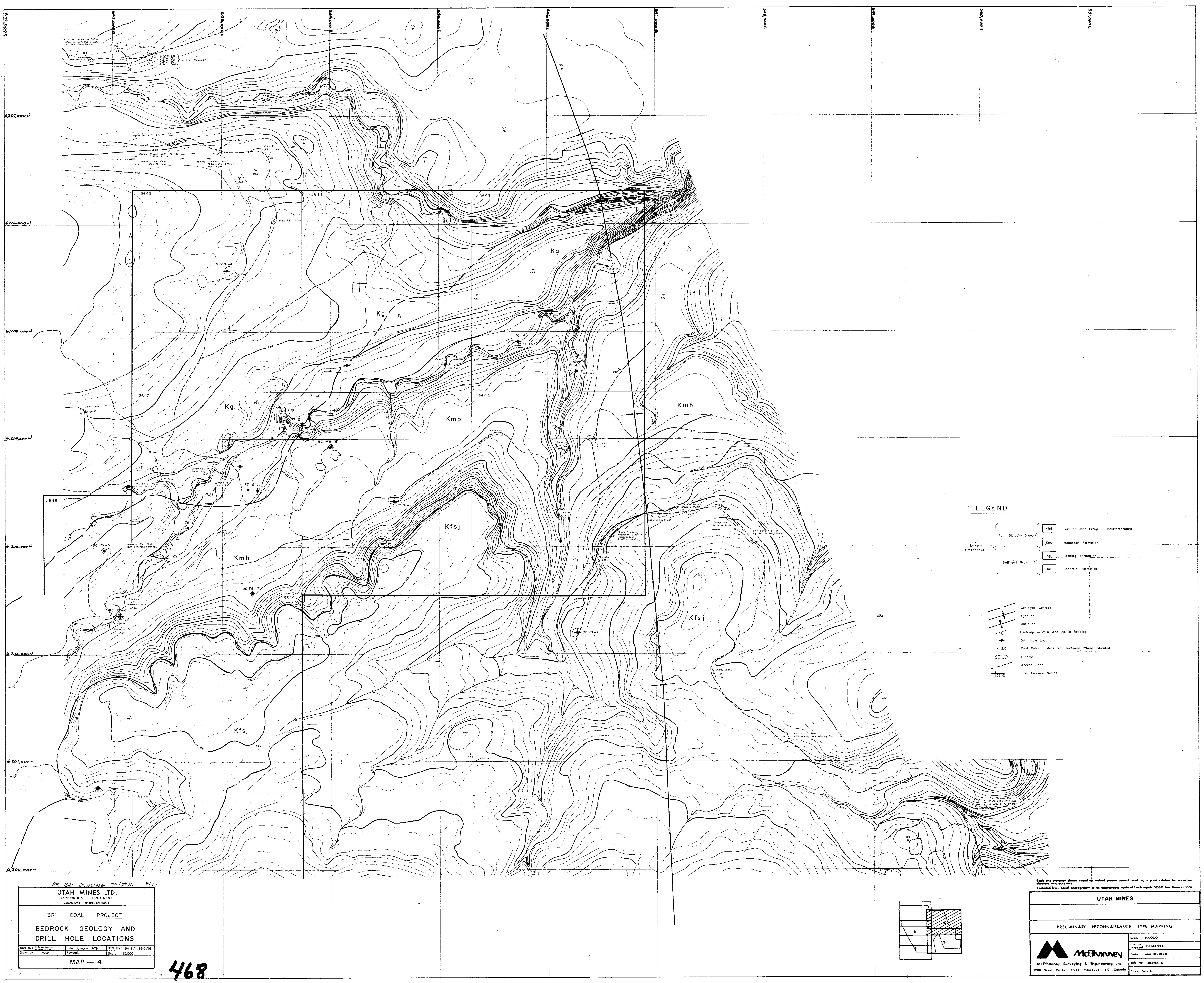
Scale and elevation datum based on limited ground control resulting in good relative, but uncertain absolute map accuracy.
Compiled from aerial photography at an approximate scale of 1 inch equals 5280 feet flown in 1970

UTAH MINES

PRELIMINARY RECONNAISSANCE TYPE MAPPING

McElhanney Surveying & Engineering Ltd
1200 West Pender Street, Vancouver B.C., Canada

Scale · 1:10,000	
Contour Interval · 10 Metres	
Date · June 16, 1978.	
Job No. · 06298-4	
Sheet No. · 2	



PR-BRI-DOWLING 79(2*)A *(1)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

BRI COAL PROJECT

BEDROCK GEOLOGY AND DRILL HOLE LOCATIONS

Work by: R.B. Anderson, A. Armstrong	Date: January 1979	NTS Ref. 94 B/1, 93 O/16
Drawn by: T Drews	Revised:	Scale – 1:10,000

MAP — 4

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LEGEND

Recent		[symbol]	Alluvium & Glacial Deposits
Lower Cretaceous	Fort St. John Group	Kfsj — Ft. St John Group Undivided	Kmb — Moosebar Fm. — Shale
	Bullhead Group	Kg — Gething Fm.	Carbonaceous Sandstone Mudstone & Shale With Coal
		Kcd — Cadomin Fm	Coarse Grained Pebbly Sandstone & Conglomerate.

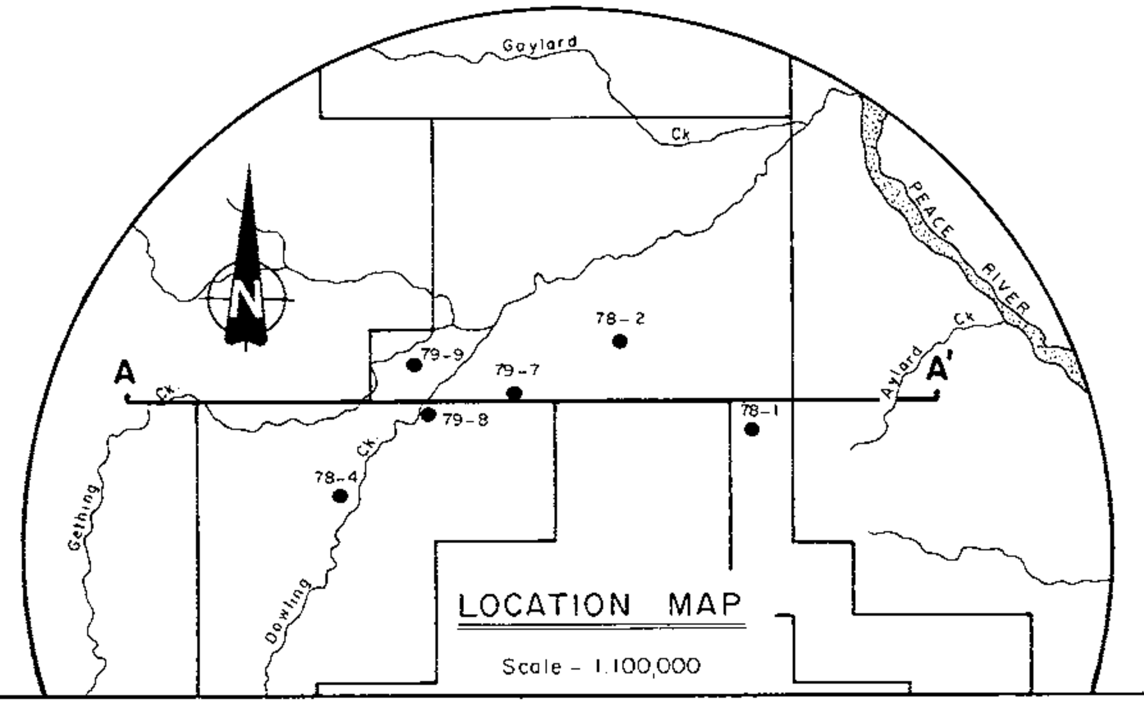

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FIGURE-7

PR-BRI-DOWLING 79(2*)A *(1)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

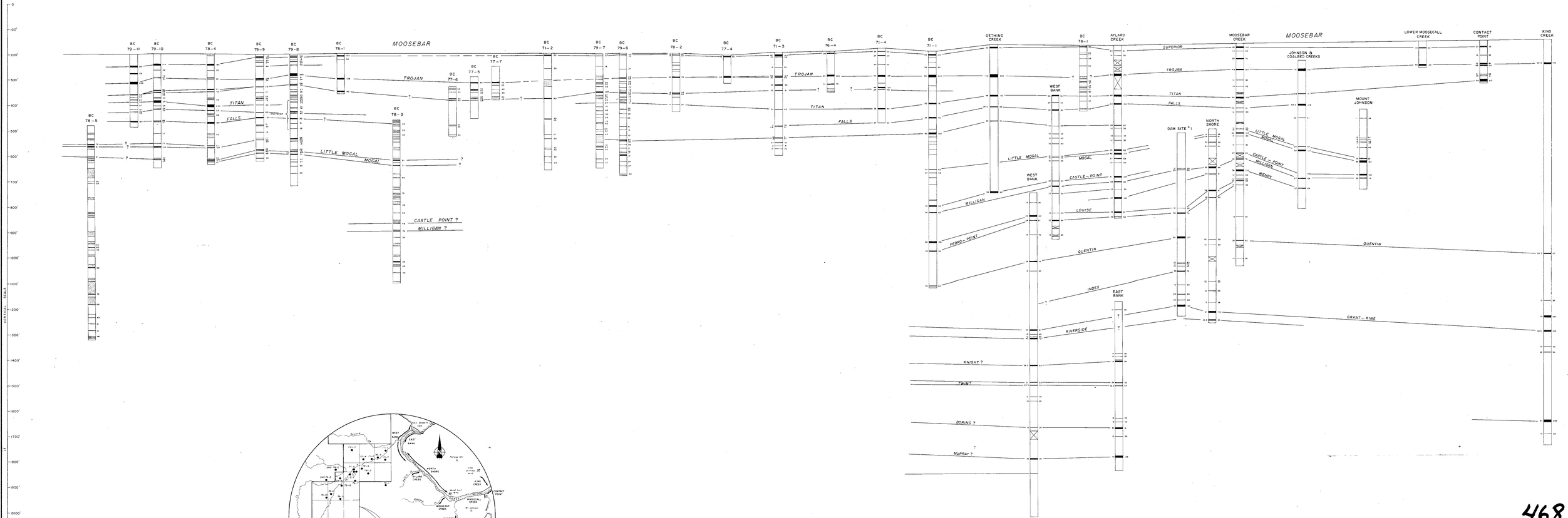
BRI COAL PROJECT

EAST — WEST SECTION

@ 6,202,500 N (McElhanney Coordinates)

LOOKING NORTH

Work by: A Armstrong	Date: Dec 1978	NTS Ref.
Drawn by: T. Drews	Revised: Oct 1979	Horizontal Scale - 1:10,000
		Vertical Scale - 1:10,000



LEGEND

Coal Seam With Thickness

Coal Seam In Drillhole Less Than 12" Thick

Covered Interval

Sandstone

NOTES

1 Most Coal Seams In Outcrop Less Than 12 Inches Have Been Omitted

2 Thickness For Seams In Drillholes Are Intersection Thicknesses

FIGURE - 8

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DA-BRI-DOWLING 76 (27) A 5(1)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

BRI — DOWLING CREEK PROPERTY

TENTATIVE COAL SEAM CORRELATION
BETWEEN BRI COAL DRILL HOLES
AND MEASURED SECTIONS

Work By J. Armstrong	Date Nov. 1979	NTS Ref. 93 G/6
Drawn By T. Drown	Revised	Vertical Scale 1" = 100'

SCALE IN FEET

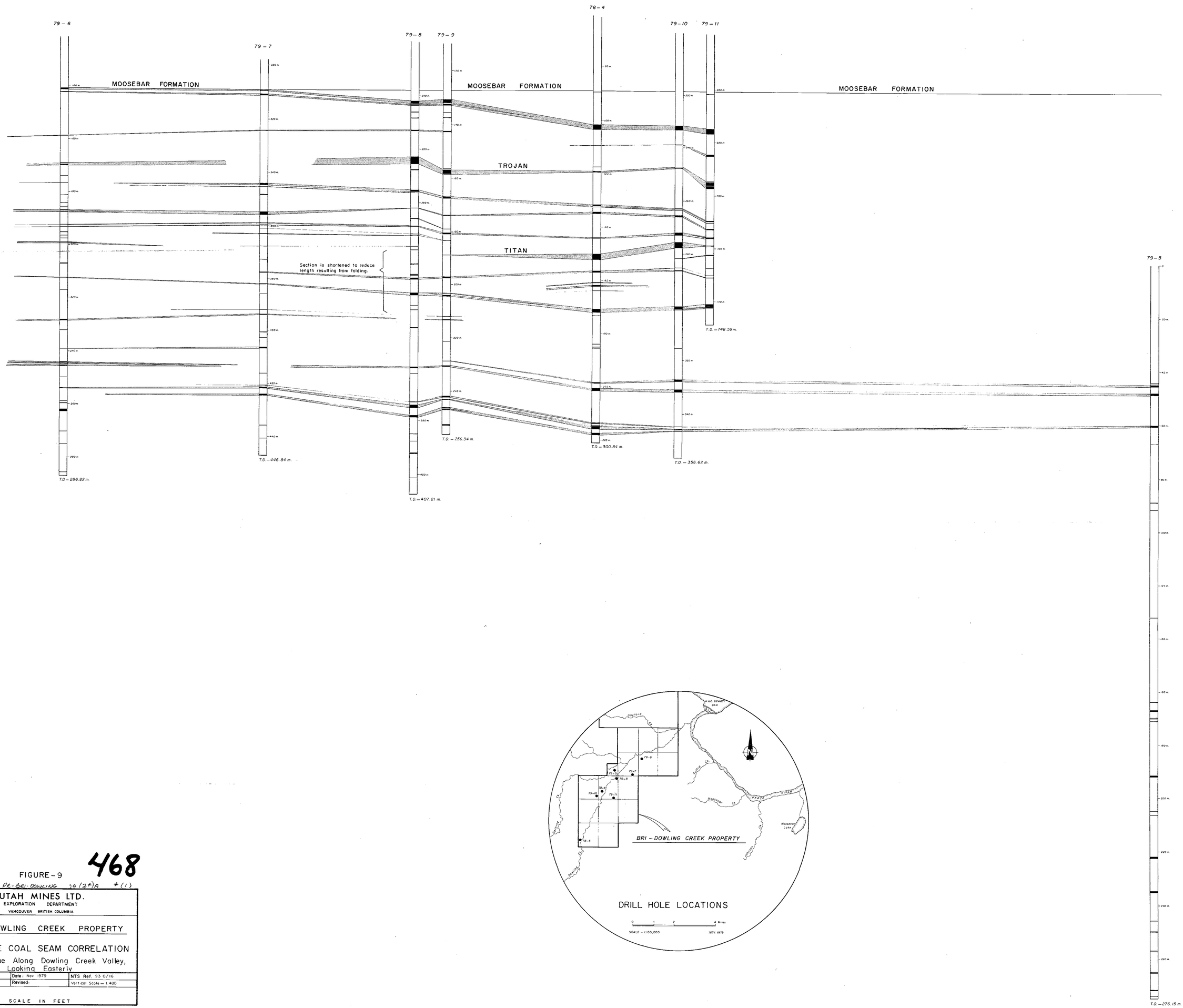

FIGURE – 9

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PR-BRI-DOWLING 79(2*)A *(1)

UTAH MINES LTD. EXPLORATION DEPARTMENT VANCOUVER BRITISH COLUMBIA		
BRI — DOWLING CREEK PROPERTY		
TENTATIVE COAL SEAM CORRELATION Section Line Along Dowling Creek Valley, Looking Easterly		
Work by: A. Armstrong	Date: Nov. 1979	NTS Ref. 93 O/16
Drawn by: T. Drews	Revised:	Vertical Scale – 1:480
SCALE IN FEET		

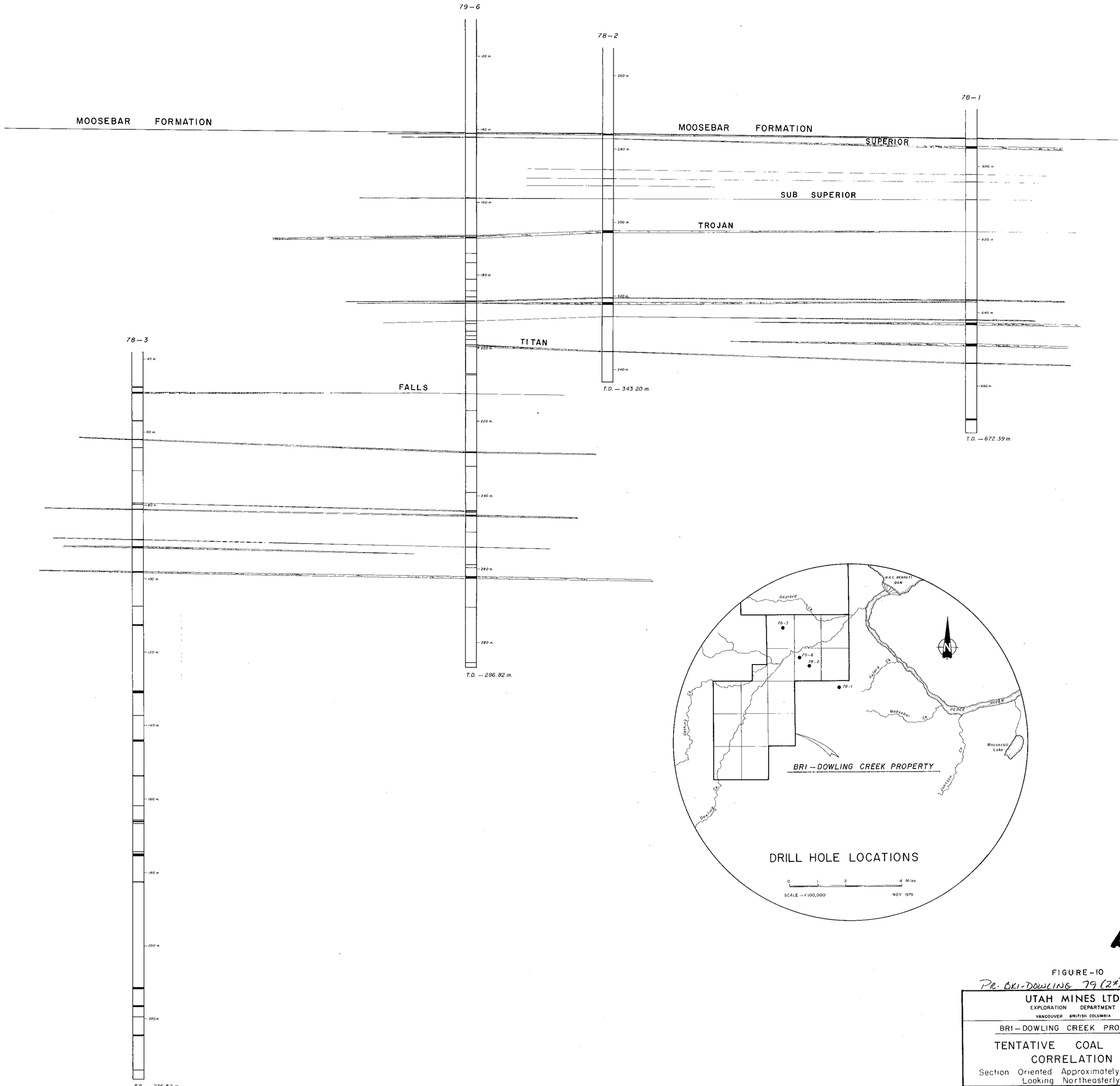

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FIGURE – 10

Pr. BRI-DOWLING 79 (2*) A *(1)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

BRI – DOWLING CREEK PROPERTY

TENTATIVE COAL SEAM CORRELATION

Section Oriented Approximately Northwest, Looking Northeasterly

Work by : A. Armstrong	Date : Nov 1979	NTS Ref. 93 O/16
Drawn by : T. Drews	Revised.	Vertical Scale – 1 480

79-6

PR. BRI-DOWLING 79(3)A

Widco* WELL LOG

COMPANY	UTAH MINES LTD.	COORDINATES:	544,000E
AREA	BRI COAL (DOWLING CREEK, B.C.)	N	6,203,920N
WELL	B.C. 79-6	S	
COUNTY	STATE	ELEVATION:	733 m
	468	D.F.	
		K.B.	
		G.L.	

COMPANY UTAH MINES
WELL B.C.-79-6
LOCATION Dowling Creek

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	May 27, 1979		Nature		
First Reading	293.0 m		Density		
Last Reading	56.0 m		Viscosity	@ °F	@ °F
Footage Logged	237.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	286.82 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size:	HW 4.5 in.				
Bit Size:	HQ 3.782 in.				
			Logged by	N. Duncan	
			Witnessed by	P. Zell	

REMARKS Cable slipped from Drum at 60 m.

* Reg. U.S. Pat. Off.

FO-139

79-7

PR-BRI+DOWLING 79 (3)A

Widco* WELL LOG

COMPANY UTAH MINES LTD.
WELL BC-79-7
LOCATION BRI-DOWLING CREEK

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COMPANY	UTAH MINES LTD.
AREA	BRI - DOWLING CREEK
WELL	BC -79-7
COUNTY	
STATE	Province: B.C.

COORDINATES:	543,280m E
N	6,202,560m N
S	
ELEVATION:	790m
D.F.	
K.B.	
G.L.	

	Run No. 1	Run No. 2
Date	May 28, 1979	
First Reading	446.80m	
Last Reading	0.25m	
Footage Logged	446.55m	
Bottom (Driller)	446.83m	
Casing (From Log)	19.10m	
Casing (Driller)	18.90m	
Casing Size	HW-114.3mm	
Bit Size:	HQ-96mm O.D.	
Bit Size:		

MUD	Run No. 1	Run No. 2
Nature		
Density		
Viscosity	@ °F	@ °F
Resistivity	@ °F	@ °F
Res. @ BHT	@ °F	@ °F
pH		
Circ. Temp.		
B.H. Temp.		
Logged by	N. Duncan	
Witnessed by	P. Zell	

REMARKS

* Reg. U.S. Pat. Off.

FO-139

Gamma
500 C.P.S.
TC = 5

Density
500 C.P.S.
TC = 3

PR-BRI DOWLING 79(3)A

79-8

Widco* WELL LOG

COMPANY	UTAH MINES LTD.
AREA	DOWLING CREEK, B. C.
WELL	BC-79-8
COUNTY	~~STATE~~ Province: B. C.

468

COORDINATES:	
N	6,202,360m
~~W~~	E 542,055m
ELEVATION:	
D.F.	
K.B.	
G.L.	709m ±

COMPANY UTAH MINES LTD. WELL BC-79-8 LOCATION DOWLING CREEK, B.C.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	June 14, 1979		Nature		
First Reading	403.86m		Density		
Last Reading	0		Viscosity	@ °F	@ °F
Footage Logged	403.86m		Resistivity	@ °F	@ °F
Bottom (Driller)	407.21m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)	21.96m		Circ. Temp.		
Casing Size	HW-4.5		B.H. Temp.		
Bit Size:	HQ-3.782				
Bit Size:					
			Logged by	N. Duncan	
			Witnessed by	K. Broadbent	

REMARKS Probe Density Circuit Influenced by Gamma Circuit.

* Reg. U.S. Pat. Off.

FO-139

Gamma
500 C.P.S.
TC = 5

Density
500 C.P.S.
TC = 3

79-9

RE: BRI DOWLING 79(3rd)A

Widco* WELL LOG

COMPANY UTAH MINES LTD.

AREA DOWLING CREEK B.C.

WELL BC-79-9

COUNTY STATE Province: B. C.

468

COORDINATES
N. 6,502,970m
E. 541,910m

ELEVATION
D.F.
K.B.
G.L. 761 ± m

COMPANY UTAH MINES LTD.
WELL BC-79-9
FIELD DOWLING CREEK
LOCATION

	Run No. 1	Run No. 2
Date	June 20, 1979	
First Reading	252.98m	
Last Reading	0	
Footage Logged	252.98m	
Bottom (Driller)	256.34m	
Casing (From Log)		
Casing (Driller)	52.7m	
Casing Size	NBW - 114.3mm	
Bit Size:	HO - 96.0mm	
Bit Size:		

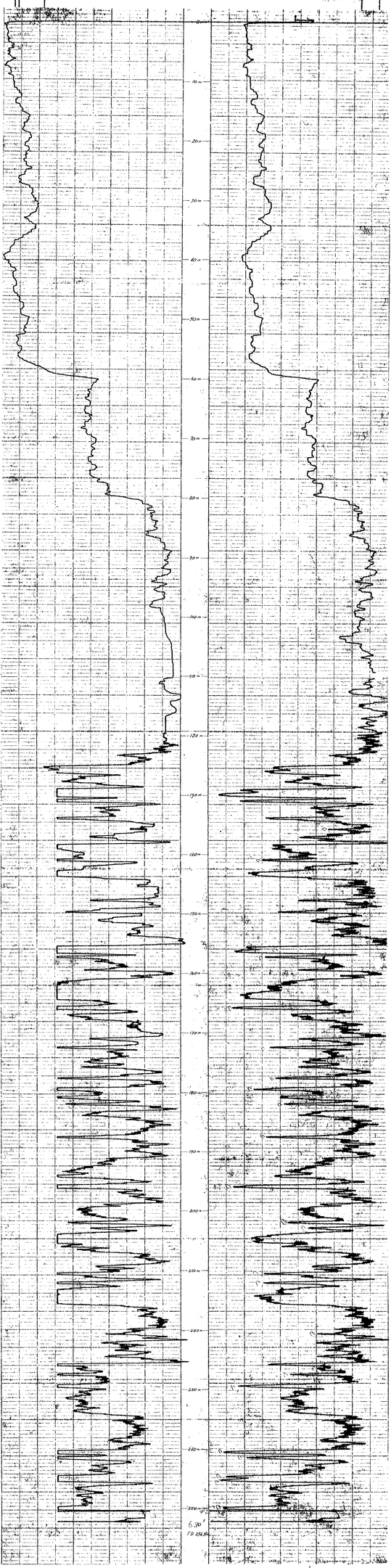
MUD	Run No. 1	Run No. 2
Nature		
Density		
Viscosity	@ °F	@ °F
Resistivity	@ °F	@ °F
Res. @ BHT	@ °F	@ °F
pH		
Circ. Temp.		
B.H. Temp.		
Logged by	N. Duncan	
Witnessed by	P. Zeil	

REMARKS Density Log inoperative.

* Reg. U.S. Pat. Off.

Gamma
500 C.P.S.
TC = 5

Density
500 C.P.S.
TC = 3



6.30
TD 256.34m

468 PR-BRI-DOWLING 79(3)A

79-11

Widco* WELL LOG

COMPANY	Utah Mines Ltd.	COORDINATES:	E 541,850m
AREA	Bri-Dowling Creek	N	6,200,760m
WELL	BC-79-11	S	
COUNTY	STATE B.C.	ELEVATION:	837m
		D.F.	
		K.B.	
		G.L.	

COMPANY Utah Mines Ltd.
WELL BC-79-11
LOCATION 6,200,760mN x 541,850mE

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 22, 1979		Nature		
First Reading	744.70m		Density		
Last Reading	0m		Viscosity	@ °F	@ °F
Footage Logged	744.70m		Resistivity	@ °F	@ °F
Bottom (Driller)	748.59m		Res. @ BHT	@ °F	@ °F
Casing (From Log)	16.40m		pH		
Casing (Driller)	16.59m		Circ. Temp.		
Casing Size	HW		B.H. Temp.		
Bit Size:	HQ				
Bit Size:					
			Logged by	D.N. Duncan	
			Witnessed by	J. Kozak	

REMARKS

* Reg. U.S. Pat. Off.

FO.139

GAMMA
500 C.P.S.
TC = 3

DENSITY
500 C.P.S.
TC = 3

PR-BRI-DOWLING 79(2*)A *(1)
79-6

UTAH MINES LTD.

GRAPHIC CORE LOG

HOLE NO. BC 79-6

LOG BY: N. DUNCAN

DATE: MAY 1979

ELEV: 733 m

N: 6,203,920

E: 544,000

HOLE SIZE: HQ

AIR [ ] WATER [X]

T.D. 286.82 m P.O.

HOLE NO. BC 79-6

PROJECT: BRI-DOWLING CREEK

LEASE: 3646

SEC. ___ T. ___ R. ___

468

% REC / DEPTH	THICK	SAMPLE NO.	LITHOLOGY
0m			
100m			
110			MOOSEBAR FORMATION
			SHALE - DARK GREY TO BLACK - MASSIVELY BEDDED - MINOR SILTY BANDS - ABUNDANT PYRITE NODULES - GLAUCONITIC TOWARD BASE - BASAL SECTION COARSER GRAINED BECOMING SANDY
120			
130			
140	0.04		COAL - BRIGHT - VITRAIN BANDS - 90% RECOVERY — GETHING FORMATION
	0.41		COAL - BRIGHT - VITRAIN BANDS - BECOMING DULLER WITH LESS VITRAIN TOWARD BASE - 70% RECOVERY
83°	0.24		COAL - 142.04 to 142.10 m - BRIGHT ABUNDANT VITRAIN BANDS - WELL DEVELOPED CLEAT; 142.10 to 142.28 m - DULL - MINOR VITRAIN BANDS - PYRITE NODULES IN BANDS; 90% RECOVERY
150			
85°			
160	0.17		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - WELL DEVELOPED CLEAT - HIGHLY BROKEN - 90% RECOVERY
80°			
	0.23	1a	COAL - DULL - MINOR VITRAIN AT TOP OF SEAM BECOMING CANNELOID TOWARD BASE - 90% RECOVERY
170	0.63	1b	COAL - BRIGHT TO DULL - ABUNDANT VITRAIN AT TOP OF SEAM BECOMING CANNELOID TOWARD BASE - 50% RECOVERY
85° 85°	0.09		COAL - DULL - CANNELOID - MINOR VITRAIN - 100% RECOVERY
	0.05		COAL - DULL - CANNELOID - MINOR VITRAIN BANDS - 100% RECOVERY
87° 180	0.10		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - HIGHLY BROKEN - 80% RECOVERY
	0.12		COAL - BRIGHT - ABUNDANT VITRAIN - 90% RECOVERY
	0.10		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - 80% RECOVERY
	0.50	2a	COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - HIGHLY BROKEN - 95% RECOVERY
	0.30	2b	COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - 100% RECOVERY
190 80°	0.22		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - 100% RECOVERY
	0.11		COAL - DULL - MINOR VITRAIN BANDS - 100% RECOVERY
	0.04		COAL - BRIGHT - ABUNDANT VITRAIN - 100% RECOVERY
	0.13		COAL - DULL TO BRIGHT - VITRAIN CONTENT INCREASING TOWARD BASE OF SEAM - 100% RECOVERY
	0.10		COAL - BRIGHT - GOOD CLEAT - HIGHLY BROKEN - 90% RECOVERY
85°	0.12		COAL - DULL - CANNELOID - 100% RECOVERY
	0.22		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - HIGHLY BROKEN - 100% RECOVERY
200	0.04		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - 100% RECOVERY
	0.16		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - 100% RECOVERY
85°			
	0.06		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - 100% RECOVERY
	0.08		COAL - DULL - BRIGHT - DURAIN - MINOR VITRAIN BANDS - 100% RECOVERY
210 85°	0.09		COAL - BRIGHT - DULL - VITRAIN BANDS IN DURAIN - HIGH MUD CONTENT - 100% RECOVERY
80°	0.03		COAL - BRIGHT - DURAIN WITH VITRAIN BANDS - 75% RECOVERY
220			
	0.41		COAL - DULL AND BRIGHT - WELL DEVELOPED CLEAT - HIGHLY BROKEN - 100% RECOVERY; 228.48 to 228.53 m - COAL WITH MUDSTONE AND BANDED TO NODULAR PYRITE
230	0.14		COAL - 232.10 to 232.15 m - DULL - CANNELOID; 232.15 to 232.24 m - BRIGHTER - MINOR VITRAIN; 100% RECOVERY
80°			
240	0.13		COAL - BRIGHT - ABUNDANT VITRAIN - HIGHLY BROKEN - 20% RECOVERY
	0.43	3a	COAL - BRIGHT - VITRAIN INCREASING TOWARD BASE OF SEAM - WELL DEVELOPED CLEAT - 100% RECOVERY
	0.17	3b	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - GOOD CLEAT - 100% RECOVERY
	0.03	3c	COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - 100% RECOVERY
	0.49	3d	COAL - BRIGHT - DURAIN WITH ABUNDANT VITRAIN BANDS - WELL DEVELOPED CLEAT - MINOR MUDSTONE BANDS <0.01m AT TOP OF SEAM - 100% RECOVERY
250	0.08		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - 50% RECOVERY
	0.31		COAL - DULL TO BRIGHT - DURAIN WITH MINOR VITRAIN BANDS - HIGHLY BROKEN - 100% RECOVERY
	0.09		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - BROKEN - 90% RECOVERY
260	0.17		COAL - BRIGHT TO DULL - DURAIN WITH VITRAIN BANDS - 100% RECOVERY
	0.81	4	COAL - BRIGHT TO DULL - ABUNDANT VITRAIN BANDS IN DURAIN - VITRAIN CONTENT DECREASES TOWARD BASE - WELL DEVELOPED CLEAT - SECTIONS OF CORE ARE HIGHLY BROKEN - 60% RECOVERY
270	0.09		VOLCANIC ASH (?) - LIGHT GREY - VERY SOFT
			COAL - DULL TO BRIGHT - DURAIN WITH MINOR VITRAIN BANDS - 100% RECOVERY
	0.07		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - 100% RECOVERY
280m			
85°			
	0.09		COAL - BRIGHT - ABUNDANT VITRAIN - WELL DEVELOPED CLEAT - HIGHLY BROKEN - 100% RECOVERY
286m 82cm			END OF HOLE

ANALYSIS

PR-BRI-DOWLING 79(2)A *(1)
79-7

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO. BC 79-7
LOG BY J.F. KOZAK
DATE JUNE 1979
ELEV. 790 m
N 6,202,560 m
E 543,280 m
HOLE SIZE HQ
AIR ☐ WATER ☒
LD 446.84 m
HOLE NO. BC 79-7
PROJECT: Bri-Dowling Creek
LEASE: 3647
SEC. T. R.

468

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	CORE	LITHOLOGY	ANALYSIS
	0m					OVERBURDEN	
						MOOSEBAR FORMATION	
						DARK GREY TO BLACK SHALE	
						MINOR SALT AND PEPPER SANDSTONE UNITS	
						ABUNDANT PYRITE NODULES TOWARD BASE	
						MINOR SHELL FRAGMENTS NEAR BASE	
						ABUNDANT GLAUCONITE TOWARD BASE	
						SILT CONTENT INCREASES TOWARD BASE	
	300m						
	0.62					COAL BRIGHT WELL CLEATED - ABUNDANT PYRITE NODULES NEAR UPPER CONTACT	
	0.67		1			COAL - DULL AND BRIGHT - ABUNDANT PYRITE NODULES NEAR UPPER CONTACT - 80% RECOVERY	
	0.16					COAL - DULL AND BRIGHT - BLOCKY	
	0.80		2			COAL - DULL AND BRIGHT - WELL CLEATED - SANDY SILTSTONE SPLIT FROM 344.35 TO 344.41 m	
	0.55		3			COAL - DULL AND BRIGHT - 0.02 m BAND OF COALY MUDSTONE - 60% RECOVERY	
	0.46					COAL - CANNELOID - GRAVITATIONAL CONTACT WITH LOWER UNIT OVER 0.05 m	
	350m						
	1.28					COAL BRIGHT WELL CLEATED - 15% RECOVERY - MUDSTONE SPLIT FROM 358.12 TO 358.16 m	
	0.27					COAL DULL BANDED - BLOCKY - HIGHLY PYRITIFEROUS MUDSTONE SPLIT FROM 359.35 TO 359.38 m	
	0.38					COAL DULL AND BRIGHT - WELL CLEATED - GRADATIONAL CONTACT WITH LOWER UNIT OVER 0.05 m	
	0.27					COAL - CANNELOID FOR TOP 0.05 m - FOLLOWED BY DULL BANDED - FOLLOWED BY DULL	
	0.75					COAL - BRIGHT - BASAL 0.04 m IS DULL BANDED AND BLOCKY - HIGHLY PYRITIFEROUS MUDSTONE SPLIT FROM 363.82 TO 363.43 m	
	0.04					COAL - BRIGHT - BANDED - WELL CLEATED	
	0.19					COAL - DULL AND BRIGHT - 20% RECOVERY	
	0.66					COAL - CANNELOID - BASAL 0.05 m IS DULL BANDED AND BLOCKY	
	0.33					COAL DULL BANDED - MUDDY TOWARD BASE OF SEAM - DIRTY BANDS THROUGHOUT - BLOCKY	
	0.08					COAL CANNELOID - BLOCKY	
	0.18					COAL DULL AND BRIGHT - BLOCKY - ABUNDANT CALCITE VEINS	
	0.42		4			COAL DULL AND BRIGHT - CALCITE VEINS IN A 0.02 m ZONE	
	400m						
	0.03					COAL	
	0.02					COAL	
	0.04					COAL BRIGHT BANDED - BLOCKY	
	0.53		5A			COAL - CANNELOID	
			5B			COAL	
			5C			COAL	
	0.18					COAL - DULL AND BRIGHT - BLOCKY	
	0.15					COAL - DIRTY - BLOCKY	
	0.33		6			COAL - DULL BANDED - BLOCKY	
	0.80					COAL - DULL - BLOCKY - FOUR DIRT BANDS EACH <0.02 m FROM 424.53 TO 424.77 m	
	0.04					COAL - DULL AND BRIGHT - WELL CLEATED	
	0.13					COAL - DULL BANDED - BLOCKY	
						END OF HOLE	
	450m						

PR-BRI DOWLING 79 (2*) A | *(1)
79-8

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO. BC-79-8

LOG BY: D.N. DUNCAN
DATE: JUNE 15, 1979

ELEV: 709 m
N: 6,202,360 m.
E: 542,055 m.

HOLE SIZE: HQ
AIR [ ] WATER [X]
TD 407.21 m P.D.

HOLE NO. BC-79-8
PROJECT: BRI - DOWLING CREEK
LEASE: 3650
SEC. ___ T. ___ R. ___

468

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAV.	LITHOLOGY	ANALYSIS

OVERBURDEN (0 m – ~21 m)

MOOSEBAR FORMATION

DARK GREY TO BLACK SHALE - MINOR SHELL MOLDS - MINOR PYRITE NODULES - VOLCANIC ASH BANDS - MINOR CLAYSTONE BANDS AND NODULES - MINOR SILTY SECTIONS TOWARD BASE - GLAUCONITIC IN BASAL PART OF FORMATION

GETHING FORMATION

Thick	Sample No.	Lithology
1.00	1a	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - VITRAIN MORE ABUNDANT TOWARD TOP OF SEAM - POORLY CLEATED - 100% RECOVERY
0.47	1b	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - VITRAIN MORE ABUNDANT TOWARD BASE OF SEAM - POORLY CLEATED - 90% RECOVERY
0.16		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - POORLY CLEATED - 100% RECOVERY
0.06		COAL - DULL - DURAIN WITH MINOR VITRAIN BANDS - POORLY CLEATED - 100% RECOVERY
0.08		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - WELL CLEATED - BROKEN - 100% RECOVERY
0.42		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - HIGHLY BROKEN AT BASE OF SEAM - TOP 0.08 m OF SEAM HAS LOWER VITRAIN CONTENT - 100% RECOVERY
0.34	2a	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - HIGHLY BROKEN - 65% RECOVERY
0.33	2b	COAL - DULL - DURAIN WITH MINOR VITRAIN BANDS - 90% RECOVERY
0.07	2c	COAL - DULL TO BRIGHT - DURAIN WITH FEW VITRAIN BANDS - 100% RECOVERY
0.87	2d	COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - MINOR MUDDY SECTIONS - 68% RECOVERY
0.70	2e	COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - BROKEN AT BASE - 60% RECOVERY
0.13	2f	COAL - BRIGHT - ABUNDANT VITRAIN - HIGHLY BROKEN - GOOD CLEAT - 00% RECOVERY
0.28	2g	COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - BROKEN AT BASE - 57% RECOVERY
0.21		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - BROKEN AT BASE - 87% RECOVERY
0.04		COAL - BRIGHT - ABUNDANT VITRAIN - 100% RECOVERY
0.08		COAL - BRIGHT - WELL CLEATED - ABUNDANT VITRAIN BANDS - 100% RECOVERY
0.58		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - WELL CLEATED - 210% RECOVERY
0.15		COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - 100% RECOVERY
0.27		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - POORLY CLEATED - 56% RECOVERY
0.24		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 65% RECOVERY
0.55	3	COAL - 90% RECOVERY - 288.72 to 289.11 m - DULL CANNELOID; 289.11 TO 289.27 m - BRIGHT - ABUNDANT VITRAIN BANDS - WELL CLEATED
0.10		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - SMALL MUDSTONE BANDS <0.01 m IN COAL - 100% RECOVERY
0.04		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - 100% RECOVERY
0.36		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - WELL CLEATED - 67% RECOVERY
0.08		COAL - DULL TO BRIGHT - MINOR VITRAIN IN DURAIN - 30% RECOVERY
0.06		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - 90% RECOVERY
0.25		COAL - DULL - CANNELOID - 100% RECOVERY
0.14		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - PYRITE NODULES AT TOP OF SEAM - WELL CLEATED - BROKEN - 80% RECOVERY
0.13		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - POORLY CLEATED - 100% RECOVERY
0.08		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - HIGHLY BROKEN - POORLY CLEATED - 100% RECOVERY
0.21		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - WELL CLEATED - HIGHLY BROKEN - 30% RECOVERY
0.62	4	COAL - BRIGHT - VITRAIN BANDS IN DURAIN - VITRAIN CONTENT INCREASING TOWARD BASE - WELL CLEATED - HIGHLY BROKEN - 68% RECOVERY
0.92	5	COAL - DULL - CANNELOID - FINE GRAINED SANDSTONE LAMINAE AT BASE OF SEAM - VERY MINOR VITRAIN BANDS AT BASE - 67% RECOVERY
0.21		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - HIGHLY BROKEN - 25% RECOVERY
0.26		COAL - BROKEN - 100% RECOVERY - 344.71 TO 344.87 m - DULL - CANNELOID; 344.87 TO 344.97 m - BRIGHT - WELL CLEATED - ABUNDANT VITRAIN
0.06		COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - 100% RECOVERY
0.06		COAL - BRIGHT - ABUNDANT VITRAIN - 100% RECOVERY
0.06		COAL - BRIGHT - ABUNDANT VITRAIN - 100% RECOVERY
0.10		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 100% RECOVERY
0.10		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 100% RECOVERY
0.05		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - HIGHLY BROKEN - 100% RECOVERY
0.17		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - HIGHLY BROKEN - 100% RECOVERY
1.05	6	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - 100% RECOVERY
0.04		COAL - BRIGHT VITRAIN BANDS IN DURAIN - 95% RECOVERY
0.71	7	COAL - 90% RECOVERY - 377.98 TO 378.44 m - DULL - CANNELOID; 378.44 TO 378.70 m - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN
0.07		COAL - BRIGHT - ABUNDANT VITRAIN BANDS - WELL CLEATED - 100% RECOVERY
0.02		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 100% RECOVERY
0.05		COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 100% RECOVERY
0.50		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - 100% RECOVERY
0.03		COAL - BRIGHT - VITRAIN BANDS IN DURAIN - 100% RECOVERY

TD - 407.21 m

END OF HOLE

PR-BRI-DOWLING 79 (2*) A *(1)
79-9

UTAH MINES LTD.

GRAPHIC CORE LOG

HOLE NO. BC-79-9

LOG BY: D. N. DUNCAN
DATE: JUNE 22, 1978

ELEV: 761 m ±
N: 6,202,910 m
E: 541,910 m

HOLE SIZE: HQ
AIR [ ] WATER [X]
TD 256.34 m PD

HOLE NO. BC-79-9
PROJECT: BRI - DOWLING CREEK
LEASE: 3648
SEC ___ T. ___ R. ___

468

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO	GRAV.	LITHOLOGY	ANALYSIS
	0 m						
	10					OVERBURDEN	
	70						
	80						
						MOOSEBAR FORMATION	
						DARK GREY TO BLACK SHALE - MINOR PYRITE NODULES -	
	90					MINOR SHELL MOLDS - LIGHT GREY VOLCANIC ASH BANDS	
						TOWARD BASE OF SECTION - MINOR SILTY UNITS TOWARD	
	110					BASE OF SECTION - GLAUCONITIC TOWARD BASE OF SECTION	
	120						
						GETHING FORMATION	
	130	78°					
			1.35	1A		COAL - DULL TO BRIGHT - MINOR PYRITE NODULES AT TOP OF SEAM - POORLY CLEATED AT TOP OF SEAM, IMPROVING TOWARD BASE - VITRAIN BANDS IN DURAIN - VITRAIN CONTENT INCREASING TOWARD BASE - 100 % RECOVERY	
			0.48	1B		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - BROKEN AT BASE - 95 % RECOVERY	
			0.24			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - 100 % RECOVERY	
			0.28			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - HIGHLY BROKEN - MUDSTONE SPLIT ½ WAY THROUGH SEAM ~ 0.05 m THICK - 90 % RECOVERY	
	140	80°					
			0.44			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - BROKEN - 100 % RECOVERY	
	150						
			0.06			COAL - DULL AND BRIGHT	
			1.46	2A		COAL - DULL AND BRIGHT - MINOR SILTY SANDSTONE LENSES - MINOR PYRITE NODULES - 95 % RECOVERY	
			0.34	2B		COAL - DULL AND BRIGHT - WELL CLEATED - HIGHLY BROKEN - 100 % RECOVERY	
	160						
			0.73	3		COAL - DULL AND BRIGHT - MINOR PYRITE RICH BANDS - 65 % RECOVERY	
	170	80°					
			0.27			COAL - DULL - POORLY CLEATED - 90% RECOVERY	
			0.25			COAL - DULL AND BRIGHT - POORLY CLEATED - 70 % RECOVERY	
	180		0.52			COAL - DULL AT TOP, BECOMING BRIGHTER TOWARD BASE OF SEAM - 100 % RECOVERY	
		80°	0.14			COAL - BRIGHT - ABUNDANT VITRAIN - 50 % RECOVERY	
			0.20			COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - POORLY CLEATED - ABUNDANT BANDS OF PYRITE, NODULES TOWARD MIDDLE OF SEAM - 50% RECOVERY	
	190	80°					
			0.60	4		COAL - 90 % RECOVERY - FROM 197.16 TO 197.58 m - DULL - CANNELOID; FROM 197.58 TO 197.76 m - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - POORLY CLEATED	
	200	80°					
			0.15			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - 70 % RECOVERY	
			0.04			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - 90 % RECOVERY	
			0.03			COAL - BRIGHT - ABUNDANT VITRAIN - 70 % RECOVERY	
			0.15			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - HIGHLY BROKEN - 85 % RECOVERY	
			0.05			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - 100 % RECOVERY	
		80°					
	210						
			0.21			COAL - DULL - CANNELOID - VERY MINOR VITRAIN BANDS AT BASE - 80 % RECOVERY	
			0.35			COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - HIGHLY BROKEN - 60 % RECOVERY	
	220						
			0.10			COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - 100 % RECOVERY	
			0.17			COAL - DULL - MINOR VITRAIN BANDS IN DURAIN - BROKEN - 90 % RECOVERY	
	230	70°	0.21			COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 60 % RECOVERY	
			0.30			COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - 50 % RECOVERY	
		77°					
		90° ~?					
	240	60°					
			0.16			COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - BROKEN - 60 % RECOVERY	
			0.48			COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - BROKEN - SLICKENSIDES - 50 % RECOVERY - FAULT ZONE?	
			0.46			COAL - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - BROKEN - SLICKENSIDES - 40 % RECOVERY - FAULT ZONE?	
		47°					
		70°					
			0.26	5A		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - 100 % RECOVERY	
			0.20	5B		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - 100 % RECOVERY	
			0.34	5C		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - 100 % RECOVERY	
	250	80°					
			0.46			COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - POORLY CLEATED - BROKEN - 100 % RECOVERY	
		80°					
		TD - 256.54 m				END OF HOLE	
	260 m						

PR-BRI DOWLING 79 (2*)A *(1)
79-10

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO. BC-79-10

LOG BY: D.N. DUNCAN
DATE: JUNE 26, 1979

ELEV: 771 m
N: 6,200,985 m
E: 540,630 m

HOLE SIZE: HQ
AIR ☐ WATER ☒
T.D. 356.62 P.D.

HOLE NO. BC-79-10
PROJECT: BRI - DOWLING CREEK
LEASE: 3651
SEC. T. R.

468

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAV.	LITHOLOGY	ANALYSIS

Depth scale: 0m, 10, 50, 60, 70, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360m

OVERBURDEN

MOOSEBAR FORMATION

DARK GREY TO BLACK SHALE – MINOR LIGHT MEDIUM GREY SILTSTONE LAMINAE - VERY MINOR COALY STREAKS, HIGHLY PYRITIC, FROM 67.00 TO 69.90 m AND AT 120.00 m – MINOR VOLCANIC ASH BANDS FROM 143.68 TO 143.70 m; 143.91 TO 143.96 m; 146.02 TO 146.05 m; 146.72 TO 146.74 m; 146.90 TO 146.94 m; 210.34 TO 210.36 m; 210.47 TO 210.50 m – MINOR PYRITE NODULES, INCREASING IN ABUNDANCE TOWARD BASE - ABUNDANT SLICKENSIDES AND HIGHLY BROKEN ROCK FROM: 154.00 TO 156.06 m @ ∡ 20° TO C/A AND 163.20 TO 165.30 m @ ∡ 10° TO C/A POSSIBLE FAULT ZONES. GLAUCONITIC TOWARD BASE

GETHING FORMATION

% REC	THICK	SAMPLE NO.	LITHOLOGY
100%	1.74	1	COAL - BLACK - BRIGHT ABUNDANT VITRAIN BANDS IN DURAIN - MINOR (<5%) FUSAIN - WELL CLEATED - BROKEN AT BASE - 100% RECOVERY
20%	0.34		COAL - BRIGHT - ABUNDANT VITRAIN - HIGHLY BROKEN
100%	0.10		COAL - DULL TO BRIGHT - MINOR VITRAIN BANDS IN DURAIN - VERY MINOR FUSAIN - POORLY CLEATED
100%	0.07		COAL - DULL TO BRIGHT - MINOR VITRAIN BANDS IN DURAIN - POORLY CLEATED
100%	0.21		COAL - BRIGHT TO DULL - ABUNDANT VITRAIN BANDS IN DURAIN - HIGH MUD CONTENT - MUDSTONE SPLITS COMMON FROM 247.72 TO 247.80 m & 0.01 m EACH
100%	0.50	2a	COAL - BRIGHT ABUNDANT VITRAIN BANDS IN DURAIN - FROM 263.00 TO 263.28 HAVE MUD BANDS & 0.01 m - BROKEN AT BASE - WELL CLEATED
100%	0.28	2b	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - V. MINOR FUSAIN - HIGHLY BROKEN AT BASE - WELL CLEATED
80%	0.15	3a	COAL - BRIGHT TO DULL - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED - BROKEN AT BASE
90%	0.45	3b	COAL - BRIGHT TO DULL - VITRAIN BANDS IN DURAIN - FROM 266.80 TO 266.87 m ABUNDANT CALCITE - FROM 266.98 TO 266.07 m MUD BANDS & 0.01 m THICK - HIGHLY BROKEN - WELL CLEATED
100%	0.83	4	COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - WELL CLEATED - BROKEN - FROM 272.58 TO 272.75 m - DARK GREY MUDSTONE SPLITS & 0.01 m
100%	2.24	5	COAL - BRIGHT TO DULL - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED - BROKEN AT BASE
100%	0.28		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED
100%	0.24		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED
100%	0.04		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED
100%	0.32		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - BROKEN AT BASE
90%	0.98	6a	COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - VITRAIN CONTENT INCREASING TOWARD BASE - POORLY CLEATED
100%	0.37	6b	COAL - DULL TO BRIGHT - MINOR VITRAIN BANDS IN DURAIN - POORLY CLEATED - HIGH MUD CONTENT TOWARD BASE
100%	0.17		COAL - BRIGHT TO DULL - ABUNDANT VITRAIN IN DURAIN - VITRAIN CONTENT DECREASING TOWARD BASE - WELL CLEATED - BROKEN AT TOP OF SEAM
100%	0.77	7	COAL - SHINY WITH MUDDY SECTION FROM 326.85 TO 327.05 m - WELL CLEATED
75%	1.14	8	COAL - 330.60 TO 330.72 - SHINY - HARD - MUDDY; 330.72 TO 331.01 - BRIGHT - ABUNDANT VITRAIN - WELL CLEATED - HIGHLY BROKEN; 331.01 TO 331.74 - DULL AND BRIGHT - BROKEN
100%	0.33		COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - VITRAIN CONTENT INCREASING TOWARD BASE - MINOR FUSAIN - WELL CLEATED AND BROKEN AT BASE
100%	0.48	9a	COAL - 345.61 TO 345.85 m - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - WELL CLEATED; 345.85 TO 346.09 m - DULL - CANNELOID - MINOR VITRAIN BANDS
100%	0.45	9b	COAL - 346.26 TO 346.45 m - DULL - CANNELOID; 346.45 TO 346.70 m - BRIGHT TO DULL - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - CLEATED

T.D. 356.62 m

END OF HOLE

PR-BRI-DOWLING 79(2*)A *(1)
79-11

UTAH MINES LTD.

GRAPHIC CORE LOG

HOLE NO. BC-79-11

LOG BY: D.N. DUNCAN

DATE: JULY 24, 1979

ELEV: 837 m

N: 6,200,760 m

E: 541,850 m

HOLE SIZE: HQ

AIR ☐ WATER ☒

T.D. 748.59 m P.B.

HOLE NO. BC-79-11

PROJECT: BRI-DOWLING CREEK

LEASE: 3650

SEC. T. R.

468

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO	GRAV.	LITHOLOGY	ANALYSIS
	0m						
						GATES FORMATION	
						TRICONED TO 16.59 m	
	10						
						MARINE SANDSTONE, SILTSTONE AND MUDSTONE; MINOR CONGLOMERATE	
	20						
						VERY MINOR COALY STREAKS	
	70°						
						TRANSITIONAL CONTACT WITH UNDERLYING MOOSEBAR FM.	
	30						
	90						
	79°						
	100					MOOSEBAR FORMATION	
						MARINE SILTSTONES AND MUDSTONES AT TOP OF FORMATION; DARK GREY MUDSTONE THROUGHOUT	
						MAJORITY OF SECTION; ABUNDANT BARITIC (?) BANDS TOWARD BASE OF SECTION; ABUNDANT PYRITE	
	110					NODULES TOWARD BASE OF SECTION; MINOR VOLCANIC ASH BANDS (?) TOWARD BASE OF SECTION;	
						GLAUCONITIC TOWARD BASE	
	660						
100%	84°		0.18			COAL - BRIGHT - VITRAIN BANDS IN DURAIN - ABUNDANT FUSAIN - WELL CLEATED	
						GETHING FORMATION	
	670						
100%			2.01	1		COAL - 674.78 TO 675.64 m - BRIGHT TO DULL - HARD - VITRAIN BANDS IN DURAIN - ABUNDANT FUSAIN 675.64 TO 676.79 m - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - WELL CLEATED	
	680						
	80°						
85%			0.75	2		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - WELL CLEATED - BROKEN	
	690						
	85°						
100%			2.73	3		COAL - ABUNDANT VOLCANIC ASH (?) SPLITS 694.47 TO 694.68 m - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED 694.72 TO 694.82 m - DULL TO BRIGHT - MINOR VITRAIN BANDS IN DURAIN - MINOR FUSAIN - FAIRLY WELL CLEATED 694.99 TO 696.06 m - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - WELL CLEATED - MINOR ASH BANDS <0.01 m AT BASE 696.18 TO 696.38 m - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - MINOR FUSAIN - WELL CLEATED TOWARD TOP OF SEAM - VITRAIN CONTENT DECREASING TOWARD BASE - MINOR MUDSTONE BANDS <0.01 m TOWARD BASE 697.09 TO 697.20 m - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - MINOR MUDDY BANDS <0.01 m	
	80°						
	700						
	82°						
95%			0.56	4		COAL - BRIGHT - ABUNDANT VITRAIN BANDS IN DURAIN - WELL CLEATED - HIGHLY BROKEN TOWARD BASE - MINOR MUDDY BANDS AT TOP OF SEAM	
100%	710		0.06			COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED	
100%			0.37			COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED - MINOR MUDDY BANDS AT TOP OF SEAM	
	80°						
100%			0.21			COAL - DULL - CANNELOID	
100%			0.47			COAL - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED - ABUNDANT MUDSTONE BANDS	
	75°						
100%			0.36			COAL - DULL TO BRIGHT - MINOR VITRAIN BANDS IN DURAIN - MINOR FUSAIN - VITRAIN CONTENT INCREASING TOWARD BASE - WELL CLEATED AT BASE	
	720						
90%			0.37			COAL - BRIGHT - ABUNDANT VITRAIN - MINOR DURAIN AND FUSAIN - WELL CLEATED - MINOR MUDSTONE BANDS TOWARD BASE - VOLCANIC ASH BAND (?) FROM 722.52 TO 722.55 m	
	80°						
100%			0.12			COAL - DULL - MINOR VITRAIN BANDS IN DURAIN - MINOR FUSAIN - MINOR MUDSTONE BANDS <0.01 m - POORLY CLEATED	
70%	730		0.30			COAL - BRIGHT - ABUNDANT VITRAIN - MINOR DURAIN AND FUSAIN - WELL CLEATED	
100%			0.20			COAL - BRIGHT TO DULL - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - POORLY CLEATED	
	65°						
	60°						
	740						
75%			1.54	5		COAL - 740.85 TO 741.85 m - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - HIGHLY BROKEN - POORLY CLEATED - ABUNDANT SLICKENSIDES 741.91 TO 742.49 m - DULL TO BRIGHT - VITRAIN BANDS IN DURAIN - MINOR FUSAIN - HIGHLY BROKEN - POORLY CLEATED - ABUNDANT SLICKENSIDES	
	20°						
	10°						
	0°						
						T.D. - 748.59 m	
	750						
						END OF HOLE	

APPENDIX II

CONFIDENTIAL

BRI - Dowling Creek Coal

Hole BC-79-6

Head Analysis

Sample No.	Depth	No. of Meters	Air Dry Basis: Grams Rec'd	% H_2O	% Ash	% S	% VM	% FC	Btu	FSI	Moisture Free Basis: % Ash	% S	% VM	% FC	Btu
1A	169.00-169.23	0.23	816	0.88	23.0	0.63	23.3	52.82	11505,	4 1/2	23.20	0.64	23.51	53.29	11607
1B	169.29-169.92	0.63	920	1.04	15.7	0.84	26.4	56.86	12922	8	15.87	0.85	26.68	57.45	13058
1AB	169.00-169.92	0.92	2171	0.88	31.83	0.60	21.62	45.67	9815	5 1/2	32.11	0.61	21.81	46.08	9902
2A	186.85-187.35	0.50	1295	0.81	14.09	0.78	29.4	55.70	12774	9	14.21	0.79	29.64	56.15	12878
2B	187.46-187.76	0.30	778	0.74	16.19	0.80	33.1	49.97	11950	9	16.31	0.81	33.35	50.34	12039
2AB	186.85-187.76	0.91	3089	0.17	28.10	0.76	36.35	35.38	9125	7 1/2	28.15	0.76	36.41	35.44	9141
3A	243.88-244.31	0.43	1228	0.74	7.85	0.75	24.6	66.81	13700	1 1/2	7.91	0.76	24.78	67.31	13802
3B	244.39-244.56	0.17	375	0.39	20.8	0.76	22.1	56.71	12056	7 1/2	20.88	0.76	22.19	56.93	12103
3C	244.62-244.65	0.03	119	1.01	26.7	0.85	21.45	50.84	10910	7 1/2	26.97	0.86	21.67	51.36	11021
3D	245.08-245.57	0.49	2246	1.16	52.3	0.47	13.45	33.09	6767	1	52.91	0.48	13.61	33.48	6846
4	261.88-262.69	0.81	1333	0.78	5.27	0.76	19.70	74.25	14241	1	5.31	0.77	19.85	74.84	14353

Structures

Size	Sample 1AB: % Weight	Sample 1AB: Cum. % Weight	Sample 2AB: % Weight	Sample 2AB: Cum. % Weight	Sample 4: % Weight	Sample 4: Cum. % Weight
+1/4"	32.47	32.47	24.93	24.93	28.30	28.30
+6 m	31.13	63.60	35.69	60.62	33.97	62.27
+10 m	16.86	80.46	20.19	80.81	16.43	78.70
+28 m	10.62	91.08	11.94	92.75	11.87	90.57
-28 m	8.92	100.00	7.25	100.00	9.43	100.00
Total	100.00		100.00		100.00	

BRI - Dowling Creek Coal

Hole BC-79-6

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #1A 3/8" x 0												
1.400 F	50.08	5	9.62	0.73	24.77	65.61	14011	20.18	60.90	53.67	61.98	60.83
1.400 S	49.92	2	38.17	0.47	21.45	40.38	9048	79.82	39.10	46.33	38.02	39.17
Total	100.00		23.87	0.60	23.11	53.02	11535	100.00	100.00	100.00	100.00	100.00
Sample #1B 3/8" x 0												
1.400 F	78.05	8 1/2	5.69	0.92	28.95	65.36	14543	28.78	86.92	85.42	87.78	87.77
1.400 S	21.95	2 1/2	50.07	0.49	17.57	32.36	7201	71.22	13.08	14.58	12.22	12.23
Total	100.00		15.43	0.83	26.45	58.12	12932	100.00	100.00	100.00	100.00	100.00
Sample #1AB 3/8" x 0												
1.400 F	52.61	8	7.82	0.85	28.07	64.11	14250	12.81	71.86	63.46	75.62	74.41
1.400 S	47.39	1	59.11	0.37	17.94	22.95	5440	87.19	28.14	36.54	24.38	25.59
Total	100.00		32.13	0.62	23.27	44.60	10267	100.00	100.00	100.00	100.00	100.00
Sample #2A 3/8" x 0												
1.400 F	78.74	8 1/2	5.92	0.86	30.58	63.50	14621	89.57	87.35	79.32	89.06	89.57
1.400 S	21.26	6 1/2	41.59	0.46	29.52	28.89	6301	10.43	12.65	20.68	10.94	10.43
Total	100.00		13.50	0.78	30.36	56.14	12842	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-6

Single Gravity Tests

Moisture Free Basis

Product and Sp. Gr.	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #2B 3/8" x 0												
1.400 F	74.81	8 1/2	8.26	0.91	32.06	59.68	14072	36.31	88.56	68.73	92.85	88.43
1.400 S	25.19	1 1/2	43.03	0.35	43.32	13.65	5472	63.69	11.44	31.27	7.15	11.57
Total	100.00		17.02	0.77	34.90	48.08	11905	100.00	100.00	100.00	100.00	100.00
Sample #2AB 3/8" x 0												
1.400 F	53.48	8 1/2	6.61	0.94	30.85	62.54	14405	12.70	65.07	45.20	94.39	84.60
1.400 S	46.52	1	52.75	0.58	43.00	4.27	3014	87.30	34.93	54.80	5.61	15.40
Total	100.00		28.07	0.77	35.43	36.63	9106	100.00	100.00	100.00	100.00	100.00
Sample #3A 3/8 x 0												
1.400 F	84.16	2	2.96	0.78	23.30	73.74	14886	30.75	89.25	78.16	92.89	90.91
1.400 S	15.84	1/2	35.41	0.50	34.59	30.00	7913	69.25	10.75	21.84	7.11	9.09
Total	100.00		7.91	0.74	25.09	66.81	13781	100.00	100.00	100.00	100.00	100.00
Sample #3B 3/8" x 0												
1.400 F	54.81	8 1/2	7.56	0.88	26.14	66.30	14243	18.91	67.78	63.39	65.21	64.97
1.400 S	45.19	3 1/2	38.79	0.58	18.31	42.90	9313	81.09	35.22	36.61	34.79	35.03
Total	100.00		21.62	0.74	22.60	56.73	12016	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-6

Single Gravity Tests

Product and Sp. Gr.	% Weight	Moisture Free Basis									
		Elementary Data					% Distribution				
		FSI	% Ash	% S	% VM	% FC	Btu	Ash	S	VM	FC	Btu
Sample #3C 3/8" x 0												
1.400 F	40.15	9	8.52	1.05	25.81	65.67	14035	12.84	50.30	47.11	51.33	51.04
1.400 S	59.85	6 1/2	38.79	0.68	19.44	41.77	9032	87.16	49.70	52.89	48.67	48.96
Total	100.00		26.64	0.84	22.00	51.36	11041	100.00	100.00	100.00	100.00	100.00
Sample #3D 3/8" x 0												
1.400 F	32.97	8	5.69	0.95	24.47	69.84	14608	3.46	68.04	56.36	71.44	71.44
1.400 S	67.03	0	78.15	0.22	9.32	12.53	2872	96.54	31.96	43.64	28.56	28.56
Total	100.00		54.26	0.46	14.32	31.42	6741	100.00	100.00	100.00	100.00	100.00
Sample #4 3/8" x 0												
1.400 F	97.35	1	5.01	0.79	19.89	75.10	14353	100.00	100.00	100.00	100.00	100.00
1.400 S	2.65											
Total	100.00		5.01	0.79	19.89	75.10	14353	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-6

Sample #1AB 169.00-169.92 Meters

Washability Test

Moisture Free Basis

Product and Sp. Gr.	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 mesh fraction													
1.300 F	33.31	8 1/2	4.43	0.95	29.23	66.34	14846	33.31	4.43	0.95	29.23	66.34	14846
1.350 F	11.02	7	9.76	0.81	25.85	64.39	13910	44.33	5.76	0.91	28.39	65.85	14613
1.400 F	6.47	4	15.47	0.68	24.06	60.47	12991	50.80	6.99	0.88	27.84	65.17	14407
1.450 F	4.63	4 1/2	23.46	0.66	23.66	52.88	11683	55.43	8.37	0.87	27.49	64.14	14180
1.500 F	2.74	4 1/2	29.15	0.66	23.52	47.33	10785	58.17	9.35	0.86	27.30	63.35	14021
1.550 F	2.56	5 1/2	32.90	0.65	22.77	44.33	9977	60.73	10.34	0.85	27.11	62.55	13850
1.600 F	1.79	5	36.32	0.63	22.22	41.46	9435	62.52	11.08	0.84	26.97	61.95	13724
1.600 S	37.48	1/2	71.34	0.24	14.90	13.76	3151	100.00	33.67	0.62	22.45	43.88	8761
Total	100.00		33.67	0.62	22.45	43.88	9761						

Flotation Test on -28 mesh fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	59.31	7 1/2	18.53	0.74	25.55	55.92	12453	28.51	84.42	70.26	83.16	83.09
Conc. II	21.54	1 1/2	50.77	0.33	18.52	30.71	6690	28.37	13.65	18.49	16.59	16.21
Rejects	19.15	0	86.80	0.05	12.67	0.53	324	43.12	1.93	11.25	0.25	0.70
Total	100.00		38.55	0.52	21.57	39.88	8889	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-6

Sample #2AB 186.85-187.76 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 mesh fraction													
1.300 F	39.21	8 1/2	4.56	0.92	31.38	64.06	14509	39.21	4.56	0.92	31.38	64.06	14509
1.350 F	8.71	9	10.42	0.82	31.21	58.37	13411	47.92	5.63	0.90	31.35	63.02	14309
1.400 F	2.58	8 1/2	15.19	0.79	31.61	53.20	12757	50.50	6.11	0.90	31.36	62.53	14230
1.450 F	1.35	8 1/2	19.03	0.77	31.17	49.80	12048	51.85	6.45	0.89	31.36	62.19	14174
1.500 F	0.82	8 1/2	22.03	0.71	31.80	46.17	11194	52.67	6.69	0.89	31.37	61.94	14128
1.550 F	0.93	8	25.80	0.72	31.32	42.88	10446	53.60	7.03	0.89	31.36	61.61	14063
1.600 F	1.05	8	28.92	0.62	31.91	39.17	9848	54.65	7.47	0.88	31.37	61.16	13982
1.600 S	45.35	0	54.87	0.54	45.02	0.11	3237	100.00	28.96	0.73	37.56	33.48	9109
Total	100.00		28.96	0.73	37.56	33.48	9109						

Flotation Test on -28 mesh fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	36.31	9	13.73	0.82	26.49	59.78	12895	16.75	44.09	39.90	47.06	51.46
Conc. II	39.12	8 1/2	23.18	0.76	26.31	50.51	10532	30.46	43.93	42.69	42.84	45.28
Reject	24.57	0	63.96	0.33	17.08	18.96	1209	52.79	11.98	17.41	10.10	3.26
Total	100.00		29.77	0.68	24.11	46.12	9099	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-6

Sample #4 261.88-262.69 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28m fraction													
1.300 F	42.84	2 1/2	2.14	0.85	18.80	79.06	15184	42.84	2.14	0.85	18.80	79.06	15184
1.350 F	47.27	1	2.74	0.77	19.75	77.51	14987	90.11	2.45	0.81	19.30	78.25	15080
1.400 F	1.83	3 1/2	10.86	0.79	23.39	65.75	13357	91.94	2.62	0.81	19.38	78.00	15046
1.450 F	0.49												
1.500 F	0.22												
1.550 F	0.17	7	21.61	0.73	26.81	51.58	11549	92.93	2.82	0.81	19.46	77.72	15008
1.600 F	0.11												
1.600 S	7.07	0	41.32	0.58	35.20	23.48	3297	100.00	5.55	0.79	20.57	73.88	14180
Total	100.00		5.55	0.79	20.57	73.88	14180						

Flotation Test on -28 mesh fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	53.49	1	1.98	0.84	19.97	78.05	15099	18.13	55.99	54.99	55.89	55.83
Conc. II	43.20	1	10.35	0.75	18.80	70.85	13537	81.87	44.01	45.01	45.11	44.17
Rejects	3.31											
Total	100.00		5.87	0.79	19.43	74.70	13926	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-7

Head Analysis

Sample No.	Depth	No. of Meters	Air Dry Basis								Moisture Free Basis				
			Grams Rec'd	% H_2O	% Ash	% S	% VM	% FC	Btu	FSI	% Ash	% S	% VM	% FC	Btu
1	310.85-311.52	0.67	1893	1.25	21.11	2.79	25.27	52.37	11969	7	21.38	2.83	25.59	53.03	12121
2	344.05-344.85	0.80	2381	0.82	19.26	0.77	27.45	52.47	11982	8 1/2	19.42	0.78	27.68	52.90	12081
3	345.10-345.65	0.55	1048	0.77	10.38	0.79	27.10	61.75	13707	8 1/2	10.46	0.80	27.31	62.23	13813
4	393.79-394.21	0.42	1018	1.03	26.88	0.92	18.54	53.55	10809	3 1/2	27.16	0.93	18.73	54.11	10921
5A	406.38-406.91	0.53	399	1.10	8.04	0.79	19.78	71.08	13870	1	8.13	0.80	20.00	71.87	14024
5ABCD	406.38-407.52	1.14	2535	0.93	47.24	0.51	18.35	33.48	7151	1	47.68	0.51	18.52	33.80	7218
6	421.44-422.07	0.63	2440	0.86	20.42	0.94	32.41	46.31	10890	7	20.60	0.95	32.69	46.71	10984

Structure

Size	% Weight	Cum. % Weight
+1/4"	45.99	45.99
+6 m	29.53	75.52
+10 m	12.69	88.21
+28 m	7.17	95.38
-28 m	4.62	100.00
Total	100.00	

BRI - Dowling Creek Coal

Hole BC79-7

Single Gravity Tests

Moisture Free Basis

Product and Sp. Gr.	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #1 3/8" x 0												
1.400 F	60.94	8 1/2	8.16	1.10	30.36	61.48	14205	24.39	25.39	69.69	70.60	71.67
1.400 S	39.06	1 1/2	39.46	5.04	20.60	39.94	8761	75.61	74.61	30.31	29.40	28.33
Total	100.00		20.39	2.64	26.55	53.06	12079	100.00	100.00	100.00	100.00	100.00
Sample #2 3/8" x 0												
1.400 F	77.52	8 1/2	6.06	0.88	30.12	63.82	14262	25.46	91.05	85.27	91.33	91.01
1.400 S	22.48	1	61.17	0.30	17.95	20.88	4856	74.54	8.95	14.73	8.67	8.99
Total	100.00		18.45	0.75	27.38	54.17	12148	100.00	100.00	100.00	100.00	100.00
Sample #3 3/8" x 0												
1.400 F	88.84	8 1/2	5.63	0.84	27.87	66.50	14753	49.30	95.03	90.76	94.42	94.19
1.400 S	11.16	1	46.10	0.35	22.58	31.32	7248	50.70	4.97	9.24	5.58	5.81
Total	100.00		10.15	0.79	27.28	62.57	13916	100.00	100.00	100.00	100.00	100.00
Sample #4 3/8" x 0												
1.400 F	63.44	7 1/2	4.10	1.07	23.29	72.61	14856	9.42	73.17	78.32	86.06	85.46
1.400 S	36.56	0	68.40	0.69	11.19	20.41	4388	90.58	26.83	21.68	13.94	14.54
Total	100.00		27.61	0.93	18.87	53.52	11029	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC79-7

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #5A 3/8" x 0												
1.400 F	92.12	1	3.31	0.83	20.15	76.54	14789	39.61	93.41	91.14	98.02	96.98
1.400 S	7.88	1	59.00	0.68	22.90	18.10	5386	60.39	6.59	8.86	1.98	3.02
Total	100.00		7.70	0.82	20.37	71.93	14048	100.00	100.00	100.00	100.00	100.00
Sample #5ABCD 3/8" x 0												
1.400 F	36.23	2	6.76	0.82	20.87	72.37	14259	5.18	61.62	39.83	77.72	72.16
1.400 S	63.77	0	70.31	0.29	17.91	11.78	3126	94.82	38.38	60.17	22.28	27.84
Total	100.00		47.29	0.48	18.98	33.73	7159	100.00	100.00	100.00	100.00	100.00
Sample #6 3/8" x 0												
1.400 F	55.74	8	5.3	1.09	25.33	69.37	14467	14.74	59.90	43.91	80.87	73.00
1.400 S	44.26	2	38.59	0.92	40.75	20.66	6739	85.26	40.10	56.09	19.13	27.00
Total	100.00		20.03	1.02	32.16	47.81	11047	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-7

Sample #5ABCD 406.38-407.52 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 mesh fraction													
1.300 F	10.96	1 1/2	2.48	0.87	21.67	75.85	15092	10.96	2.48	0.87	21.67	75.85	15092
1.350 F	19.14	1 1/2	8.67	0.81	20.66	70.67	14051	30.10	6.42	0.83	21.03	72.55	14429
1.400 F	7.69	6	15.00	0.85	20.70	64.30	13039	37.79	8.16	0.83	20.96	70.88	14147
1.450 F	2.99	6	21.47	0.87	20.99	57.54	11914	40.78	9.14	0.84	20.96	69.90	13982
1.500 F	1.81	5	24.75	0.80	20.37	54.88	11506	42.59	9.80	0.83	20.94	69.26	13876
1.550 F	0.94	4	31.24	0.78	20.29	48.47	10380	44.03	10.50	0.83	20.92	68.58	13761
1.600 F	0.50												
1.600 S	55.97	0	78.65	0.24	14.66	6.69	1924	100.00	48.65	5.00	17.42	33.93	7136
Total	100.00		48.65	5.00	17.42	33.93	7136						

Flotation Test on -28 mesh fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	42.25	7	11.54	0.89	23.49	64.97	13628	14.33	58.66	43.27	63.79	61.51
Conc. II	32.63	2 1/2	27.93	0.68	28.08	43.99	9982	26.78	34.63	39.95	33.36	34.79
Rejects	25.12	0	79.80	0.17	15.32	4.88	1378	57.89	6.71	16.78	2.85	3.70
Total	100.00		34.04	0.64	22.94	43.02	9361	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-8

Head Analysis

Sample No.	Depth	No. of Meters	Air Dry Basis								Moisture Free Basis				
			Grams Rec'd	% H_2O	% Ash	% S	% VM	% FC	Btu	FSI	% Ash	% S	% VM	% FC	Btu
1A	241.84-242.84	1.00	3873	1.09	8.85	0.73	25.57	64.49	13792	7	8.95	0.74	25.85	65.20	13944
1B	243.04-243.51	0.47	1185	1.02	2.30	0.73	32.24	64.44	14943	8 1/2	2.32	0.74	32.57	65.11	15097
2D	263.39-264.26	0.87	2091	0.83	10.11	0.61	27.79	61.27	13688	7 1/2	10.19	0.62	28.02	61.79	13802
2E	264.33-265.03	0.70	1313	0.68	10.01	0.69	29.07	60.24	13611	8 1/2	10.08	0.69	29.27	60.65	13704
2ABC DEFG	262.86-265.64	2.78	5338	0.96	31.62	0.53	22.51	44.91	9933	6 1/2	31.93	0.54	22.73	45.34	10029
3	288.72-289.27	0.55	1630	1.06	19.59	0.84	20.65	58.70	11981	1	19.80	0.85	20.87	59.33	12109
4	313.38-314.00	0.62	1075	1.26	47.37	0.96	16.25	35.12	7235	2 1/2	47.97	0.97	16.46	35.57	7327
5	323.13-324.05	0.92	2661	0.74	31.47	0.71	16.55	51.24	10196	1	31.70	0.72	16.67	51.63	10272
6	374.16-375.21	1.05	3285	0.70	6.52	0.81	24.14	68.64	14043	2 1/2	6.57	0.82	24.31	69.12	14142
7	377.99-378.70	0.71	2321	1.56	27.09	0.68	15.93	55.42	10912	1	27.52	0.69	16.18	56.30	11085

Structures

Size	Sample 1A		Sample 2ABCDEFG		Sample 4		Sample 5		Sample 6	
	% Weight	Cum. % Weight	% Weight	Cum. % Weight	% Weight	Cum. % Weight	% Weight	Cum. % Weight	% Weight	Cum. % Weight
+1/4"	32.62	32.62	43.58	43.58	41.22	41.22	47.79	47.79	36.55	36.55
+6 m	30.63	63.25	29.37	72.95	27.95	69.17	26.73	74.52	29.15	65.70
+10 m	15.58	78.83	13.95	86.90	14.18	83.35	11.56	86.08	14.45	80.15
+28 m	12.41	91.24	8.36	95.26	10.07	93.42	7.93	94.01	11.29	91.44
-28 m	8.76	100.00	4.74	100.00	6.58	100.00	5.99	100.00	8.56	100.00
Total	100.00		100.00		100.00		100.00		100.00	

BRI - Dowling Creek Coal

Hole BC79-8

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution: Ash	S	VM	FC	Btu
Sample #1A 3/8" x 0												
1.400 F	82.04	7	3.21	0.76	27.72	69.07	14795	30.53	84.67	85.64	87.42	87.64
1.400 S	17.96	1	33.36	0.63	21.23	45.41	9535	69.47	15.33	14.36	12.58	12.36
Total	100.00		0.74	8.62	26.55	64.83	13850	100.00	100.00	100.00	100.00	100.00
Sample #1B 3/8" x 0												
1.400 F	98.26	8 1/2	1.96	0.74	33.12	64.92	15249	81.92	98.64	98.62	98.67	98.87
1.400 S	1.74	7 1/2	24.41	0.59	26.28	59.31	9827	18.08	1.36	1.38	1.33	1.13
Total	100.00		2.35	0.74	33.00	64.65	15155	100.00	100.00	100.00	100.00	100.00
Sample 2D 2/8" x 0												
1.400 F	84.70	8	4.34	0.64	30.24	65.42	14613	36.78	91.55	88.98	90.51	90.17
1.400 S	15.30	5 1/2	41.30	0.33	20.74	37.96	8820	63.22	8.45	11.02	9.49	9.83
Total	100.00		10.00	0.59	28.79	61.21	13726	100.00	100.00	100.00	100.00	100.00
Sample 2E 3/8" x 0												
1.400 F	86.31	8 1/2	3.46	0.73	30.66	65.88	14586	31.13	92.24	90.45	92.97	92.56
1.400 S	13.69	4 1/2	48.16	0.39	20.42	31.42	7389	68.87	7.76	9.55	7.03	7.44
Total	100.00		9.58	0.68	29.26	61.16	13601	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC 79-8

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #2ABCDEFG 3/8" x 0												
1.400 F	51.12	8 1/2	6.08	0.75	28.59	65.33	14683	9.84	69.13	62.28	74.31	74.34
1.400 S	48.88	1	58.27	0.35	18.11	23.62	5301	90.16	30.87	37.72	25.69	25.66
Total	100.00		31.59	0.55	23.47	44.94	10097	100.00	100.00	100.00	100.00	100.00
Sample #3 3/8" x 0												
1.400 F	48.21	6 1/2	8.71	1.03	23.64	67.65	14150	21.25	56.80	52.99	55.53	56.06
1.400 S	51.79	1	30.04	0.73	19.52	50.44	10327	78.75	43.20	47.01	44.47	43.94
Total	100.00		19.56	0.88	21.51	58.73	12170	100.00	100.00	100.00	100.00	100.00
Sample #4 3/8" x 0												
1.400 F	20.91	9	6.08	1.56	25.63	68.29	14567	2.63	33.20	32.35	40.69	41.48
1.400 S	79.09	1	59.52	0.83	14.17	26.31	5434	97.37	66.80	67.65	59.31	58.52
Total	100.00		48.35	0.98	16.57	35.08	7344	100.00	100.00	100.00	100.00	100.00
Sample #5 3/8" x 0												
1.400 F	39.95	1	6.33	0.98	21.15	72.52	14501	7.93	52.13	48.59	57.14	56.92
1.400 S	60.05	1	48.92	0.60	14.89	36.19	7302	92.07	47.87	51.41	42.86	43.08
Total	100.00		31.91	0.75	17.39	50.70	10178	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC79-8

Single Gravity Tests

Product and Sp. Gr.	% Weight	Moisture Free Basis										
		Elementary Data						% Distribution				
		FSI	% Ash	% S	% VM	% FC	Btu	Ash	S	VM	FC	Btu
Sample #6 3/8" x 0												
1.400 F	92.31	4 1/2	2.84	0.89	22.57	74.59	14888	42.24	96.93	87.59	98.35	98.1(
1.400 S	7.69	0	46.63	0.34	38.39	14.98	3485	57.76	3.07	12.41	1.65	1.9(
Total	100.00		6.21	0.85	23.79	70.00	14009	100.00	100.00	100.00	100.00	100.0(
Sample #7 3/8" x 0												
1.400 F	33.66	2	7.82	0.93	20.39	71.79	14274	9.80	45.69	41.32	42.74	43.01
1.400 S	66.34	1	36.51	0.56	14.69	48.80	9598	90.20	54.31	58.68	57.26	56.99
Total	100.00		26.85	0.69	16.61	56.54	11172	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-8

Sample #1A 241.84-242.84 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
1.300 F	66.47	7 1/2	1.95	0.73	28.02	70.03	15207	66.47	1.95	0.73	28.02	70.03	15206
1.350 F	9.02	6 1/2	7.10	0.87	25.47	67.43	14266	75.49	2.56	0.75	27.71	69.73	15095
1.400 F	6.31	3 1/2	11.50	0.78	24.51	63.99	13464	81.80	3.25	0.75	27.47	69.28	14969
1.450 F	4.05	1	16.56	0.62	22.83	60.61	12522	85.85	3.88	0.74	27.25	68.87	14854
1.500 F	3.78	1	21.31	0.67	21.59	57.10	11775	89.63	4.62	0.74	27.01	68.37	14724
1.550 F	2.37	1	27.80	0.73	20.57	51.63	10891	92.00	5.22	0.74	26.85	67.93	14625
1.600 F	1.29	1	32.25	0.87	20.76	46.99	9904	93.29	5.59	0.74	26.76	67.65	14560
1.600 S	6.71	1	53.79	0.82	18.11	28.10	5900	100.00	8.82	0.75	26.18	65.00	13978
Total	100.00		8.82	0.75	26.18	65.00	13978						

Flotation Test on -28 mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	80.48	7 1/2	6.17	0.73	26.83	67.00	14411	58.10	81.10	81.58	82.97	82.95
Conc. II	17.29	6 1/2	18.35	0.70	24.97	56.68	12212	41.90	18.90	18.42	17.03	17.05
Reject	2.23											
Total	100.00		8.55	0.73	26.47	64.98	13982	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-8

Sample #2ABCDEFG 262.86-265.64 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
1.300 F	35.63	8 1/2	3.06	0.70	29.76	67.18	15109	35.63	3.06	0.70	29.76	67.18	15108
1.350 F	8.98	8	9.46	0.68	27.10	63.44	13978	44.61	4.35	0.69	29.22	66.43	14880
1.400 F	4.42	8	16.08	0.71	26.62	57.30	12912	49.03	5.41	0.70	28.99	65.60	14703
1.450 F	2.99	8	21.62	0.76	26.67	51.71	11887	52.02	6.34	0.70	28.86	64.80	14541
1.500 F	2.70	7 1/2	24.59	0.74	25.34	50.07	11545	54.72	7.24	0.70	28.68	64.08	14393
1.550 F	2.81	6 1/2	26.67	0.78	22.32	51.01	11206	57.53	8.19	0.71	28.37	63.44	14238
1.600 F	2.78	1	31.43	0.77	17.83	50.74	10696	60.31	9.26	0.71	27.86	62.88	14074
1.600 S	39.69	1	65.52	0.30	16.50	17.98	4051	100.00	31.59	0.55	23.37	45.04	10096
Total	100.00		31.59	0.55	23.37	45.04	10096						

Flotation Test on -28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	76.78	8 1/2	12.91	0.68	26.84	60.25	13467	40.82	89.38	82.94	90.93	91.12
Conc. II	11.58	4	41.30	0.47	22.26	36.44	8294	19,70	9.25	10.38	8.30	8.46
Reject	11.64	0	82.35	0.07	14.28	3.37	411	39.48	1.37	6.68	0.77	0.42
Total	100.00		24.28	0.58	24.85	50.87	11348	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-8

Sample #4 313.38-314.00 Meters

Washability Test

Moisture Free Basis

Product and Sp. Gr.	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	13.59	8 1/2	3.80	1.51	26.31	69.89	14853	13.59	3.80	1.51	26.31	69.89	14857
1.350 F	4.12	8 1/2	9.50	1.54	25.28	65.22	14011	17.71	5.12	1.51	26.08	68.80	14658
1.400 F	1.57	8	17.25	1.72	25.15	57.60	12650	20.38	6.71	1.54	25.96	67.33	14396
1.450 F	1.10												
1.500 F	1.58	7 1/2	27.11	1.40	21.23	51.66	11153	21.96	8.18	1.53	25.61	66.21	14162
1.550 F	1.97	6 1/2	32.21	1.31	19.90	47.89	10202	23.93	10.16	1.51	25.14	64.70	13836
1.600 F	3.63	6 1/2	37.06	1.28	19.61	43.33	9536	27.56	13.70	1.48	24.42	61.88	13269
1.600 S	72.44	1	62.63	0.73	13.60	23.77	5019	100.00	49.15	0.94	16.58	34.27	7293
Total	100.00		49.15	0.94	16.58	34.27	7293						

Flotation Test on -28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	18.94	8 1/2	19.03	1.43	22.99	57.98	12447	9.91	24.35	21.95	25.13	24.39
Conc. II	50.88	7 1/2	27.94	1.27	21.49	50.57	11231	39.05	58.04	55.06	58.81	59.06
Reject	30.18	0	61.58	0.65	15.13	23.29	5305	51.04	17.61	22.99	16.06	16.55
Total	100.00		36.41	1.11	19.86	43.73	9675	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-8

Sample #5 323.13-324.05 Meters

Washability Test

Moisture Free Basis

Product and Sp. Gr.	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	0.10	1	4.94	1.00	20.62	74.44	14717	30.51	4.94	1.00	20.62	74.44	14717
1.350 F	30.41												
1.400 F	7.70	1	12.29	0.93	20.07	67.64	13584	38.21	6.42	0.99	20.51	73.07	14488
1.450 F	5.66	1	19.03	0.85	18.92	62.05	12720	43.87	8.05	0.97	20.30	71.65	14260
1.500 F	2.84	1	30.05	0.77	16.97	52.98	11060	46.71	9.38	0.96	20.10	70.52	14066
1.550 F	4.00	1	36.30	0.74	15.57	48.13	9855	50.71	11.51	0.94	19.74	68.75	13733
1.600 F	3.38	1	36.79	0.69	22.09	41.12	9462	54.09	13.09	0.92	19.89	67.02	13466
1.600 S	45.91	1	57.12	0.47	13.31	29.57	6231	100.00	33.30	0.72	16.87	49.83	10145
Total	100.00		33.30	0.72	16.87	49.83	10272						

Flotation Test on -28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	49.59	1	18.04	0.83	19.54	62.42	12613	29.11	58.77	54.58	60.09	59.54
Conc. II	38.22	1	35.43	0.66	16.27	48.30	9857	44.06	35.95	35.02	35.84	35.86
Reject	12.19	0	67.66	0.30	15.15	17.19	3965	26.83	5.28	10.40	4.07	4.60
Total	100.00		30.74	0.70	17.76	51.50	10505	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-8

Sample #6 374.16-375.21 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	46.92	7 1/2	2.20	0.95	23.60	74.20	15158	46.92	2.20	0.95	23.60	74.20	15158
1.350 F	43.44	1	3.74	0.78	21.39	74.87	14790	90.36	2.94	0.87	22.54	74.52	14981
1.400 F	1.40	1	9.71	0.79	22.20	68.09	13835	91.76	3.04	0.87	22.53	74.43	14964
1.450 F	0.33												
1.500 F	0.20	1	21.00	0.70	22.60	56.40	11788	92.65	3.22	0.87	22.53	74.25	14934
1.550 F	0.18												
1.600 F	0.18												
1.600 S	7.35	0	53.88	0.16	43.48	2.64	4328	100.00	6.94	0.81	24.07	68.99	14154
Total	100.00		6.94	0.81	24.07	68.99	14154						

Flotation Test on -28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	82.86	5	2.92	0.86	23.07	74.01	13960	44.04	86.32	81.34	86.37	85.76
Conc. II	14.13	1	17.94	0.66	25.59	56.47	12008	55.96	13.68	18.66	13.63	14.24
Reject	3.01											
Total	100.00		5.50	0.83	23.50	71.00	14454	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-9

Head Analysis

Sample No.	Depth	No. of Meters	Air Dry Basis								Moisture Free Basis				
			Grams Rec'd	% H_2O	% Ash	% S	% VM	% FC	Btu	FSI	% Ash	% S	% VM	% FC	Btu
1A	130.51-131.86	1.35	5020	0.92	6.91	0.99	25.96	66.21	14091	5	6.97	1.00	26.20	66.83	14222
1B	132.24-132.72	0.48	1391	0.80	3.13	0.74	33.36	62.71	14988	8 1/2	3.16	0.75	33.63	63.21	15109
2A	156.82-158.28	1.46	4491	0.83	11.56	0.78	28.47	59.14	13479	8	11.66	0.79	28.71	59.63	13592
2B	158.41-158.75	0.34	1461	0.85	19.12	0.74	24.66	55.37	12432	7 1/2	19.28	0.75	24.87	55.85	12539
2AB	156.82-158.75	1.93	6372	0.82	19.34	0.70	25.90	53.94	11909	7	19.50	0.71	26.11	54.39	12007
3	166.78-167.51	0.73	1475	0.57	13.33	1.66	29.76	56.34	13026	8	13.41	1.67	29.93	56.66	13101
4	197.16-197.76	0.60	1864	0.92	7.75	0.87	22.49	68.84	13818	1	7.82	0.88	22.70	69.48	13946
5ABC	246.11-247.09	0.98	3025	1.06	17.96	0.69	21.80	59.18	12180	1 1/2	18.15	0.70	22.03	59.82	12310

Structure

Size	Sample #1A		Sample #2AB		Sample #5ABC	
	% Weight	Cum. % Weight	% Weight	Cum. % Weight	% Weight	Cum. % Weight
+1/4"	33.12	33.12	7.63	7.63	31.07	31.07
+6 m	29.31	62.43	13.27	20.90	31.90	62.97
+10 m	15.48	77.91	15.47	36.37	15.50	78.47
+28 m	12.71	90.62	36.08	72.45	12.89	91.36
-28 m	9.38	100.00	27.55	100.00	8.64	100.00
Total	100.00		100.00		100.00	

BRI - Dowling Creek Coal

Hole BC79-9

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution: Ash	S	VM	FC	Btu
Sample #1A 3/8" x 0												
1.400 F	85.49	6	2.95	0.82	27.26	69.79	14961	38.10	70.59	87.98	89.20	89.48
1.400 S	14.51	1	28.24	2.01	21.95	49.81	10362	61.90	29.41	12.02	10.80	10.52
Total	100.00		6.62	0.99	26.49	66.89	14294	100.00	100.00	100.00	100.00	100.00
Sample #1B 3/8" x 0												
1.400 F	96.86	8 1/2	2.31	0.75	33.45	64.24	15245	69.32	97.19	97.62	97.86	97.93
1.400 S	3.14	7 1/2	31.52	0.66	25.15	43.33	9949	30.68	2.81	2.38	2.14	2.07
Total	100.00		3.23	0.75	33.19	63.58	15078	100.00	100.00	100.00	100.00	100.00
Sample #2A 3/8" x 0												
1.400 F	83.27	8 1/2	5.06	0.78	28.83	66.11	14739	37.56	86.44	86.93	90.00	89.71
1.400 S	16.73	4	41.87	0.61	21.58	36.55	8419	62.44	13.56	13.07	10.00	10.29
Total	100.00		11.22	0.75	27.62	61.16	13681	100.00	100.00	100.00	100.00	100.00
Sample #2B 3/8" x 0												
1.400 F	74.87	8	4.45	0.78	28.00	67.55	14947	17.12	87.95	87.35	89.30	89.36
1.400 S	25.13	1	63.80	0.32	12.08	24.12	5303	82.88	12.05	12.65	10.70	10.64
Total	100.00		19.35	0.66	24.00	56.65	12524	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC 79-9

Single Gravity Tests

Moisture Free Basis

Product and Sp. Gr.	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #2AB 3/8" x 0												
1.400 F	74.48	8 1/2	5.22	0.78	28.98	65.80	14543	20.81	85.69	82.51	88.85	89.12
1.400 S	25.52	1	57.98	0.38	17.93	24.09	5182	79.19	14.31	17.49	11.15	10.88
Total	100.00		18.68	0.71	26.16	55.16	12154	100.00	100.00	100.00	100.00	100.00
Sample #3 3/8" x 0												
1.400 F	75.44	8 1/2	3.98	1.08	30.28	65.74	14827	23.68	52.11	77.19	85.92	85.19
1.400 S	24.56	7	39.41	3.05	27.49	33.10	7914	76.32	47.89	22.81	14.08	14.81
Total	100.00		12.68	1.56	29.60	57.72	13129	100.00	100.00	100.00	100.00	100.00
Sample #4 3/8" x 0												
1.400 F	91.77	1	5.33	0.85	22.76	71.91	14440	63.61	92.53	90.08	95.47	94.79
1.400 S	8.23	1	34.00	0.76	27.93	38.07	8851	36.39	7.47	9.92	4.53	5.21
Total	100.00		7.69	0.83	23.19	69.12	13980	100.00	100.00	100.00	100.00	100.00
Sample #5ABC 3/8" x 0												
1.400 F	72.92	3	3.38	0.82	22.77	73.85	14878	14.14	86.29	72.86	90.09	88.33
1.400 S	27.08	1	55.29	0.35	22.84	21.87	5293	85.86	13.71	27.14	9.91	11.67
Total	100.00		17.44	0.69	22.79	59.77	12282	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-9

Sample #1A 130.51-131.86 Meters

Washability Test

Moisture Free Basis

Product and Sp. Gr.	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	68.24	6 1/2	1.97	0.77	27.04	70.99	15116	68.24	1.97	0.77	27.04	70.99	15116
1.350 F	11.35	3 1/2	5.44	1.02	24.33	70.23	14589	79.59	2.46	0.81	26.65	70.89	15040
1.400 F	5.56	2	11.38	1.34	24.39	64.23	13510	85.15	3.05	0.84	26.50	70.45	14941
1.450 F	4.47	1	16.09	1.33	23.88	60.03	12585	89.62	3.70	0.86	26.37	69.93	14823
1.500 F	3.23	1	20.41	1.43	21.86	57.73	11861	92.85	4.28	0.88	26.22	69.50	14721
1.550 F	2.17	1	24.77	1.76	21.35	53.88	11132	95.02	4.75	0.90	26.11	69.14	14639
1.600 F	1.29	1	29.53	1.72	21.67	48.80	10176	96.31	5.08	0.91	26.05	68.87	14579
1.600 S	3.69	1	53.23	2.69	18.78	27.99	5874	100.00	6.85	0.98	25.78	67.37	14258
Total	100.00		6.85	0.98	25.78	67.37	14258						

Flotation Test on -28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	95.21	6 1/2	4.99	0.86	26.58	68.43	14451	73.53	90.60	96.19	96.91	96.98
Conc. II	3.03	1	35.70	1.77	20.94	43.36	8960	26.47	9.40	3.81	3.09	3.02
Rejects	1.76											
Total	100.00		6.46	0.90	26.31	67.23	14188	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-9

Sample #2AB 156.82-158.75 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	56.47	8	2.95	0.83	30.91	66.14	14947	56.47	2.95	0.83	30.91	66.14	14947
1.350 F	9.53	7	7.80	0.72	26.08	66.12	14195	66.00	3.65	0.82	30.21	66.14	14839
1.400 F	4.50	7 1/2	15.61	0.75	25.62	58.77	12950	70.50	4.41	0.81	29.92	65.67	14718
1.450 F	2.27	7 1/2	22.04	0.78	25.20	52.76	11948	72.77	4.96	0.81	29.77	65.27	14631
1.500 F	2.19	6 1/2	27.03	0.77	22.44	50.53	11124	74.96	5.61	0.81	29.56	64.83	14529
1.550 F	1.77	5	32.60	0.75	21.39	46.01	10279	76.73	6.23	0.81	29.37	64.40	14431
1.600 F	1.76	3 1/2	37.54	0.64	21.02	41.44	9352	78.49	6.94	0.80	29.18	63.88	14318
1.600 S	21.51	0	70.53	0.28	14.69	14.78	3544	100.00	20.61	0.69	26.06	53.33	12000
Total	100.00		20.61	0.69	26.06	53.33	12000						

Flotation Test on 28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	88.94	8 1/2	8.39	0.79	28.22	63.39	14193	59.28	92.75	91.69	93.90	94.0
Conc. II	5.42	7 1/2	21.14	0.70	25.86	53.00	11416	9.10	5.01	5.12	4.79	4.61
Reject	5.64	0	70.55	0.30	15.49	13.96	3174	31.62	2.24	3.19	1.31	1.3
Total	100.00		12.59	0.76	27.38	60.03	13421	100.00	100.00	100.00	100.00	100.0

BRI - Dowling Creek Coal

Hole BC-79-9

Sample #5ABC 246.11-247.09 Meters

Washability Test

Moisture Free Basis

Product and Sp. Gr.	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	36.03	5	1.89	0.88	23.53	74.58	15088	36.03	1.89	0.88	23.53	74.58	15088
1.350 F	34.43	1	3.57	0.78	22.38	74.05	14950	70.46	2.71	0.83	22.97	74.32	15020
1.400 F	4.12	1 1/2	10.95	0.75	22.10	66.95	13594	74.58	3.17	0.83	22.92	73.91	14941
1 450 F	0.90	2 1/2	15.76	0.74	19.84	64.40	13678	75.48	3.32	0.83	22.88	73.80	14926
1.500 F	0.65	4	22.37	0.71	19.46	58.17	13121	76.13	3.48	0.83	22.85	73.67	14910
1.550 F	0.57	3 1/2	28.64	0.67	21.59	49.77	10592	76.70	3.66	0.83	22.84	73.50	14877
1.600 F	0.82	3	34.13	0.59	21.23	44.64	9735	77.52	3.99	0.83	22.83	73.18	14823
1.600 S	22.48	0	62.97	0.29	21.10	15.93	3468	100.00	17.25	0.70	22.44	60.31	12271
Total	100.00		17.25	0.70	22.44	60.31	12271						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	78.95	3 1/2	3.98	0.82	22.99	73.03	14601	27.36	87.20	78.51	88.17	87.23
Conc. II	13.31	1	23.60	0.63	23.56	52.84	11152	27.35	11.32	13.56	10.75	11.23
Reject	7.74	0	67.22	0.14	23.68	9.10	2633	45.29	1.48	7.93	1.08	1.54
Total	100.00		11.49	0.74	23.12	65.39	13215	100.00	100.00	100.00	100.00	100.00

Hole BC-79-10

Head Analysis

Sample No.	Depth	No. of Meters	Air Dry Basis								Moisture Free Basis				
			Grams Rec'd	% H_2O	% Ash	% S	% VM	% FC	Btu	FSI	% Ash	% S	% VM	% FC	Btu
1	231.64-233.38	1.74	5841	1.44	2.04	0.72	27.05	69.47	14819	7	2.07	0.73	27.45	70.48	15036
2A	262.85-263.35	0.50	2714	1.96	26.30	0.96	21.46	50.28	10991	7	26.83	0.98	21.89	51.28	11211
2B	263.52-263.80	0.28	1318	1.14	8.22	0.90	25.67	64.97	13999	8	8.31	0.91	25.97	65.72	14160
3A	265.48-265.63	0.15	372	1.37	8.11	0.75	23.25	67.27	13845	6 1/2	8.22	0.76	23.57	68.21	14037
3B	265.76-266.15	0.39	1736	0.82	22.88	0.63	35.41	40.89	10500	8	23.07	0.64	35.71	41.22	10588
4	271.92-272.85	0.93	3319	0.85	30.53	1.02	22.77	45.85	10234	7 1/2	30.79	1.03	22.97	46.24	10322
5	275.43-277.67	2.24	7292	1.71	8.14	0.64	22.06	68.09	13702	1	8.28	0.65	22.44	69.28	13940
6A	299.68-300.66	0.98	3251	1.56	5.55	0.83	23.32	69.57	14211	3	5.64	0.84	23.69	70.67	14372
6B	300.73-301.10	0.37	1119	1.12	5.50	1.02	28.51	64.87	14064	8 1/2	5.56	1.03	28.83	65.61	14223
6AB	299.68-301.10	1.42	4807	0.96	14.27	0.79	24.13	60.64	12723	5 1/2	14.41	0.80	24.36	61.23	12846
7	326.90-327.67	0.77	2768	0.65	12.25	0.81	24.88	62.22	13088	7	12.33	0.82	25.04	62.63	13174
8	330.60-331.74	1.14	2995	1.43	7.86	1.03	25.04	65.67	13972	8 1/2	7.97	1.04	25.40	66.63	14175
9A	345.61-346.09	0.48	1728	1.06	15.15	0.66	19.77	64.02	12842	1	15.31	0.67	19.98	64.71	12980
9B	346.25-346.70	0.45	1415	1.23	12.64	0.76	20.98	65.15	13280	2 1/2	12.80	0.77	21.24	65.96	13445
9AB	345.61-346.70	1.09	4321	0.95	28.32	0.58	17.89	52.84	10726	1	28.59	0.59	18.06	53.35	10829

Structure

	Sample #1		Sample #4		Sample #5		Sample #6AB		Sample #7		Sample #8		Sample #9AB	
Size	% Wt.	Cum. % Wt.	% Wt.	Cum. % Wt.	% Wt.	Cum. % Wt.	% Wt.	Cum. % Wt.	% Wt.	Cum. % Wt.	% Wt.	Cum. % Wt.	% Wt.	Cum. % Wt.
+1/4"	19.52	19.52	27.31	27.31	30.67	30.67	21.04	21.04	19.93	19.93	20.80	20.80	32.26	32.26
+6 m	34.61	54.13	32.49	59.80	31.23	61.90	37.69	58.73	35.42	55.35	33.72	54.52	35.41	67.67
+10 m	20.25	74.38	18.05	77.85	15.26	77.16	18.47	77.20	19.67	75.02	20.11	74.63	15.61	83.28
+28 m	15.57	89.95	13.36	91.21	12.97	90.13	14.13	91.33	14.54	89.56	14.77	89.40	10.46	93.74
-28 m	10.05	100.00	8.79	100.00	9.87	100.00	8.67	100.00	10.44	100.00	10.60	100.00	6.26	100.00
Total	100.00		100.00		100.00		100.00		100.00		100.00		100.00	

BRI - Dowling Creek Coal

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Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #1 3/8" x 0												
1.400 F	97.80	7	1.26	0.73	27.18	71.56	15219	58.61	98.62	98.29	98.78	98.37
1.400 S	2.20	1	39.54	0.46	21.04	39.42	11206	41.39	1.38	1.71	1.22	1.63
Total	100.00		2.10	0.72	27.05	70.85	15131	100.00	100.00	100.00	100.00	100.00
Sample #2A 3/8" x 0												
1.400 F	49.21	8 1/2	8.04	1.13	26.49	65.47	14249	14.78	57.20	59.51	62.76	62.58
1.400 S	50.79	1 1/2	44.90	0.82	17.46	37.64	8253	85.22	42.80	40.49	37.24	37.42
Total	100.00		26.76	0.97	21.90	51.34	11204	100.00	100.00	100.00	100.00	100.00
Sample 2B 3/8" x 0												
1.400 F	93.30	8 1/2	5.70	0.91	27.01	67.29	14667	64.93	96.48	95.24	96.07	96.01
1.400 S	6.70	1	42.87	0.47	18.76	38.37	8478	35.07	3.52	4.76	3.93	3.99
Total	100.00		8.19	0.88	26.46	65.35	14252	100.00	100.00	100.00	100.00	100.00
Sample 3B 3/8" x 0												
1.400 F	57.37	8 1/2	3.68	0.91	30.41	65.91	14992	9.52	79.33	49.24	89.21	80.56
1.400 S	42.63	1	47.08	0.32	42.19	10.73	4868	90.48	20.67	50.76	10.79	19.44
Total	100.00		22.18	0.66	35.43	42.39	10676	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC 79-10

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution: Ash	S	VM	FC	Btu
Sample #4 3/8" x 0												
1.400 F	58.40	9	3.62	1.02	28.75	67.63	14964	6.56	57.25	76.93	85.97	85.38
1.400 S	41.60	0	72.40	1.07	12.10	15.50	3597	93.44	42.75	23.07	14.03	14.62
Total	100.00		32.23	1.04	21.82	45.95	10235	100.00	100.00	100.00	100.00	100.00
Sample #5 3/8" x 0												
1.400 F	86.43	1 1/2	3.55	0.66	22.81	73.64	14752	37.87	90.33	87.08	91.90	91.33
1.400 S	13.57	1	37.10	0.45	21.55	41.35	8927	62.13	9.67	12.92	8.10	8.67
Total	100.00		8.10	0.63	22.64	69.26	13960	100.00	100.00	100.00	100.00	100.00
Sample #6A 3/8" x 0												
1.400 F	86.37	4 1/2	2.79	0.89	23.96	73.25	14874	43.91	90.26	88.85	88.83	89.12
1.400 S	13.63	1	22.58	0.61	19.05	58.37	11501	56.09	9.74	11.15	11.17	10.88
Total	100.00		5.49	0.85	23.29	71.22	14415	100.00	100.00	100.00	100.00	100.00
Sample 6B 3/8" x 0												
1.400 F	97.11	8 1/2	5.03	1.04	28.77	66.20	14289	83.91	97.77	97.65	98.05	97.93
1.400 S	2.89	6 1/2	32.42	0.80	23.26	44.32	10136	16.09	2.23	2.35	1.95	2.07
Total	100.00		5.82	1.03	28.61	65.57	14169	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC 79-10

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Sample #6AB 3/8" x 0												
1.400 F	78.57	7	3.35	0.96	26.27	70.38	14812	17.52	91.39	84.89	91.16	91.30
1.400 S	21.43	0	57.83	0.33	17.15	25.02	5175	82.48	8.61	15.11	8.84	8.70
Total	100.00		15.03	0.83	24.32	60.65	12747	100.00	100.00	100.00	100.00	100.00
Sample #7 3/8" x 0												
1.400 F	76.28	7 1/2	3.57	0.94	25.10	71.33	14623	21.82	86.28	78.60	86.14	85.31
1.400 S	23.72	1	41.12	0.48	21.98	36.90	8099	78.18	13.72	21.40	13.86	14.69
Total	100.00		12.48	0.83	24.36	63.16	13075	100.00	100.00	100.00	100.00	100.00
Sample #8 3/8" x 0												
1.400 F	91.35	8 1/2	3.30	1.08	26.84	69.86	14925	38.74	95.64	93.83	96.56	96.26
1.400 S	8.65	1 1/2	55.12	0.52	18.63	26.25	6128	61.26	4.36	6.17	3.44	3.74
Total	100.00		7.78	1.03	26.13	66.09	14164	100.00	100.00	100.00	100.00	100.00
Sample #9A 3/8" x 0'												
1.400 F	58.60	3 1/2	4.90	0.82	22.80	72.30	14717	19.12	69.51	65.89	65.48	66.06
1.400 S	41.40	1	29.33	0.51	16.71	53.96	10700	80.88	30.49	34.11	34.52	33.94
Total	100.00		15.01	0.69	20.28	64.71	13054	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC79-10

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution: Ash	S	VM	FC	Btu
Sample #9B 3/8" x 0												
1.400 F	71.71	6	4.27	0.86	23.16	72.57	14854	24.77	79.82	77.47	78.61	79.60
1.400 S	28.29	1	32.87	0.55	17.07	50.06	9651	75.23	20.18	22.53	21.39	20.40
Total	100.00		12.36	0.77	21.44	66.20	13382	100.00	100.00	100.00	100.00	100.00
Sample #9AB 3/8" x 0												
1.400 F	43.71	4 1/2	4.15	0.84	23.10	72.75	14770	6.50	60.26	56.82	58.53	59.20
1.400 S	56.29	0	46.34	0.43	13.63	40.03	7903	93.50	39.74	43.18	41.47	40.80
Total	100.00		27.90	0.61	17.77	54.33	10905	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-10

Sample #1 231.64-233.38 Meters

Washability Test - 3/8" x 28 Mesh

Product and Sp. Gr.	% Weight	Moisture Free Basis: Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
1.300 F	89.43	7 1/2	0.99	0.74	27.68	71.33	15304	89.43	0.99	0.74	27.68	71.33	15304
1.350 F	7.82	1	2.85	0.66	26.01	71.14	14875	97.25	1.14	0.73	27.54	71.32	15269
1.400 F	0.94	1	7.74	0.62	22.47	69.79	14028	98.19	1.20	0.73	27.49	71.31	15257
1.450 F	0.11												
1.500 F	0.19	1	25.95	0.69	22.11	51.94	11055	98.82	1.36	0.73	27.46	71.18	15231
1.550 F	0.15												
1.600 F	0.18												
1.600 S	1.18	1	58.23	0.36	21.47	20.30	5238	100.00	2.03	0.73	27.39	70.58	15114
Total	100.00		2.03	0.73	27.39	70.58	15113						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	82.48	7	1.37	0.74	26.36	72.27	15162	47.00	83.22	83.76	83.21	83.46
Conc. II	16.95	5	7.27	0.70	24.07	68.66	14150	53.00	16.78	16.24	16.79	16.54
Reject	0.57											
Total	100.00		2.40	0.73	25.96	71.64	14985	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-10

Sample #4 271.92-272.85 Meters

Washability Test - 3/8" x 28 Mesh

Moisture Free Basis

Product and Sp. Gr.	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	53.25	8 1/2	2.03	1.02	31.10	66.87	15202	53.25	2.03	1.02	31.10	66.87	15202
1.350 F	3.99	8 1/2	7.94	1.01	29.64	62.42	14066	57.24	2.44	1.02	31.00	66.56	15122
1.400 F	2.01	8 1/2	15.05	0.96	27.37	57.58	12922	59.25	2.87	1.02	30.88	66.25	15048
1.450 F	1.24	7 1/2	18.86	0.93	26.26	54.88	12270	60.49	3.20	1.02	30.78	66.02	14991
1.500 F	1.07	7 1/2	23.32	1.12	25.56	51.12	11326	61.56	3.55	1.02	30.69	65.76	14927
1.550 F	1.17	7 1/2	28.60	0.89	24.79	46.61	10530	62.73	4.02	1.01	30.58	65.40	14845
1.600 F	0.83	6	35.68	0.97	22.54	41.78	9642	63.56	4.43	1.01	30.48	65.09	14777
1.600 S	36.44	0	78.09	0.94	9.70	12.21	2465	100.00	31.27	0.99	22.91	45.82	10290
Total	100.00		31.27	0.99	22.91	45.82	10290						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	24.90	8 1/2	5.33	1.10	27.60	67.07	14720	6.21	24.77	28.47	30.65	30.37
Conc. II	48.09	8 1/2	10.02	1.14	27.01	62.97	13993	22.55	49.55	53.81	55.58	55.76
Reject	27.01	2	56.37	1.05	15.84	27.79	6202	71.24	25.68	17.72	13.77	13.87
Total	100.00		21.37	1.01	24.14	54.49	12067	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-10

Sample #5 275.43-277.67 Meters

Washability Test - 3/8" x 28 Mesh

Product and Sp. Gr.	% Weight	Moisture Free Basis: Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
1.300 F	31.51	6	1.68	0.75	23.98	74.34	15167	31.51	1.68	0.75	23.98	74.34	15167
1.350 F	47.33	1	3.45	0.64	22.48	74.07	14790	78.84	2.74	0.68	23.08	74.18	14940
1.400 F	7.57	1	9.67	0.57	21.73	68.60	13823	86.41	3.35	0.67	22.96	73.69	14842
1.450 F	3.64	1	15.66	0.56	21.51	62.83	12692	90.05	3.85	0.67	22.90	73.25	14755
1.500 F	2.09	1	20.20	0.37	21.50	58.30	11878	92.14	4.22	0.66	22.87	72.91	14690
1.550 F	1.00	1	26.71	0.55	21.22	52.07	10738	93.14	4.46	0.66	22.85	72.69	14647
1.600 F	0.74	1	31.46	0.48	21.19	47.35	10170	93.88	4.67	0.66	22.84	72.49	14611
1.600 S	6.12	0	59.38	0.36	20.65	19.97	4997	100.00	8.02	0.64	22.71	69.27	14023
Total	100.00		8.02	0.64	22.71	69.27	14023						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	75.32	2 1/2	3.78	0.68	23.92	72.30	14665	37.88	79.50	77.42	78.68	78.69
Conc. II	20.85	1	10.15	0.59	21.71	68.14	13674	28.15	19.10	19.45	20.53	20.31
Reject	3.83	0	66.66	0.24	19.04	14.30	3687	33.97	1.40	3.13	0.79	1.00
Total	100.00		7.52	0.64	23.27	69.21	14038	100.00	100.00	100.00	100.00	100.00

BRI - Bowling Creek Coal

Hole BC-79-10

Sample #6AB 299.68-301.10 Meters

Washability Test - 3/8" x 28 Mesh

Product and Sp. Gr.	% Weight	Moisture Free Basis: Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
1.300 F	51.63	7 1/2	2.21	0.96	26.07	71.72	14978	51.63	2.21	0.96	26.07	71.72	14978
1.350 F	21.43	2	4.97	0.83	23.69	71.34	14550	73.06	3.02	0.92	25.37	71.61	14852
1.400 F	6.73	2	9.75	0.81	22.86	67.39	13632	79.79	3.59	0.91	25.16	71.25	14749
1.450 F	2.92	1	15.82	0.69	20.29	63.89	12712	82.71	4.02	0.91	24.99	70.99	14677
1.500 F	3.30	1	20.05	0.57	19.91	60.04	11765	86.01	4.63	0.89	24.79	70.58	14565
1.550 F	2.43	1	25.15	0.53	18.82	56.03	11003	88.44	5.20	0.88	24.63	70.17	14466
1.600 F	0.74	1	30.29	0.56	17.84	51.87	10277	89.18	5.41	0.88	24.57	70.02	14431
1.600 S	10.82	0	82.31	0.11	15.23	2.46	632	100.00	13.73	0.80	23.56	62.71	12938
Total	100.00		13.73	0.80	23.56	62.71	12938						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	83.26	7	4.88	0.89	25.38	69.74	14498	44.64	87.18	85.35	87.79	88.45
Conc. II	13.35	1/2	30.10	0.65	21.66	48.24	9418	55.36	12.82	14.65	12.21	11.55
Reject	3.39											
Total	100.00		9.10	0.85	24.76	66.14	13648	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-10

Sample #7 326.90-327.67 Meters

Washability Test - 3/8" x 28 Mesh

Moisture Free Basis

Product and Sp. Gr.	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
1.300 F	54.03	8	1.86	0.94	25.67	72.47	15060	54.03	1.86	0.94	25.67	72.47	15060
1.350 F	15.34	6	5.41	0.89	24.55	70.04	14389	69.37	2.65	0.93	25.42	71.93	14911
1.400 F	5.76	5	12.50	0.75	23.04	64.46	13409	75.13	3.40	0.92	25.24	71.36	14796
1.450 F	2.36	5	18.67	0.72	22.86	58.47	12226	77.49	3.87	0.91	25.17	70.96	14718
1.500 F	4.71	2 1/2	22.70	0.62	22.69	54.61	11424	82.20	4.95	0.89	25.03	70.02	14529
1.550 F	2.75	1 1/2	26.95	0.60	22.23	50.82	10581	84.95	5.66	0.88	24.93	69.41	14401
1.600 F	2.34	2	30.38	0.58	21.35	48.27	9541	87.29	6.32	0.88	24.84	68.84	14271
1.600 S	12.71	1	60.85	0.32	19.04	20.11	4405	100.00	13.25	0.81	24.10	62.65	13017
Total	100.00		13.25	0.81	24.10	62.65	13017						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	85.29	7 1/2	6.17	0.89	25.83	68.00	14326	54.69	90.14	87.42	88.98	89.17
Conc. II	12.97	1	29.63	0.56	21.56	48.81	10089	45.31	9.86	12.58	11.02	10.83
Reject	1.74											
Total	100.00		9.62	0.84	25.20	65.18	13703	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-10

Sample #8 330.60-331.74 Meters

Washability Test

Product and Sp. Gr.	% Weight	Moisture Free Basis: Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	80.12	8	2.24	1.05	25.94	70.82	15131	80.12	2.24	1.05	25.94	71.82	15131
1.350 F	8.50	8	5.90	0.96	25.05	69.05	14451	88.62	2.59	1.04	25.85	71.56	15065
1.400 F	2.34	8	11.60	1.11	24.87	63.53	13281	90.96	2.82	1.04	25.83	71.35	15020
1.450 F	0.79	8	15.81	1.10	24.58	59.61	12395	91.75	2.94	1.04	25.82	71.24	14997
1.500 F	0.56												
1.550 F	0.27	7 1/2	22.00	1.22	23.57	54.43	11052	92.85	3.16	1.05	25.79	71.05	14951
1.600 F	0.27												
1.600 S	7.15	0	71.57	0.62	15.10	13.33	3632	100.00	8.05	1.02	25.03	66.92	14142
Total	100.00		8.05	1.02	25.03	66.92	14142						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	74.74	8	3.68	1.06	26.97	69.35	14899	44.26	76.15	76.41	76.89	77.08
Conc. II	23.17	7 1/2	13.71	0.98	24.63	61.66	13107	55.74	23.85	23.59	23.11	22.92
Reject	2.09											
Total	100.00		6.21	1.04	26.38	67.41	14447	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-10

Sample #9AB 345.61-346.70 Meters

Washability Test

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	19.36	7 1/2	2.50	0.84	22.39	75.11	15005	19.36	2.50	0.84	22.39	75.11	15005
1.350 F	15.65	2	2.95	0.77	22.01	75.04	14912	35.01	2.70	0.81	22.22	75.08	14964
1.400 F	8.17	1	10.27	0.69	20.17	69.56	13671	43.18	4.13	0.79	21.83	74.04	14720
1.450 F	6.21	1	15.56	0.64	18.49	65.95	12822	49.39	5.57	0.77	21.41	73.02	14481
1.500 F	3.76	1	21.05	0.59	17.89	61.06	11903	53.15	6.66	0.76	21.16	72.18	14299
1.550 F	3.72	1	28.35	0.60	16.06	55.59	10908	56.87	8.08	0.75	20.83	71.09	14078
1.600 F	4.98	1	32.94	0.56	15.45	51.61	10101	61.85	10.08	0.73	20.40	69.52	13757
1.600 S	38.15	0	59.98	0.36	12.23	27.79	5762	100.00	29.12	0.59	17.28	53.60	10707
Total	100.00		29.12	0.59	17.28	53.60	10707						

Flotation Test on 28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	63.54	4	7.13	0.76	22.65	70.22	14145	29.63	71.13	70.44	69.41	69.98
Conc. II	19.20	1	15.45	0.65	18.91	65.64	12944	19.40	18.41	17.77	19.61	19.35
Reject	17.26	0	45.15	0.41	13.95	40.90	7945	50.97	10.46	11.79	10.98	10.67
Total	100.00		15.29	0.68	20.43	64.28	12844	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-11

Head Analysis

Sample No.	Depth	No. of Meters	Air Dry Basis							Moisture Free Basis				
			Grams Rec'd	% H_2O	% Ash	% S	% VM	% FC	Btu	FSI	% Ash	% S	% VM	% FC	Btu
1	674.78	2.01	6403	1.07	3.15	0.68	24.70	71.08	14843	6 1/2	3.18	0.69	24.97	71.85	15004
2	684.38	0.75	2845	0.94	32.56	0.86	23.29	43.21	10056	8	32.87	0.87	23.51	43.62	10151
3	694.47	2.83	10776	1.06	28.48	0.50	24.25	46.21	10377	6 1/2	28.79	0.51	24.51	46.70	10488
4	709.43	0.56	1970	0.61	24.42	0.79	22.31	52.66	11252	8 1/2	24.57	0.79	22.45	52.98	11321
5	740.95	1.54	3886	0.58	24.29	0.73	18.10	57.03	11398	1	24.43	0.73	18.21	57.36	11464

Structures

Size	Sample #1		Sample #3		Sample #5	
	% Weight	Cum. % Weight	% Weight	Cum. % Weight	% Weight	Cum. % Weight
1/4"	34.04	34.04	38.09	38.09	42.69	42.69
+6 m	29.98	64.02	28.85	66.94	29.13	71.82
+10 m	15.66	79.68	14.56	81.50	13.12	84.94
+28 m	11.45	91.13	10.25	91.75	8.80	93.74
-28 m	8.87	100.00	8.25	100.00	6.26	100.00
Total	100.00		100.00		100.00	

BRI - Dowling Creek Coal

Hole BC 79-11

Single Gravity Tests

Product and Sp. Gr.	% Weight	FSI	Moisture Free Basis: Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution: Ash	S	VM	FC	Btu
Sample #1 3/8" x 0												
1.400 F	93.97	7	1.61	0.67	25.40	72.99	15293	45.29	95.89	95.19	95.81	95.92
1.400 S	6.03	1	30.31	0.45	19.99	49.70	10134	54.71	4.11	4.81	4.19	4.08
Total	100.00		3.34	0.66	25.07	71.59	14982	100.00	100.00	100.00	100.00	100.00
Sample #2 3/8" x 0												
1.400 F	57.75	8 1/2	3.40	1.03	32.03	64.57	15135	6.10	66.18	74.97	86.44	85.36
1.400 S	42.25	1	71.53	0.72	14.62	13.85	3547	93.90	33.82	25.03	13.56	14.64
Total	100.00		32.19	0.90	24.67	43.14	10239	100.00	100.00	100.00	100.00	100.00
Sample #3 3/8" x 0												
1.400 F	54.39	8	5.48	0.67	25.92	68.60	14849	10.18	73.39	57.94	80.42	77.59
1.400 S	45.61	1	57.64	0.29	22.44	19.92	5112	89.82	26.61	42.06	19.58	22.41
Total	100.00		29.27	0.50	24.33	46.40	10408	100.00	100.00	100.00	100.00	100.00
Sample #4 3/8" x 0												
1.400 F	66.41	9	3.71	1.06	27.08	69.21	14688	9.66	85.64	79.88	88.41	87.07
1.400 S	33.59	1	68.57	0.35	13.49	17.94	4314	90.34	14.36	20.12	11.59	12.93
Total	100.00		25.50	0.82	22.52	51.98	11203	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC 79-11

Single Gravity Tests

Product and Sp. Gr.	% Weight	Moisture Free Basis									
		Elementary Data					% Distribution				
		FSI	% Ash	% S	% VM	% FC	Btu	Ash	S	VM	FC	Btu
Sample #5 3/8" x 0												
1.400 F	70.04	1	2.22	0.88	21.98	75.80	15254	6.00	85.08	84.86	94.76	94.36
1.400 S	29.96	0	81.03	0.36	9.17	9.80	2134	94.00	14.92	15.14	5.24	5.64
Total	100.00		25.83	0.72	18.14	56.03	11323	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-11

Sample #1 674.78-676.79 Meters

Washability Test

Product and Sp. Gr.	% Weight	Moisture Free Basis: Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	75.36	7 1/2	1.19	0.72	24.65	74.16	15456	75.36	1.19	0.72	24.65	74.16	15456
1.350 F	16.60	1	3.11	0.62	23.17	73.72	14969	91.96	1.54	0.70	24.38	74.08	15369
1.400 F	2.60	1	9.42	0.63	22.14	68.44	13841	94.56	1.75	0.70	24.32	73.93	15327
1.450 F	1.90	1	15.59	0.62	21.44	62.97	12931	96.46	2.03	0.70	24.26	73.71	15280
1.500 F	1.37	1	19.19	0.57	21.02	59.79	12046	97.83	2.27	0.70	24.22	73.51	15235
1.550 F	0.92	1	23.69	0.55	20.74	55.57	11277	98.75	2.47	0.70	24.19	73.34	15198
1.600 F	0.32	1	27.68	0.32	20.02	52.30	10586	99.07	2.55	0.70	24.17	73.28	15183
1.600 S	0.93	0	55.77	0.70	18.74	25.49	5373	100.00	3.04	0.70	24.12	72.84	15092
Total	100.00		3.04	0.70	24.12	72.84	15092						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	91.59	6 1/2	2.26	0.65	25.02	72.72	15146	62.56	92.39	92.25	92.70	92.71
Conc. II	7.34	1	14.73	0.58	22.90	62.37	12966	37.44	7.61	7.75	7.30	7.29
Reject	1.07											
Total	100.00		3.31	0.64	24.84	71.85	14962	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-11

Sample #3 694.47-697.30 Meters

Washability Test

Product and Sp. Gr.	% Weight	Moisture Free Basis: Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	30.92	.8	2.42	0.72	28.36	69.22	15268	30.92	2.42	0.72	28.36	69.22	15268
1.350 F	14.01	7	6.43	0.67	24.49	69.08	14538	44.93	3.67	0.71	27.15	69.18	15041
1.400 F	6.32	4 1/2	13.08	0.67	23.16	63.76	13442	51.25	4.83	0.70	26.66	68.51	14845
1:450 F	5.39	4	17.51	0.64	21.66	60.83	12557	56.64	6.04	0.69	26.18	67.78	14627
1.500 F	4.10	4	24.64	0.67	21.31	54.05	11424	60.74	7.29	0.69	25.86	66.85	14411
1.550 F	2.36	4	28.86	0.61	20.73	50.41	10644	63.10	8.10	0.69	25.66	66.24	14269
1.600 F	1.50	2 1/2	33.90	0.59	20.57	45.53	9830	64.60	8.70	0.69	25.55	65.75	14166
1.600 S	35.40	0	68.91	0.20	20.35	10.74	3663	100.00	30.01	0.51	23.71	46.28	10448
Total	100.00		30.01	0.51	23.71	46.28	10448						

Flotation Test on 28 Mesh Fraction

Product	% Weight	Elementary Data FSI	% Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	75.78	8	10.23	0.68	26.08	63.69	13715	34.56	90.51	79.04	91.82	91.67
Conc. II	8.77	3	33.71	0.49	23.95	42.34	9321	13.18	7.56	8.40	7.06	7.21
Reject	15.45	0	75.87	0.07	20.33	3.80	828	52.26	1.93	12.56	1.12	1.12
Total	100.00		22.43	0.57	25.00	52.57	11338	100.00	100.00	100.00	100.00	100.00

BRI - Dowling Creek Coal

Hole BC-79-11

Sample #5 740.95-742.49 Meters

Washability Test

Moisture Free Basis

Product and Sp. Gr.	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	Cumulative Data % Weight	% Ash	% S	% VM	% FC	Btu
Minus 3/8" x 28 Mesh Fraction													
1.300 F	32.16	2	0.79	0.87	21.51	77.70	15377	32.16	0.79	0.87	21.51	77.70	15377
1.350 F	40.35	1	2.51	0.83	20.78	76.71	15064	72.51	1.75	0.85	21.10	77.15	15202
1.400 F	1.65	1	9.20	1.04	18.81	71.99	14039	74.16	1.91	0.85	21.05	77.04	15177
1.450 F	0.29												
1.500 F	0.21	1	20.57	1.08	17.65	61.78	12201	74.77	2.06	0.85	21.03	76.91	15152
1.550 F	0.08												
1.600 F	0.03												
1.600 S	25.23	0	87.77	0.32	9.32	2.91	903	100.00	23.69	0.72	18.07	58.24	11557
Total	100.00		23.69	0.72	18.07	58.24	1157						

Flotation Test on 28 Mesh Fraction

Product	% Weight	FSI	Elementary Data % Ash	% S	% VM	% FC	Btu	% Distribution Ash	S	VM	FC	Btu
Conc. I	78.32	1	4.44	0.90	20.82	74.74	14642	19.18	88.90	85.39	93.24	92.96
Conc. II	6.42	0	24.21	0.75	18.28	57.51	11334	8.57	6.05	6.15	5.88	5.86
Reject	15.26	0	85.81	0.26	10.58	3.61	958	72.25	5.05	8.46	0.88	1.18
Total	100.00		18.13	0.79	19.10	62.77	12342	100.00	100.00	100.00	100.00	100.00