K-Shell Bare Mountain SILVA

[redacted]

375

BARE MOUNTAIN PROSPECT

NORTH BLOCK

REPORT ON COAL LICENSES

NOS. 264 to 276 INCLUSIVE

HELD BY: SHELL CANADA RESOURCES LIMITED

OPERATED BY: CROWS NEST RESOURCES LIMITED

KOOTENAY LAND DISTRICT

SOUTHEASTERN BRITISH COLUMBIA

NTS MAP : 82J/2

50° 02' to 50° 08' NORTH LATITUDE

114° 45' to 114° 50' WEST LONGITUDE

REPORT DATE: January, 1982

AUTHOR: H. Kucera

Crows Nest Resources
LIMITED
Eau Claire Place, 525 · 3rd Avenue S.W., Calgary, Alberta (403) 232-4355
P.O. Box 2699, Station M, Calgary, Alberta T2P 2M7 Telex 03-822505

January 31, 1982

Ministry of Energy, Mines and Petroleum Resources
British Columbia

Enclosed please find our report on the Bare Mountain North Block Project
Coal Licence Numbers: 264, 266, 267, 268, 269, 270, 271, 272, 274, 275

Dr. Barry Ryan supervised and directed the 1981 field exploration activities on the North Block Projects. Under his supervision geologic exploration involving detail mapping, drilling and trenching was carried out. Field mapping and core logging were done by Barry Ryan, Deborah Langston, Ian Piwek and Hank Kucera. The following report was prepared by Mr. Kucera.

Dr. B.D. Ryan received his B.Sc. Honours degree in Geology from the University of British Columbia in 1967 and his PhD from the same University in 1973. He had worked for a number of mining companies before accepting a position with Crows Nest Resources Limited in April 1981.

Mr. H.A. Kucera graduated from the University of British Columbia with a B.Sc. in Geology in May 1981. He has spent several field seasons working in Coal Geology for B.C. Coal and Crows Nest Resources.

Deborah Langston received her B.Sc. Honours degree in Geology from the University of Calgary in May 1981.

Ian Piwek is a student in Geology at the University of Alberta.

I consider the above geologists well qualified to expedite geological field work and report preparations involved in this project. I am satisfied that the attached report dated January 1982 has been competently prepared and contains all pertinent information.

Yours very truly,

H. G. Rushton, P. Geol.
Vice President - Exploration

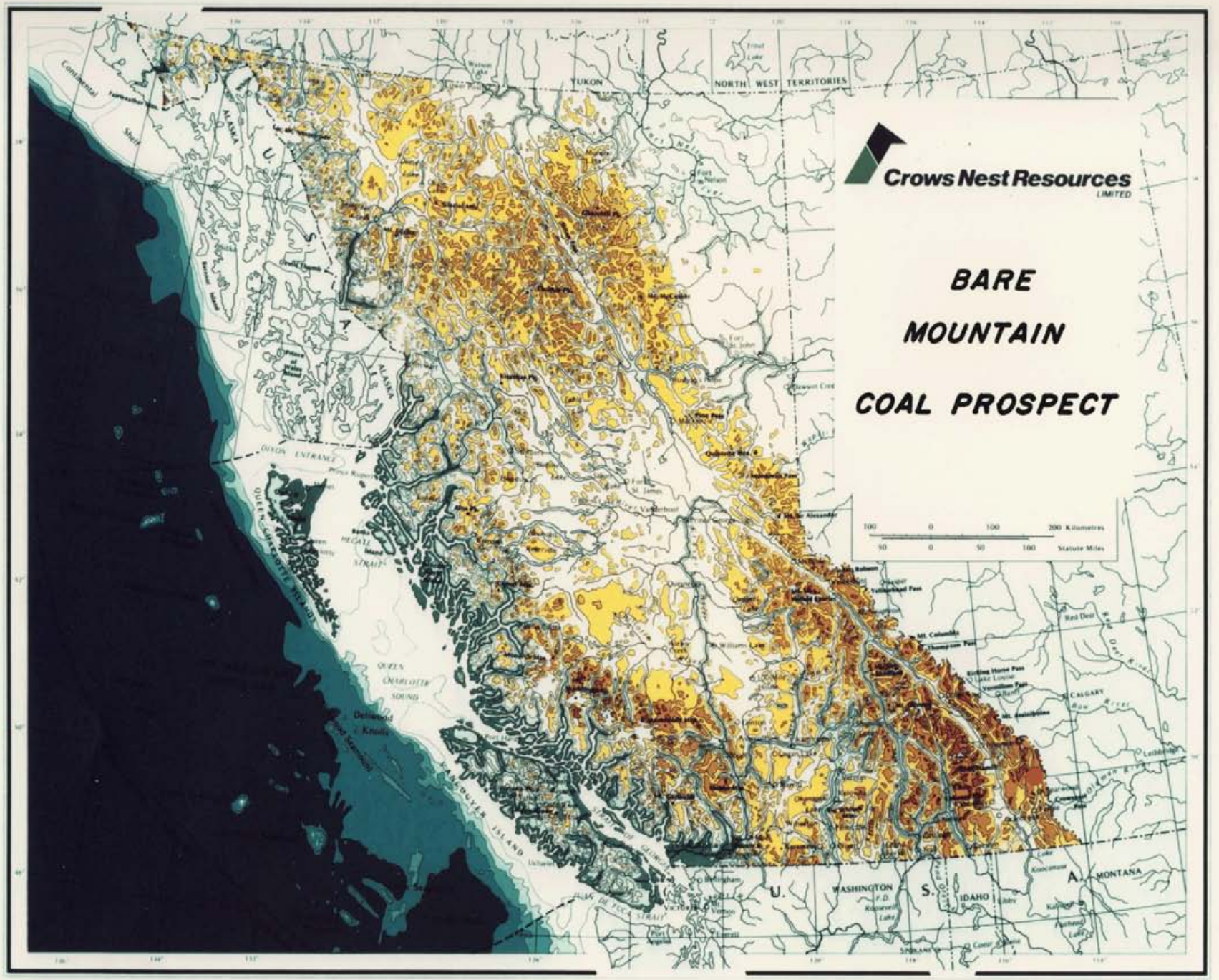


TABLE OF CONTENTS

LIST OF ENCLOSURES

NO.		SCALE	PAGE	FILE NO.
1.	South East B.C. Location Map	1:500,000	3	AA-859
2.	Index Map to Coal Licences	1:50,000	5	AA-808
3.	Application to Extend Term of Licence		6	
4.	Coal Land Tenure Tenure Standing		9	
5.	Access Map	1:50,000	12	AA-809
6.	Table of Formations		19	
7.	Compilation Geology Map	1:50,000	20	AA-810
8.	Table of Survey Data		27	
9.	Seam Thickness Table		28	
10.	Drillhole Seam Location (2 pages)		39	
11.	Machine Trench Table (Location and Thickness)		31	
12.	Core Log Descriptions			
13. ✓	Drill Hole Lithology (2)	1:200		
14. ✓	Drill Hole Correlation Chart	1:500		HD-95A
15. ✓	Composite Stratigraphic Section	1:500		
16. ✓	Geological Map	1:5,000		HD-95
17. ✓	Structural Cross-Sections (5)	1:5,000		
		55517500 N		HB-95-E
		5552500 N		HB-95-D
		5553000 N		HB-95-C
		5553700 N		HR-95-A
		5553817 N		HB-95-A
18. ✓	Survey Map	1:5000		HI-65-C

BARE MOUNTAIN

1.0 SUMMARY

The North Block or Group #214 set of licences has an areal extent of 3173 hectares and consists of B.C. Coal Licences No's 264 to 276 inclusive. The Bare Mountain Prospect is part of Group #214 covering coal licences 264, 265, 267, 268, 269, 270, 271, 272, 274 and 275. These licences are held by Shell Canada Limited and operated by its wholly-owned subsidiary, Crows Nest Resources Limited.

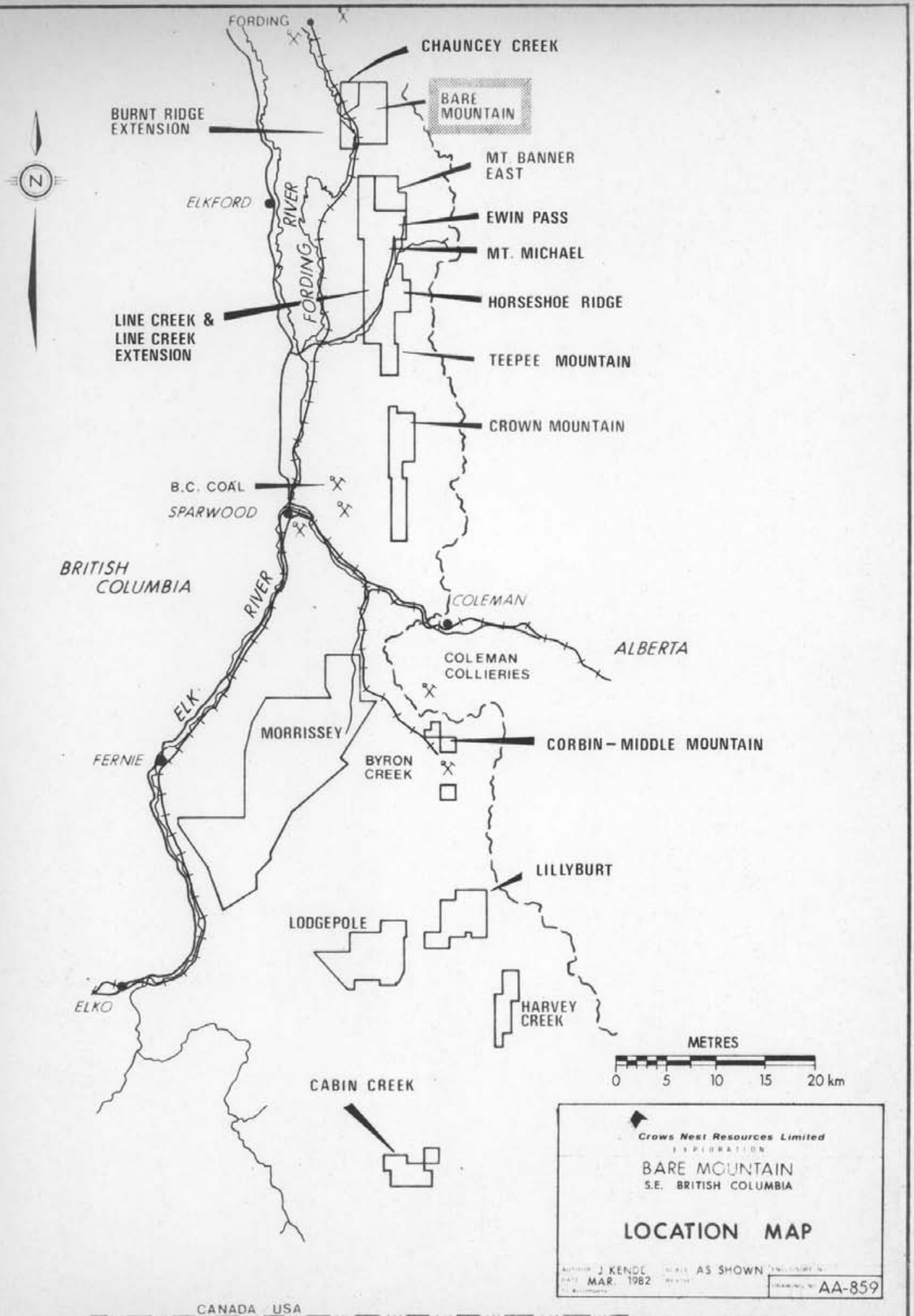
The Bare Mountain Prospect is located in the Fording River Valley in the Rocky Mountains of southeastern British Columbia. The prospect is 1126 kilometers by rail from the coal handling facility of Roberts Bank in Vancouver and 60 kilometers north of Sparwood, B.C. Fording River Mine is 4 km to the north and B.C. Coal's Greenhills Mine is currently under construction 9.5 kilometers to the south.

Bare Mountain is on the east limb of the Alexander Creek Syncline and contains an almost complete section of the Jura-Cretaceous Kootenay group. The coal bearing Mist Mountain Formation has been thickened to a maximum of 900 meters by the Fording Thrust. The coal bearing unit is capped by the Elk Formation on the west slope and is underlain by the Moose Mountain sandstone on the east slope.

Previous exploration involved reconnaissance mapping of the entire prospect. In 1981 exploration was concentrated on the northern half of Bare Mountain. Two continuous core (diamond) drill holes were completed for a total depth of 1076 meters. Access to these holes was provided by 3.5 kilometers of new road. This road was trenched to obtain coal seam thicknesses and samples. Further mapping on 1:2,000 scale was carried out to enhance drill hole information.

Examination of field data indicates at least six recoverable seams of medium volatile bituminous coal. These seams give coal resources of 50 million tonnes at an overburden ratio of 7.1 bank cubic meters of waste per tonne of coal.

Total expenditures for the 1981 field season were $416,924.00.


FORDING
CHAUNCEY CREEK
BARE MOUNTAIN
BURNT RIDGE EXTENSION
MT. BANNER EAST
ELKFORD
FORDING RIVER
EWIN PASS
MT. MICHAEL
HORSESHOE RIDGE
LINE CREEK & LINE CREEK EXTENSION
TEEPEE MOUNTAIN
CROWN MOUNTAIN
B.C. COAL
SPARWOOD
BRITISH COLUMBIA
ELK RIVER
COLEMAN
ALBERTA
COLEMAN COLLIERIES
MORRISSEY
CORBIN – MIDDLE MOUNTAIN
FERNIE
BYRON CREEK
LILLYBURT
LODGEPOLE
ELKO
HARVEY CREEK
METRES
0 5 10 15 20 km
CABIN CREEK
Crows Nest Resources Limited
EXPLORATION
BARE MOUNTAIN
S.E. BRITISH COLUMBIA
LOCATION MAP
J KENDE
AS SHOWN
MAR. 1982
AA-859
CANADA USA

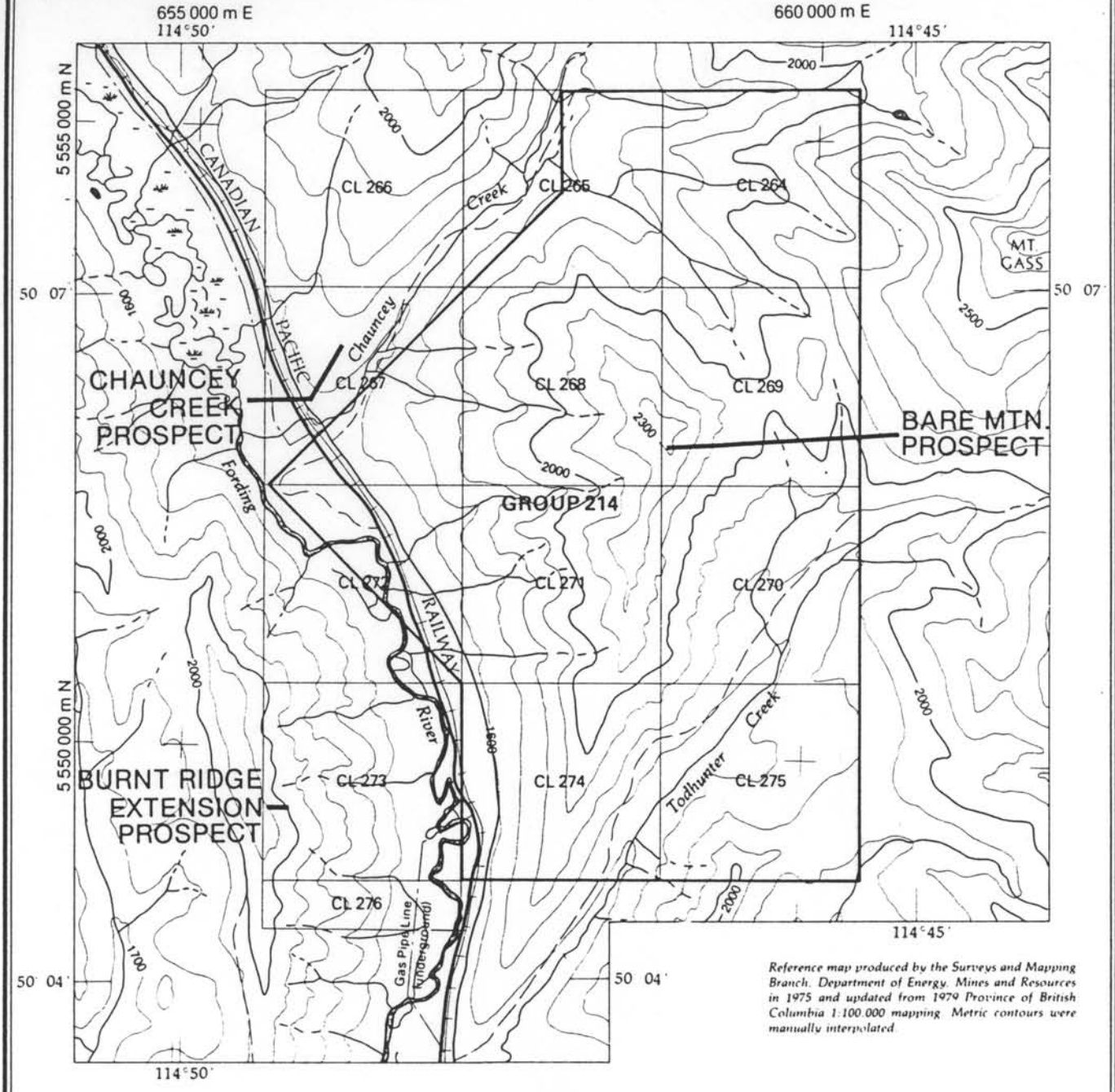
2.0 INTRODUCTION

2.1 Coal Land Tenure

Enclosure 3: Index Map to Coal Licenses

The North Block or Group #214 is composed of thirteen B.C. Government coal licences (Nos. 264-276 inclusive) covering 3173 hectares held by Shell Canada Resources Ltd. and operated by its wholly owned subsidiary Crows Nest Resources Ltd.

This report deals with work done on Bare Mountain during the 1981 Field Season. The Bare Mountain Prospect is part of the North Block Project and occupies B.C. Loal Licences 264, 265, 267, 268, 269, 270, 271, 272, 274, and 275 of Group #214.



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

Km 0.5 0 0.5 1.0 1.5 2.0 Km

Mi 0.5 0 0.5 1.0 1.5 Mi

Contour Interval 100m

Transverse Mercator Projection

Universal Transverse Mercator Grid Zone 11

T.N.

1 44

Grid North

Legend

- Road; Highway, Main road
- Road; Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours (2000, 1500)
- Licence boundary

Crows Nest Resources Limited

EXPLORATION

BARE MTN. PROSPECT

S.E. BRITISH COLUMBIA

INDEX MAP TO COAL LICENSES

NTS 82 J/2

AUTHOR H. KUCERA	SCALE 1:50 000	ENCLOSURE NO.
DATE 82-01	REVISED	AA-808
To Accompany		

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

APPLICATION TO EXTEND TERM OF LICENCE

I, LESLIE GRAMANTIK (Name) agent for SHELL CANADA RESOURCES LIMITED (Name)

P.O. BOX 100 (Address) CALGARY (Address)

ALBERTA T2P 2M7

Valid FMC No. 244642

hereby apply to the Minister to extend the term of Coal Licence(s) No(s). 264-276

13 LICENCES, GROUP NO: 214, 3173 HECTARES

for a further period of one year.

2. Property name BARE MOUNTAIN, BURNT RIDGE & CHAUNCEY RIDGE, KOOTENAY LAND DIST.

3. I am allowing the following Coal Licence(s) No(s). to forfeit N/A

4. I have performed, or caused to be performed, during the period FEBRUARY 1, 1981 to JANUARY 31, 1982, work to the value of at least $ 816,494.00

on the location of coal licence(s) as follows:

CATEGORY OF WORK	Licence(s) No(s).	Apportioned Cost
Geological mapping	264,265,267,271-273,276	96,859
Surveys: Geophysical	-	-
Geochemical	-	-
Other	265,266,268,272,273,276	5,131
Road construction	265,268,273	145,980
Surface work	265,266,268,272,273	44,638
Underground work	-	-
Drilling	265,268,272,273	419,188
Logging, sampling, and testing	265,268,272,273	66,785
Reclamation	265,268,272,273	24,663
Other work (specify)	-	-
Off-property costs GEOLOGICAL REPORTS		13,250

5. I wish to apply $ 816,494.00 of this value of work on Coal Licence(s) No(s). 264 - 276

6. I wish to pay cash in lieu of work in the amount of $ N/A on Coal Licence(s) No(s).

7. The work performed on the location(s) is detailed in the attached report entitled
THE GEOLOGICAL REPORTS WILL BE SUBMITTED IN 90 DAYS

JANUARY 27, 1982 (Date)

(Signature)

ASSISTANT LANDMAN (Position)

(FORMS AND REPORT TO BE SUBMITTED IN DUPLICATE)

GEOLOGICAL MAPPING Yes ☒ No ☐

	Area (Hectares)	Scale	Duration
Reconnaissance			
Detail: Surface	2,704		190 MAN DAYS
Underground			
Other* (specify)			

Total Cost $ 96,859

GEOPHYSICAL/GEOCHEMICAL SURVEYS Yes ☒ No ☐

Method
Grid
Topographic (LOCATION, LAND SURVEY)
Other* (specify)

Total Cost $ 5,131

ROAD CONSTRUCTION Yes ☒ No ☐

Length 4.7 KM (NEW), 0.8 KM (RE-OPEN) Width
On Licence(s) No.(s) 265,268,273
Access to

Total Cost $ 145,980

SURFACE WORK Yes ☒ No ☐

	Length	Width	Depth	Cost
Trenching (MACHINE)	3553.68 M	1M	1-2M	
Seam Tracing				
Crosscutting				
Other* (specify) (HAND)	187.9 M	0.5 M	0.5 - 1 M	

Total Cost $44,638

UNDERGROUND WORK Yes ☐ No ☒

	No. of Adits	Maximum Length	No. of Holes	Total Metres	Cost
Test Adits					
Other workings*					

Total Cost $

DRILLING Yes ☒ No ☐

	Hole Size	No. of Holes	Total Metres	Cost
Core: Diamond	HQ	5	2128.5	
Wireline				
Rotary: Conventional				
Reverse circulation				

Other* (specify)
Contractor D.W. COATES
Where is the core stored? ON SITE

Total Cost $419,188

LOGGING, SAMPLING, AND TESTING Yes ☒ No ☐

Lithology: Drill samples ☐ Core samples ☒ Bulk samples ☐
Logs: Gamma-neutron ☒ Density ☒

Other* (specify) RESISTIVITY CALIPER

Testing: Proximate analysis ☒ FSI ☒ Washability ☐
Carbonization ☐ Petrographic ☐ Plasticity ☐

Other* (specify)

Total Cost $66,785

RECLAMATION Yes ☒ No ☐

Details Total Cost $24,663

OTHER WORK (Specify details) Yes ☐ No ☒ Cost

Total Cost $

OFF-PROPERTY COSTS Yes ☒ No ☐

Details GEOLOGICAL REPORTS Total Cost $13,250

Total Expenditures $816,494.00

Jan. 26/82
(Date)

(Signature)

MANAGER-ACCOUNTING CNRL
(Position)

* A full explanation of other work is to be included.

GEOLOGICAL MAPPING Yes ☒ No ☐

	Area (Hectares)	Scale	Duration
Reconnaissance	1534	1:2,000	57 MAN DAYS
Detail: Surface			
Underground			
Other* (specify)			

Total Cost $ 22,270.

GEOPHYSICAL/GEOCHEMICAL SURVEYS Yes ☒ No ☐

Method
Grid (LAND)
Topographic
Other* (specify)

Total Cost $ 1,130

ROAD CONSTRUCTION Yes ☒ No ☐

Length 3.5 KM Width
On Licence(s) No.(s) 265,268
Access to BARE MOUNTAIN PROSPECT

Total Cost $ 102,275

SURFACE WORK Yes ☒ No ☐

	Length	Width	Depth	Cost
Trenching	108.78	1 M	1 M	
Seam Tracing				
Crosscutting				
Other* (specify)				

Total Cost $ 23,063

UNDERGROUND WORK Yes ☐ No ☒

	No. of Adits	Maximum Length	No. of Holes	Total Metres	Cost
Test Adits					
Other workings*					

Total Cost $

DRILLING Yes ☒ No ☐

		Hole Size	No. of Holes	Total Metres	Cost
Core:	Diamond	HQ	2	1076	
	Wireline				
Rotary:	Conventional				
	Reverse circulation				
Other* (specify)					

Contractor D.W. COATES
Where is the core stored? ON SITE

Total Cost $ 220,556

LOGGING, SAMPLING, AND TESTING Yes ☒ No ☐

Lithology:	Drill samples	☐	Core samples	☒	Bulk samples	☐
Logs:	Gamma-neutron	☒	Density	☒		
Other* (specify)	RESISTIVITY, CALIPER					7,000
Testing	Proximate analysis	☐	FSI	☐	Washability	☐
	Carbonization	☐	Petrographic	☐	Plastics	☐
Other* (specify)						

Total Cost $ 32,385

RECLAMATION Yes ☒ No ☐

Details RECLAIM & SEED 3.5 KM NEW ROAD Total Cost $ 13,453

OTHER WORK (Specify details) Yes ☐ No ☒ Cost

Total Cost $

OFF-PROPERTY COSTS Yes ☐ No ☐

Details GEOLOGICAL REPORT Total Cost $ 1,790.

Total Expenditures $ 416,924.00

Jan. 28/92
(Date)

(Signature)

MANAGER - ACCOUNTING CDN
(Position)

* A full explanation of other work is to be included

CROWS NEST RESOURCES LIMITED (Exploration)

B.C. COAL LICENCES
TENURE STANDING

BLOCK: NORTH BLOCK
GROUP: #214

PROJECT: BARE MOUNTAIN, BURNT RIDGE, CHAUNCEY RIDGE

YEAR: 1981
DATE: JANUARY 1982

LICENCE NO.	LEGAL DESCRIPTION	AREA TOTAL AC/HA	ACQ/ADM FEES YEAR	ACQ/ADM FEES $	RENTALS ANNUAL $	RENTALS TOTAL TO NEXT ANN $ 10^3	REQUIREMENT WORK EXPIRED $ 10^3	REQUIREMENT WORK CURRENT YEAR LIC YEAR	REQUIREMENT WORK CURRENT YEAR $	REQUIREMENT WORK PRE-FULFILMENT YEAR	REQUIREMENT WORK PRE-FULFILMENT $	REQUIREMENT WORK ANNIVERSARY DATE	BUDGET CURRENT YEAR AFE	BUDGET CURRENT YEAR $ 10^3	EXP TOTAL $ 10^3	POTL SHELL CLASS	REMARKS
13 LIC		3173	75	3,298	15,865	94.8	250.8	7	39,200	9	1,134,820	JANUARY 31ST	-	-	4,713	Y	THE LICENCES ARE
264	LOT 6731	259															IN GOOD STANDING U
265	LOT 6732	259															JAN. 31, 1985 UNDER
266	LOT 6733	259															THE '74 COAL ACT A
267	LOT 6734	259															UNTIL JAN 31, 1991
268	LOT 6735	259															UNDER THE '78 COAL
269	LOT 6736	259															ACT, WITH $20.59
270	LOT 6737	259															EXCESS CREDIT FOR
271	LOT 6738	259															THE SUBSEQUENT TER
272	LOT 6739	259															
273	LOT 6740	259															
274	LOT 6741	259															
275	LOT 6742	259															
276	LOT 6745	65															
				WORK DONE PRIOR TO '78	1978		1979		1980		1981						
				$	-	93,107	15,279		172,422		816,494						

84 - 312

2.2 Location and Physiography

Enclosure 1: South East B.C. Location Map

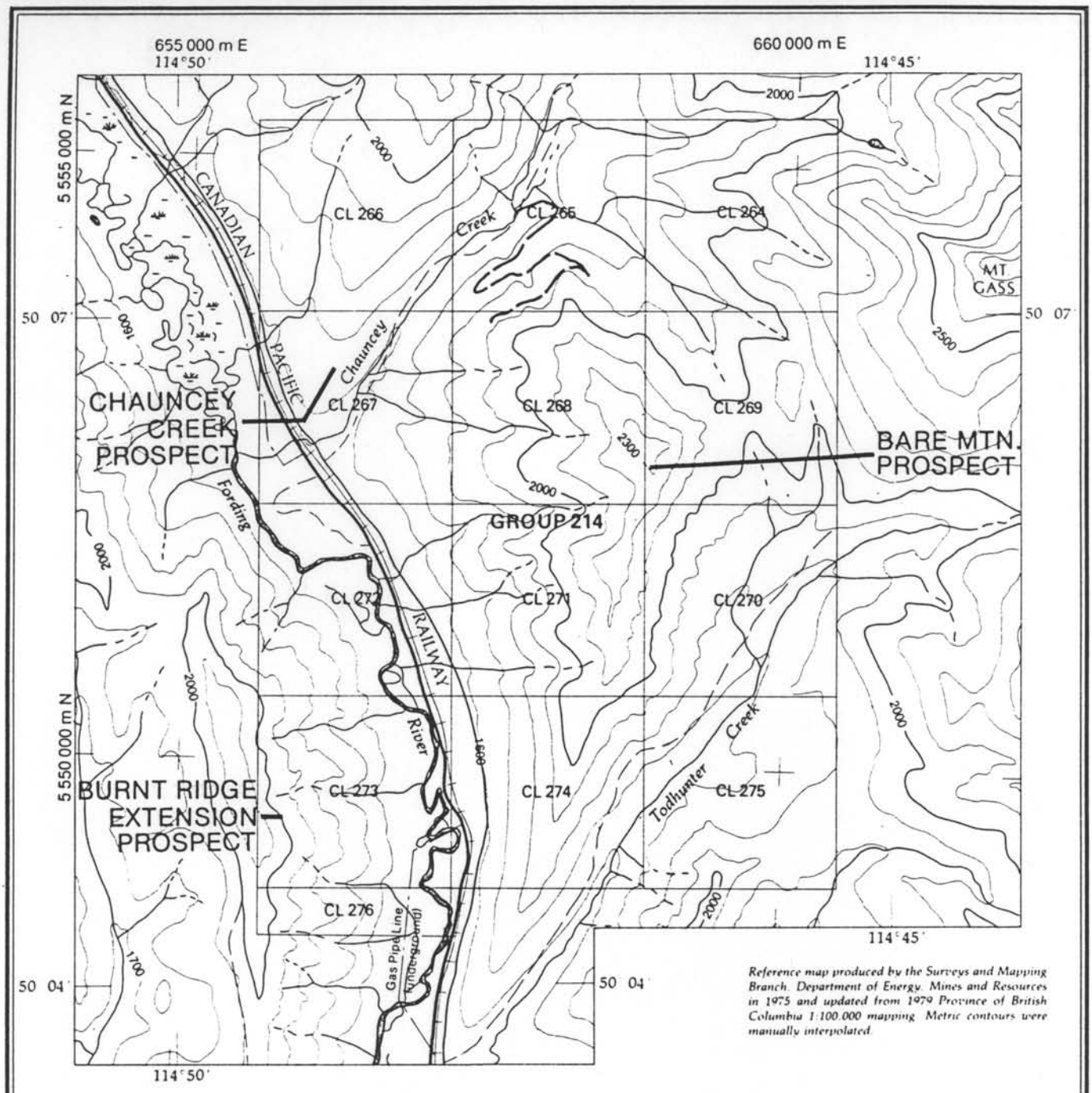
The Bare Mountain Property is located in the Front Ranges on the Rocky Mountains of southeastern British Columbia. Bare Mountain is a north-south trending ridge on the east side of the Fording River Valley, 8 air-kilometres northeast of Elkford and 4 air-kilometres south of Fording River Coal Mine. Bare Mountain is 1125 km by rail from the coal handling facilities of Roberts Bank near Vancouver, B.C.

The area of interest is a mountain bound to the south and east by Todhunter Creek, to the north by Chauncey Creek and to the west by the Fording River. The north facing slope is heavily forested by conifers and is cut by 2 gullies formed by small creeks. The southeast and western slopes are more sparsely treed and are cut by gullies formed by seasonal stream flow. The uppermost slopes are mainly grass covered.

2.3 Access

Enclosure 5: Access

Access to Bare Mountain is provided by a paved road originating in Elkford 22 km to the southwest. This road is owned by Fording Coal Ltd. There is also a C.P.R. spurline running along the base of the west slope. Access from the paved road to Bare Mountain is provided by logging roads along Todhunter Creek on the southeast. On the north 2.5 km of 4-wheel drive road was upgraded along Chauncey Creek and 3.5 km of new road was built up the north face to facilitate movement of drill rigs. A road access up the west flank of Bare Mountain used in 1980 is no longer used and has been reclaimed.



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

Km 0.5 0 0.5 1.0 1.5 2.0 Km

Mi 0.5 0 0.5 1.0 1.5 Mi

Contour Interval 100m

Transverse Mercator Projection

Universal Transverse Mercator Grid Zone 11

T.N.

1 44

Grid North

Legend

- Road: Highway, Main road
- Road: Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours (2000, 1500)
- Licence boundary
- Access road (four wheel drive)

Crows Nest Resources Limited

EXPLORATION

BARE MTN PROSPECT

S.E. BRITISH COLUMBIA

ACCESS MAP

NTS 82 J/2

AUTHOR H. KUCERA	SCALE 1:50 000	ENCLOSURE NO.
DATE 82-01	REVISED	AA-809
To Accompany		

3.0 WORK DONE

3.1 Work Done Previous to 1981

The 1980 Crows Nest Resources exploration program was under the supervision of R.J. Morris, M.Sc. The program included:

i) Orientation mapping

ii) Reconnaissance mapping of northern and western slopes at a scale of 1:5000.

iii) Stratigraphic and structural control

iv) Trenching: 46 trenches were excavated for a total length of 352.5 metres

v) Sampling: 57 samples were procured; analysis included moisture, ash, and FSI. Proximate analysis plus FSI was done of a sample washed at a S.G. = 1.50

vi) Location of access road up the north slope proposed for 1981.

vii) Location surveys: Done by Sheltech Canada included roads, geological control points and sample locations.

Work done in 1978 by Crows Nest Resources Limited was supervised by J. Horachek. A comprehensive report and geological map (1:10000) was produced.

A reconnaissance report was compiled in 1951 by N.P. Elphinstone. This report deals briefly with the subject area.

3.2 Scope and Objectives of Exploration in 1981

The objectives of exploration program on Bare Mountain in 1981 were:

- To produce detail geologic maps (1:2000) of areas of mining potential, concentrating on the northern part of Bare Mountain.

- Establish detailed stratigraphic sections and attempt to correlate seams exposed in road cuts and intersected in drill holes with those previously exposed by hand trenching.

- To establish coal quality by analysis of samples obtained from drill holes.

- To establish control on the structurally complex area on the northeast slope.

3.3 Work Done in 1981

Detail mapping was carried out on a scale of 1:2,000 using topographic maps, air-photos and orthophoto coverage. Areas mapped include the north slope and portions of the east and west slopes north of 5551700 N. Mapping was helicopter supported.

The 2.5 km. of access road along Chauncey Creek was upgraded and an additional 3.5 km. of new road was constructed up the north face of Bare Mountain to allow movement of drilling rigs. This road also provided abundant mapping data.

Drilling: Two Continuous core (diamond) drill holes were completed for a total depth of 1076 meters. Drill hole BM-1-81 intersected 76.7 meters of coal. Drill hole BM-2-81 intersected 82.6 meters of coal. 51 samples were taken from drill core for analysis.

Trenching: Twenty-four trenches were excavated by backhoe along the new access road to determine thickness of coal. These trenches were refilled as soon as coal was located and measured.

Survey: Location survey for drillholes and roads was provided by Shelltech Canada Ltd.

Geophysical Logging: Downhole logging was provided by Roke Oil Enterprises and Davies Exploration Logging Limited.

4.0 GEOLOGY

4.1 Regional Geology

Enclosure 6: Table of Formations

Enclosure 7: Compilation Geology Map

Bare Mountain lies within the Elk Valley Coalfield and the coal licences contain a complete section of the Kootenay Group from the basal Moose Mountain to the Elk Formation. Structurally Bare Mountain lies on the east limb of the Alexander Creek Syncline also known as the Fording River Syncline. The coal bearing Mist Mountain Formation is structurally thickened by the Fording River thrust which can be traced north to Chauncey Ridge and south to Mount Banner. This thrust is also referred to as the Ewin Pass Thrust in a report done by the B.C. Ministry of Energy, Mines, and Petroleum Resources. (D. A. Grieve, 1981)

4.2 Stratigraphy

Enclosure 6: Table of Formations

The late Jura-Cretaceous Kootenay Group is subdivided into the Morrissey, the Mist Mountain and the Elk Formations in ascending order. (Gibson, 1979)

The Morrisey Formation is a prominent cliff-forming unit which crops out on the southeastern slopes of Bare Mountain. It is composed of the lower Weary Ridge Member (formerly the Orange Beds) and the upper Moose Mountain Member. The Weary Ridge member is a fine to medium grained, finely bedded sandstone that weathers a distinct orange colour. This unit is more argillaceous and less well indurated than the overlying Moose Mountain Member. The Moose Mountain sandstone is the more prominent member. It is generally coarse grained with a salt and pepper texture and occasional conglomeratic bands. Large scale trough cross-bedding may also be evident. The Moose Mountain Member is usually an easily mapped unit and all work done in 1981 was performed stratigraphically above it.

The Mist Mountain Formation directly overlies the Moose Mountain Member and appears to have a normal thickness of 480 metres in the project area. This thickness has been increased by folding and faulting to up to 900 metres. The normal section includes sandstones, siltstones, shales and up to 9 coal seams. There may be additional coal seams on Bare Mountain which are not continuous. The major sandstones in the Mist Mountain are in the lower half of the section and are easily mappable continuous units when not structurally disturbed.

The Elk Formation is the uppermost formation of the Kootenay group and is the highest stratigraphic unit present on Bare Mountain. It consists of prominent sandstones with interbedded siltstones, shales and the non-economic lenticular coal seams. There are also some conglomeratic bands in the project area usually in the first prominent unit above the last major coal seam. This prominent unit also marks the base of the Elk Formation and it crops out about midway down the western slope of Bare Mountain.

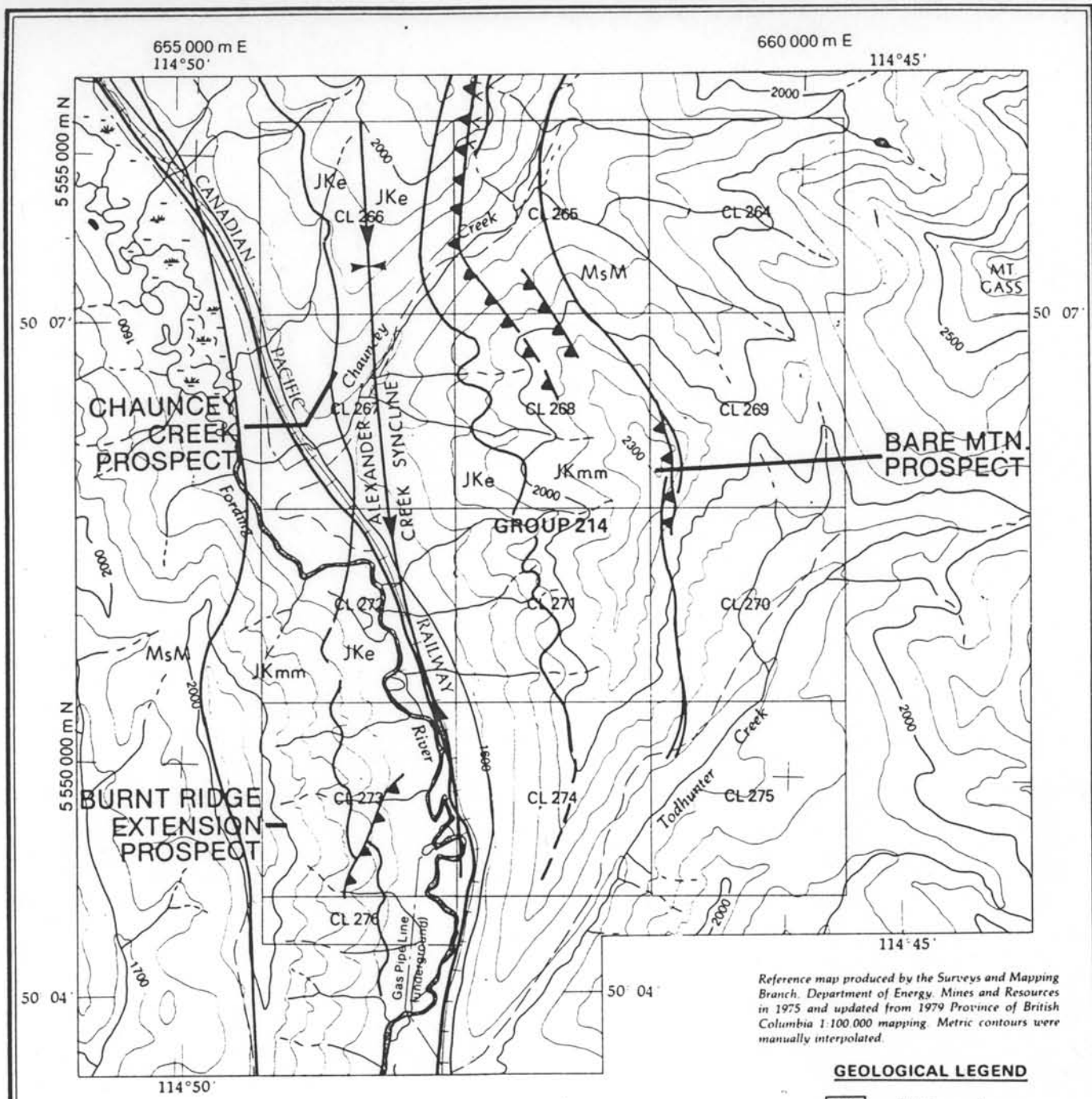
4.3 Geologic Structure

Bare Mountain is a consistently west dipping limb of the Alexander Creek Syncline. The entire Kootenay Group is, however, disrupted by thrust faulting, lateral normal faulting, and folding associated with the Fording Thrust.

The thrusting repeats coal seams and is responsible for at least one repeat of the Moose Mountain sandstone on the east slope of Bare Mountain.

TABLE OF FORMATIONS (North Block)

ERA	PERIOD	FORMATION	LITHOLOGY	THICKNESS (M)
MESOZOIC	Lower Cretaceous	Cadomin Fm.	non-marine: sandstone, conglomerate and shale	360 - 1980
	LOWER CRETACEOUS AND JURASSIC	KOOTENAY GROUP — Pocaterra Creek	non-marine: sandstones, conglomerate, siltstones and shales	
		KOOTENAY GROUP — ELK FORMATION	non-marine: interbedded medium to coarse grain sandstone, chert-pebble conglomerate with minor siltstone shale and uneconomic coals	150 - 490
		KOOTENAY GROUP — MIST MTN. FORMATION	non-marine and brackish: interbedded coal, siltstones, shales, and sandstones	380 - 480
		KOOTENAY GROUP — MORRISSEY FORMATION — Moose mtn. / Weary Ridge	non-marine: massive cliff-forming sandstone	40 - 60
	Jurassic	Fernie Fm.	marine: shales, siltstone, sandstone, limestone	180 - 380



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

GEOLOGICAL LEGEND

- JKe — Elk Formation
- JKmm — Mist Mtn. Formation
- MsM — Moose Mtn. Member
- Thrust Fault
- Syncline

Km. 0.5 0 0.5 1.0 1.5 2.0 Km

Mi 0.5 0 0.5 1.0 1.5 Mi

Contour Interval 100m

Transverse Mercator Projection

Universal Transverse Mercator Grid Zone 11

T.N. 1 44 Grid North

Legend

- Road; Highway, Main road
- Road; Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours 2000 / 1500
- Licence boundary

Crows Nest Resources Limited
EXPLORATION

BARE MTN. PROSPECT
S.E. BRITISH COLUMBIA

COMPILATION GEOLOGY MAP

NTS 82 J/2

AUTHOR H. KUCERA	SCALE 1:50 000	ENCLOSURE No
DATE 82-01	REVISED	AA-810
To Accompany		

The low angle thrust faults are east directed and west dipping. The drag folds associated with these faults have axial traces trending north-south. The normal faulting trends southwest, and the down dropped block is to the south.

4.4 Coal Geology

Enclosure 9: Seam Thickness Table

Enclosure 10: Drillhole Seam Location Table

Results of the 1981 field season indicate sizeable coal resources in thick continuous seams in the Mist Mountain Formation. The coal in these seams is medium volatile bituminous. (R. Morris, 1980). A detailed assessment and description of these seams is included.

No. 1 seam: Directly overlies the Moose Mountain sandstone and is actually 3 smaller seams separated by splits of 1 or 2 metres. Aggregate thickness varies from 7.0 metres to 14.2 metres. The variation in thickness may be related to depositional or structural parameters.

No. 2 seam: is 100 metres above basal Moose Mountain sandstone and has a 10 metres cumulative thickness with a 3 metre shale split in the centre.

No. 3 seam: is 190 metres from basal Moose Mountain sandstone. It is a triple seam with two thin (less than 1.0 m) shale splits. The average thickness is 4.4 metres.

No. 4 seam: is 225 metres from basal Moose Mountain sandstone. It is the thickest single seam, and appears to be clean with few shale splits. It is structurally thickened to 11.3 meters in DH#2 by a thrust.

No. 5 seam: is 300 metres above basal sandstone. It consists of a thin lower seam, a shale split, a thick shaly coal band, another shale split and finally 4.5 metres of clean bright coal. Cumulative thickness is extremely variable - 6.9 to 17.0 metres.

No. 6 seam: is 350 metres above basal Moose Mountain sandstone and is the highest seam which is accurately mapped. It is the thinnest major seam with an average thickness of 3.2 metres.

The remaining upper seams need to be studied further to get accurate measurements of thickness and location. Drillhole data does however indicate the presence of two more thick (+5.0 m) coal seams.

Due to the abundant low angle thrust faulting there is a possibility of structural thickening and abrupt truncation of seams making intensified drilling and mapping necessary.

5.0 MINEABILITY, COAL RESOURCES AND ECONOMIC ASSESSMENT

Several factors make Bare Mountain Prospect an attractive possibility for future development in the mid to long term.

Exploration to this time indicates the presence of two coal seams thick enough to mine hydraulically. In addition, much of the reserves lie in a dip slope situation making open pit development a viable alternative to underground mining. Coal reserves between cross-sections 55552500 N and 55552817 N have been calculated to be at least 50 million tonnes with an overburden ratio of 7:1 bank cubic meters waste per tonne of coal. This calculation includes only the six lower seams. Further exploration will be needed to determine the potential of the upper seams.

6.0 QUALITY

Fifty-one core samples were collected in 1981, and the analysis of these samples will greatly increase the volume of Coal Quality Data for Bare Mountain. At this time the analyses done on samples taken in 1980 indicate medium volatile bituminous coal. (Morris, 1980)

7.0 RECOMMENDATIONS FOR FURTHER WORK

Bare Mountain is second in priority to Burnt Ridge Extension in the North Block Group of Coal Licences. It has potential as an underground mine site as well as a possible site of an open pit operation.

A 0.75 km. extension to the road built in 1981 has been flagged in. This extension trends west and south around the northwest spur of Bare Mountain to an elevation of 2015 m. It would provide locations for two potential drillsites as well as road access to facilitate two helicopter supported drill holes near the top of Bare Mountain to the east. These drill holes should help to accurately determine resources and unravel structural complexities in the upper Mist Mountain.

Additional detailed geologic mapping should be done on the eastern slopes to sort out possible thrust repeats in the lower Mist Mountain section.

8.0 PREVIOUS REPORTS AND SELECTED BIBLIOGRAPHY

Elphinstone, N.P., 1951. Report on the Former Imperial Coal and Coke Properties of the Upper Elk Valley: C.N.I.

Gibson, D.W., 1977. "Sedimentary Facies in the Jura-Cretateous Kootenay Formation, Crows Nest Pass Area, Southwestern Alberta and Southeastern British Columbia": Bulletin Canadian Petroleum Geology, V. 25, No. 4, pp. 767-791.

Gibson, D.W., 1979. "The Morrisey and Mist Mountain Formations - Newly Defined Lithostratigraphic Units of the Jura-Cretateous Kootenay Group, Alberta and British Columbia": Bull. Can. Petroleum Geology, V.. 27, No. 2, pp. 183-208.

Grieve, D.A. Elk Valley Coalfield, B.C. Ministry of Energy, Mines, and Petroleum Resources, Geologic Fieldwork, 1980, Paper 1981-1, pp. 70-72.

Horacheck, J. and Fietz, D., 1979. Report on Coal Licences 264-276 inclusive: Crows Nest Resources Limited, unpublished report.

Morris, R. J., 1981. Report on Coal Licences 264-276 inclusive: Crows Nest Resources Limited, unpublished report.

B A R E M O U N T A I N S U R V E Y D A T A 1981

LOCATION NAME	DESCRIPTION	NORTHING	EASTING	ELEVATION
DH-BM-81-1	DRILL HOLE	5553817.61	657371.53	1781.27
DH-BM-81-2	DRILL HOLE	5553700.08	675681.17	1915.74
81-415	ROAD SURVEY	5555597.75	675066.19	2213.57
81-414	ROAD SURVEY (Start of new road)	5554373.77	657460.55	1638.09
81-413	ROAD SURVEY	5554546.81	658021.06	1694.33
81-412	ROAD SURVEY	5553809.52	657382.14	1791.42
81-411	ROAD SURVEY	5554186.28	658048.33	1857.39
81-410	ROAD SURVEY (End of new road)	5553679.07	657680.69	1915.74

BARE MOUNTAIN 1981

SEAM THICKNESS TABLE

SEAM NO.	DH-BM-1-81	DH-BM-2-81	TRENCH 1980	TRENCH 1981	AVERAGE THICKNESS
1	-	19.2	10.3	13.1	14.2
2	11.8	11.6	5.8	9.0	9.6
3	6.3	4.5	3.3	3.55	4.4
4	7.6	11.3*	4.0	4.27	6.8
5	17.0*	12.8	3.5	6.9	10.0
6	1.5	3.4	2.9	6.62	3.2
7	7.3	13.1	-	-	8.9
8	11.0*	6.9	-	-	8.7
9	11.3	-	-	-	-
10	2.9	-	-	-	-
CUMULATIVE THICKNESS	76.7	82.6			65.8

*Possibly Structurally Thickened

D R I L L - H O L E S E A M L O C A T I O N

DDH BM-81-2 DATE: OCT. 28, 1981

Seam No.	Top	Bottom	Intersection	Av C/B°	T/T		North	East	Elevation
1	509.9	529.5	19.6	78	19.2	Top	5553730.80	657961.74	1491.82
						Base	5553732.22	657972.90	1475.77
2	388.7	400.7	12.0	72	11.6	Top	5553719.46	657891.66	1590.03
						Base	5553720.43	657898.64	1580.32
3L	325.5	328.5	3.0	59	2.6	Top	5553714.74	657854.85	1641.18
						Base	5553714.95	657856.60	1638.75
3U	317.6	319.8	2.2	59	1.9	Top	5553714.20	657850.25	1647.60
						Base	5553714.35	657851.53	1645.80
4	238.5	250.5	12.0	71	11.3	Top	5553708.37	657805.00	1712.18
						Base	5553709.16	657811.65	1702.24
5	183.4	199.0	15.6	55	12.8	Top	5553705.00	657774.84	1758.17
						Base	5553705.81	657783.07	1744.94
6*	109.0	113.0	4.0	57	3.4	Top	5553702.25	657736.45	1821.83
						Base	5553702.35	657738.47	1818.38
7*	85.3	100.6	15.3	59	13.1	Top	5553701.68	657724.32	1842.18
						Base	5553702.05	657732.20	1829.06
8*	49.0	56.3	7.3	70	6.9	Top	5553700.80	657705.66	1873.30
						Base	5553701.00	657709.40	1867.04

* Seams above possible thrust zone

D R I L L - H O L E S E A M L O C A T I O N

DDH BM-81-1 DATE: OCT 28, 1981

Seam No.	Top	Bottom	Intersection	Av C/B°	T/T		North	East	Elevation
2	503.2	515.5	12.3	75	11.8	Top	5553868.37	657640.74	1359.60
						Base	5553870.30	657647.54	1349.52
3	429.0	435.8	6.8	69	6.3	Top	5553857.86	657600.0	1420.70
						Base	5553858.76	657603.69	1415.07
4	349.6	357.4	7.8	76	7.6	Top	5553847.51	657556.45	1486.28
						Base	5553848.49	657560.81	1479.89
5	293.3	311.1	17.8	73	17.0	Top	5553840.87	657525.60	1532.90
						Base	5553842.87	657535.25	1518.08
6*	203.2	204.8	1.6	71.5	1.5	Top	5553831.95	657478.23	1609.02
						Base	5553832.09	657479.07	1607.66
7*	175.4	183.0	7.6	73	7.3	Top	5553829.46	657463.71	1632.60
						Base	5553830.14	657467.68	1626.15
8*	148.0	160.0	12.0	66	11.0	Top	5553827.00	657449.30	1646.21
						Base	5553828.08	657455.61	1645.62
8R*	127.0	145.8	18.8	72	17.9	Top	5553825.11	657438.26	1673.53
						Base	5553826.80	657448.14	1657.63
9*	76.10	87.6	11.5	79	11.3	Top	5553821.42	657411.26	1716.52
						Base	5553822.14	657417.40	1706.82
10*	37.0	40.0	3.0	76	2.9	Top	5553818.73	657390.43	1749.50
						Base	5553818.92	657392.03	1747.00

* Seams above possible thrust zone

D R I L L - H O L E S E A M L O C A T I O N

DDH BM-81-2 DATE: OCT. 28, 1981

Seam No.	Top	Bottom	Intersection	Av C/B°	T/T		North	East	Elevation
1	509.9	529.5	19.6	78	19.2	Top	5553730.80	657961.74	1491.82
						Base	5553732.22	657972.90	1475.77
2	388.7	400.7	12.0	72	11.6	Top	5553719.46	657891.66	1590.03
						Base	5553720.43	657898.64	1580.32
3L	325.5	328.5	3.0	59	2.6	Top	5553714.74	657854.85	1641.18
						Base	5553714.95	657856.60	1638.75
3U	317.6	319.8	2.2	59	1.9	Top	5553714.20	657850.25	1647.60
						Base	5553714.35	657851.53	1645.80
4	238.5	250.5	12.0	71	11.3	Top	5553708.37	657805.00	1712.18
						Base	5553709.16	657811.65	1702.24
5	183.4	199.0	15.6	55	12.8	Top	5553705.00	657774.84	1758.17
						Base	5553705.81	657783.07	1744.94
6*	109.0	113.0	4.0	57	3.4	Top	5553702.25	657736.45	1821.83
						Base	5553702.35	657738.47	1818.38
7*	85.3	100.6	15.3	59	13.1	Top	5553701.68	657724.32	1842.18
						Base	5553702.05	657732.20	1829.06
8*	49.0	56.3	7.3	70	6.9	Top	5553700.80	657705.66	1873.30
						Base	5553701.00	657709.40	1867.04

* Seams above possible thrust zone

MACHINE TRENCHES - BARE MOUNTAIN 1981

TRENCH	SEAM NO.	LOCATION NORTHING	LOCATION EASTING	ELEVATION	AZIMUTH/ PLUNGE	LENGTH COAL	POSITION OF COAL START	POSITION OF COAL FINISH	TRUE THICKNESS	AVE. STRIKE/DIP
BM-81-T-1	6R	5553730	657788	1935	040/5	8.0m	0	8	6.03	155/50
					039/4	10.0m	10	20	7.38	155/50
					030/4	7.0m	22	29	4.74	155/50
BM-81-T-2	5	5553758	657884	1913	118/5	3.0m	0	3	2.16	173/55
					118/5	3.8m	4.1	7.9	2.74	173/55
BM-81-T-3	6	5553766	657813	1920	090/5	3.55	0	3.55	3.0	167/57
					090/5	1.78	5.9	7.68	1.5	167/57
BM-81-T-4	4	5553748	657956	1910	-	-	-	-	2.0	170/44
BM-81-T-5	3	5553973	657974	1880	044/7	1.2	0	1.2	0.93	172/69
					044/7	1.0	2.3	3.3	0.78	172/69
BM-81-T-6	2	5554034	657970	1880	108/0	1.0	0.0	1.0	0.86	177/67
					108/0	8.3	1.0	9.3	7.15	177/67
					108/0	1.2	10.0	11.2	1.03	177/67
					108/0	4.4	11.6	16.0	3.79	177/67
BM-81-T-7	2	5554060	657980	1871	013/0	7.0	0	7.0	2.1	172/56
BM-81-T-8	1	5554188	658044	1855	213/4	.9	0	0.9	.71	155/73
					213/4	1.35	1.45	2.8	1.07	155/73

MACHINE TRENCHES - BARE MOUNTAIN 1981

TRENCH	SEAM NO.	LOCATION NORTHING	LOCATION EASTING	ELEVATION	AZIMUTH/ PLUNGE	LENGTH COAL	POSITION OF COAL START	POSITION OF COAL FINISH	TRUE THICKNESS	AVE. STRIKE/DIP
BM-81-T-9	2	5554085	657930	1845		SPOIL			1.0	
BM-81-T-10	2	5554073	657920	1842		SPOIL			1.0	
BM-81-T-11	3	5554043	657916	1842		SPOIL			1.0	
BM 81-T-12	5	5553950	657695	1825	265/-6	2.5	0	2.5	2.28	165/62
					265/-6	2.1	3.1	5.2	1.92	165/62
BM-81-T-13	6R	5553846	657628	1820	240/5	9.5	0	9.5	5.14	165/50
BM-81-T-14	6	5553858	657655	1817	043/-5	-	-	-	2.0	-
BM-81-T-15	6R	5553858	657562	1810	223/5	4.4	0	4.4	3.88	157/79
BM-81-T-16	7?	5553845	657496	1797	223/5	6.0	0	6.0	3.72	164/52
BM-81-T-17	8?	5553840	657480	1800	233/4	4.5	0	4.5	3.00	157/48
BM-81-T-18	9?	5553820	657454	1795	233/4	2.0	0	2.0	1.03	157/47
BM-81-T-19	7	5553816	657430	1795	230/3	7.0	0	7.0	4.33	160/49

MACHINE TRENCHES - BARE MOUNTAIN 1981

TRENCH	SEAM NO.	LOCATION NORTHING	LOCATION EASTING	ELEVATION	AZIMUTH/ PLUNGE	LENGTH COAL	POSITION OF COAL START	POSITION OF COAL FINISH	TRUE THICKNESS	AVE STRIKE/DIP
BM-81-T-20	?	5553808	657370	1781	228/-2	2.5	0	2.5	2.00	154/54
BM-81-T-21	?	5553846	657412	1775			0	1.0	1.0	152/58
BM-81-T-22	8	5553860	657455	1775					6.0	155/47
BM-81-T-23	6	5553895	657516	1768	Core Anticline		-	-	5.0	-
BM-81-T-24	4	5554105	657767	1750	-		-	-	2.0	157/58

M E M O R A N D U M

DATE : FEBRUARY 24, 1982

T O : CROWS NEST RESOURCES LIMITED (C.N.R.L.)

FROM : SHELTECH CANADA

SUBJECT: BARE MOUNTAIN (4152-S) - S.E. BRITISH COLUMBIA

All survey control in the Bare Mtn. area is based on the Crows Nest Control Network using results established from the fall of 1980. The stations used were 'Little', 'North' and '79-401'.

From these stations six geological control points and two drill holes were surveyed.

Conventional survey methods using a 1" theodolite and electronic distance measuring equipment were used to obtain survey data. All calculations were done in the UTM system with distances being reduced to plane and bearings referenced to 117°W. The relative accuracy of control traverses was 1/278,000. The results were given to C.N.R.L. personnel in both tabular and map form.

A. L. Melton

RB/cm

s729

375

CL 266 CL 265 CL 264 CL 267 CL 268 CL 269 CL 272 CL 271 CL 270 CL 273 CL 274 CL 275

ELK MIST MTN.

ALEXANDER CREEK SYNCLINE

MOOSE MOUNTAIN SANDSTONE

Fording River

JKmm JKe

A A' B B' C C' D D' E E' F G G'

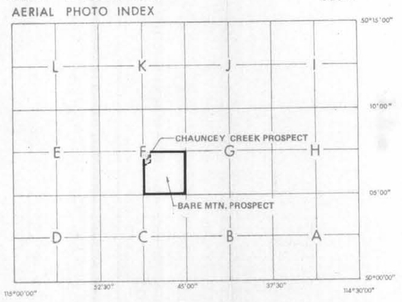
114°48'45" 114°45'00" 50°07'30" 50°05'00"

656 500 mE 657 000 mE 657 500 mE 658 000 mE 658 500 mE 659 000 mE 659 500 mE 660 000 mE 660 500 mE

5 554 000 mN 5 553 500 mN 5 553 000 mN 5 552 500 mN 5 552 000 mN 5 551 500 mN 5 551 000 mN 5 550 500 mN 5 550 000 mN 5 549 500 mN 5 549 000 mN

MAP INDEX AND AERIAL PHOTO INDEX

82J/2



G.N.
T.N.

REFERENCE

MAIN ROAD		RIVER, LAKE	
SECONDARY ROAD		INTERMITTENT RIVER	
TRACK OR TRAIL		TREED AREA	
RAILWAY		LINE OF TREES	
HEDGE FENCE		INDIVIDUAL TREES	
BRIDGE CULVERT		VERTICAL INTERVAL	
CUT FILL		DEPRESSION	
SWAMP		SPOT HEIGHT	- 1667.5
DRILL HOLE		CONTROL POINT	

MAP PROJECTION : UNIVERSAL TRANSVERSE MERCATOR
CENTRAL MERIDIAN REFERENCE 117° W.

PREPARED BY :
NORTH WEST SURVEY CORPORATION (YUKON) LTD.
JOB NO. 78 109

METRES 100 50 0 100 200 300 METRES
SCALE 1 : 5000

JURASSIC - CRETACEOUS

- JKk Kootenay Group
- JKe Elk Formation
- JKmm Mist Mountain Formation
- JKm Morrissey Formation
- MgM Moose Mountain Member
- WrM Weary Ridge Member

GEOLOGICAL LEGEND

- CONGLOMERATE (Cong)
- COARSE SANDSTONE (CsSst)
- FINE SANDSTONE (FSst)
- SILTSTONE (Siltst)
- MUDSTONE/SHALE (Mdst/sh)
- COAL

- NORMAL FAULT
- DEFINED THRUST FAULT
- ASSUMED THRUST FAULT
- BEDDING ATTITUDE
- SYNCLINE
- ANTICLINE
- COAL SEAMS

- STRIATIONS
- ASSUMED CONTACT
- APPROXIMATE CONTACT
- DEFINED CONTACT
- DIAMOND DRILL HOLE
- ROTARY DRILL HOLE (BC COAL)
- (COAL LICENCE BOUNDARY) APPROXIMATE LOCATION
- TRENCH T - 26

K-Shell Bare Mtn - 81 2 DA

Crows Nest Resources Limited
EXPLORATION

BARE MTN. – CHAUNCEY CREEK PROSPECT
S.E. B.C.

GEOLOGY MAP 375

NTS. 82 J2 UTM ZONE 11

AUTHOR: H. KUCERA	SCALE: 1:5000 METRES	ENCLOSURE No: 16	
DATE: 82 01	REVISED:	DRAWING No: HD-95	
To Accompany			

BM2U1

A

A'

2200 m
2100 m
2000 m
1900 m
1800 m
1700 m
1600 m
1500 m
1400 m
1300 m
1200 m

CHAUNCEY CREEK

ELK MIST MTN

DH-BM-1-81

COAL SEAM

SYNCLINE

ANTYCLINE

COAL 6 m 8 SEAM
COAL 8.04m 7 SEAM
COAL 5m 6 SEAM
COAL 5m 6 SEAM
COAL 17m 5 SEAM
COAL 6.1m 4 SEAM
COAL 5.4m 3 SEAM
COAL 6.9m 3 SEAM
1 CHANNEL SAND
COAL 13.1m 1 SEAM

1638 ELEV. OF INTERSECTION OF CHAUNCEY CREEK AND SEAM 2

2.9m
11.3
8 11.0m
7 7.3m
6 2.5m
5 12.0m
4 7.6m
3 6.3m
2 11.8m
T.D.

656500Em
657000Em
658000Em
658500Em

GEOLOGICAL LEGEND

ROCK TYPE

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

CONTACT

- KNOW
- PROBABLE
- INFERRED
- ELK / MIST MTN.
- FAULT

100 50 0 100 200 300 METRES

SCALE 1 : 5 000

375 Shell K Bare Mountain 81(2)A

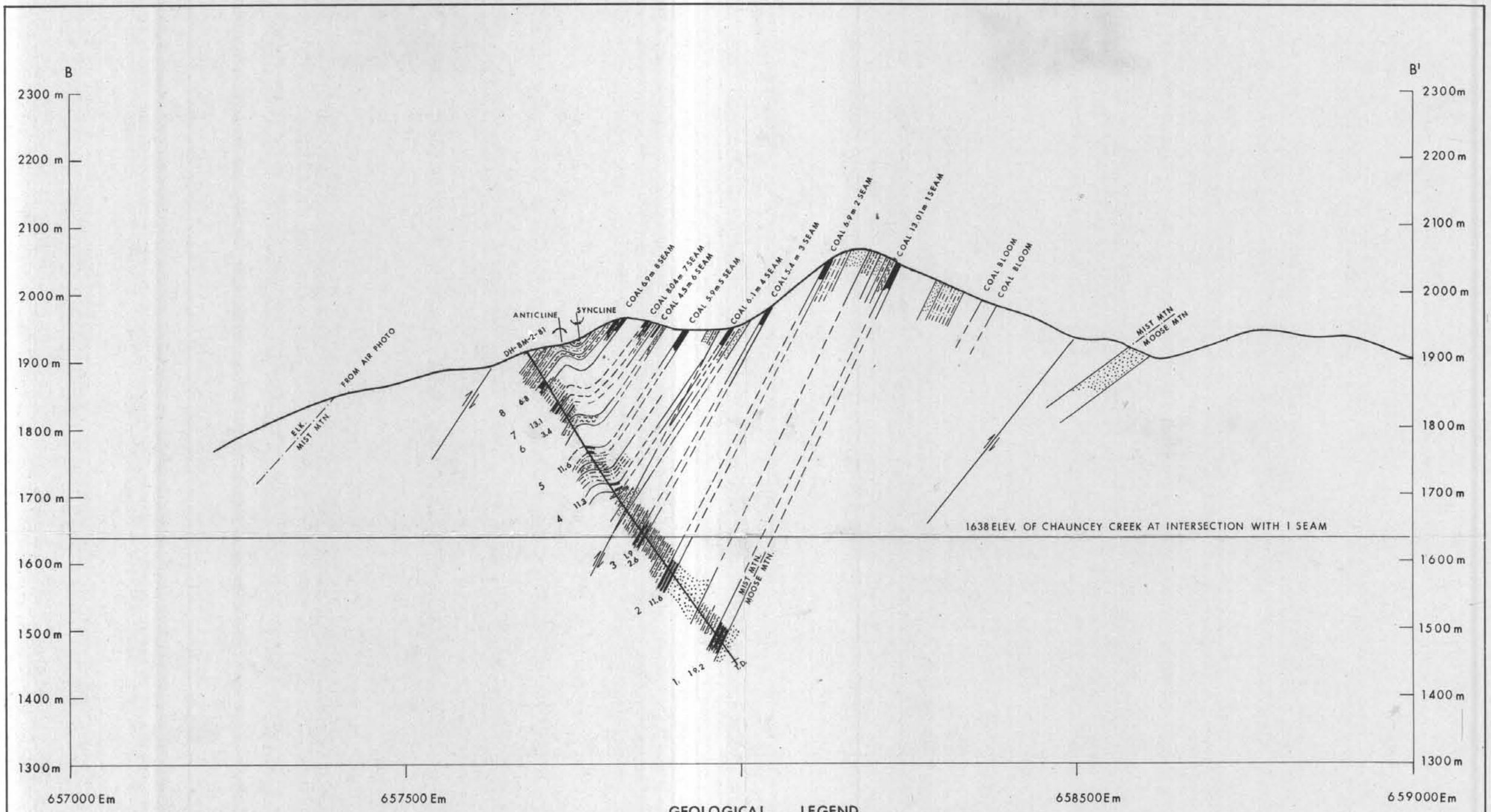
Crows Nest Resources Limited
EXPLORATION

BARE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGICAL SECTION

SECTION 5553817 NORTH

AUTHOR H. KUCERA	SCALE 1:5000	ENCLOSURE No. 17
DATE JAN, 1982	REVISED	DRAWING No. HB-95A
To Accompany		



GEOLOGICAL LEGEND

ROCK TYPE

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

CONTACT

- KNOW
- PROBABLE
- INFERRED
- ELK / MIST MTN.
- FAULT

100 50 0 100 200 300 METRES

SCALE 1 : 5 000

Shell
K-n Bare Mountain 81(2)A

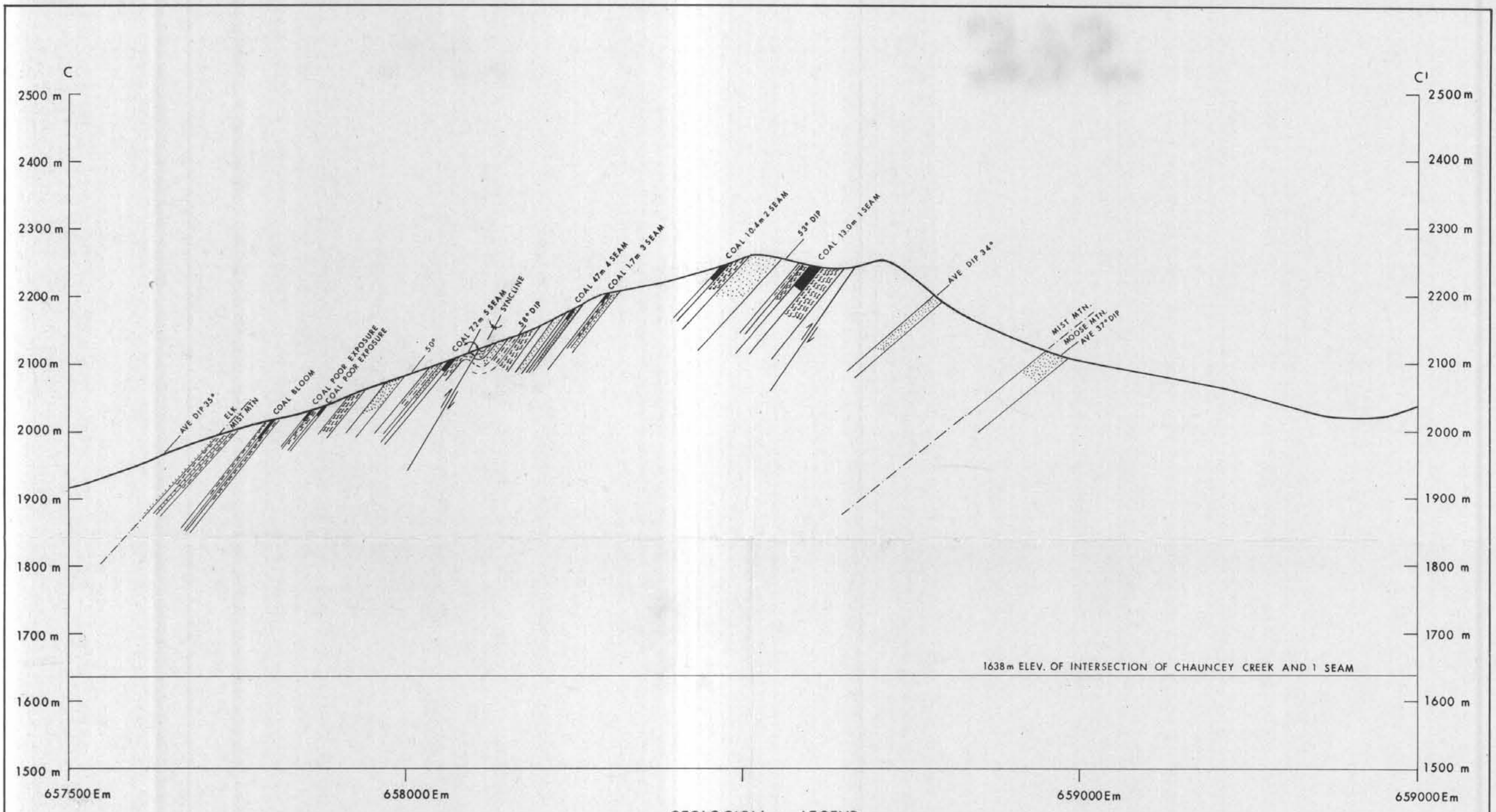
Crows Nest Resources Limited
EXPLORATION

BARE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGICAL SECTION
SECTION 5553700 NORTH

AUTHOR H. KUCERA	SCALE 1:5000	ENCLOSURE No. 17
DATE JAN, 1982	REVISED	DRAWING No. HB-95B
To Accompany		

375



GEOLOGICAL LEGEND

ROCK TYPE

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

CONTACT

- KNOW
- PROBABLE
- INFERRED
- ELK / MIST MTN.
- FAULT

100 50 0 100 200 300 METRES

SCALE 1 : 5 000

Shell
K-n Bare Mountain 81(2)A

Crows Nest Resources Limited
EXPLORATION

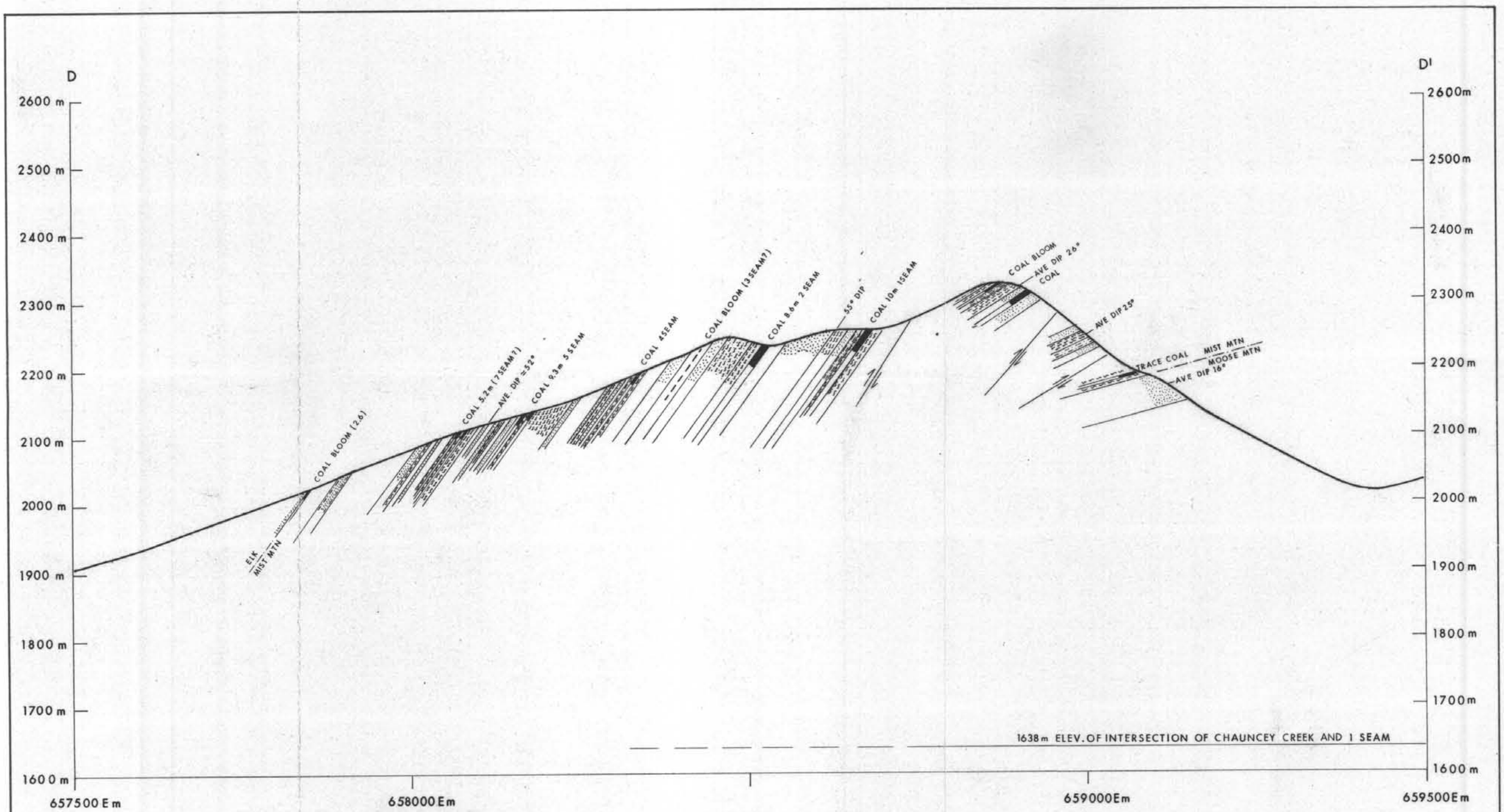
BARE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGICAL SECTION

SECTION 5 553000 NORTH

AUTHOR H. KUCERA	SCALE 1:5000	ENCLOSURE No. 17
DATE JAN, 1982.	REVISED	DRAWING No. HB-95C
To Accompany		

375



GEOLOGICAL LEGEND

ROCK TYPE	CONTACT
CONGLOMERATE	KNOW
SANDSTONE	PROBABLE
SILTSTONE	INFERRED
MUDSTONE	ELK / MIST MTN.
COAL	FAULT

100 50 0 100 200 300 METRES

SCALE 1 : 5 000

Shell
K-A Bare Mountain 81(2)A

375

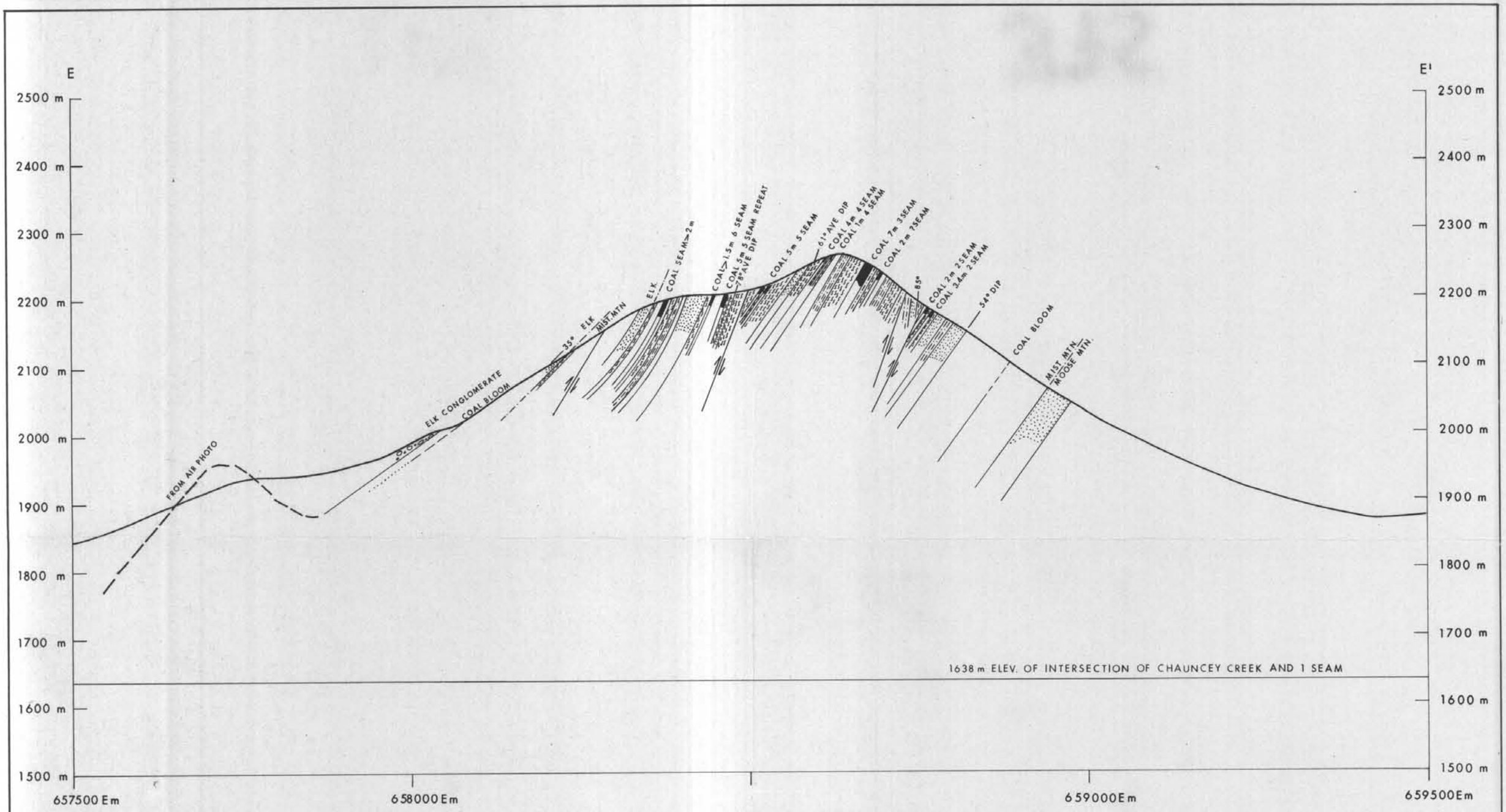
Crows Nest Resources Limited
EXPLORATION

BARE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGICAL SECTION

SECTION 5 552500 NORTH

AUTHOR H. KUCERA	SCALE 1:5000	ENCLOSURE No. 17
DATE JAN, 1982.	REVISED	DRAWING No. HB-95D
To Accompany		



GEOLOGICAL LEGEND

ROCK TYPE

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

CONTACT

- KNOW
- PROBABLE
- INFERRED
- ELK / MIST MTN.
- FAULT

100 50 0 100 200 300 METRES

SCALE 1 : 5 000

Shell
K n Bare Mountain 81(2)A

Crows Nest Resources Limited
EXPLORATION

BARE MOUNTAIN
S.E. BRITISH COLUMBIA

GEOLOGICAL SECTION

SECTION 5551750 NORTH

AUTHOR H.KUCERA	SCALE 1:5000	ENCLOSURE No. 17
DATE JAN, 1982	REVISED	DRAWING No. HB-95E
To Accompany		

375

PERMANENT SURVEY POINTS 1981

STATION	NORTHING	EASTING	ELEVATION
81-501	5548885.12	655679.33	2057.71
81-502	5549414.32	655626.68	2117.85
81-503	5549452.08	655692.28	2085.15
81-504	5549310.58	655911.26	2029.42
81-505	5549427.42	655898.27	2011.54
81-506	5549299.42	655981.77	1922.05
81-507	5549461.80	655985.85	1963.66
81-508	5549266.40	656087.49	1941.70
81-509	5549597.13	655970.32	1916.84
81-510	5553679.07	657680.69	1925.43
81-511	5554186.28	658048.33	1857.39
81-512	5553809.52	657382.14	1791.42
81-513	5554546.81	658021.06	1694.33
81-514	5554373.77	657460.55	1638.09
81-515	5555597.75	657066.19	2213.57

DRILL HOLES 1981

DRILL HOLE	NORTHING	EASTING	ELEVATION	
81-DH 1	5553817.61	657371.53	1781.27	gr. } BARE
81-DH 2	5553700.08	657681.17	1915.74	gr. } MTN.
81-DH 1	5550486.91	655777.27	1944.33	gr. } BURNT
81-DH 2	5549531.09	656012.16	1914.32	gr. } RIDGE
81-DH 3	5549260.16	656100.49	1934.57	gr. } EXTENSION

TRENCHES 1981

TRENCH	NORTHING	EASTING	ELEVATION
CHR 81-1	5555373.36	657544.50	1876.18
CHR 81-2	5554936.12	657401.80	1788.52
CHR 81-4	5555254.02	657491.41	1920.95
CHR 81-5	5555764.41	657601.50	1947.89
CHR 81-6	5555594.25	657629.58	1856.29

REFERENCES 1981

STA.		DESC.	Az.	DIST.	N	E	ELEV.
81-501	1	6" pine	81-40	13.56	5548885.6	655682.9	
	2	8" pine	279-32	2.27	5548885.5	655677.1	2362.3
81-502	1	6" pine	357-40	16.72	5549431.0	655626.0	
	2	3" pine	192-14	3.19	5549411.2	655626.0	
81-503	1	10" pine	129-02	5.56	5549448.6	655696.6	
	2	12" pine	264-25	2.18	5549451.9	655690.1	2086.6
81-504	1	8" pine	18-17	6.90	5549317.1	655913.4	2028.9
	2	10" pine	171-44	26.55	5549284.3	655915.1	
81-505	1	12" pine	211-56	5.85	5549422.5	655895.2	
	1	10" pine	0-14	4.15	5549431.6	655898.3	2011.6
81-506	1	14" pine	308-27	3.40	5549301.5	655979.1	
	2	8" pine	12-54	6.70	5549305.9	655983.3	1993.0
81-507	1	4" pine	331-38	2.06	5549463.6	655984.9	
	2	10" pine	234-36	4.59	5549459.1	655982.1	1966.8
81-508	1	10" pine	4-11	5.03	5549271.4	656087.9	1943.4
	2	12" pine	274-09	6.33	5549266.9	656081.2	
81-509	1	4" pine	351-15	6.72	5549603.8	655969.3	
	2	14" pine	166-34	4.40	5549592.9	655971.3	1917.3
81-510	1	8" pine	229-21	2.04	5553677.7	657679.1	1926.3
	2	3" pine	117-00	1.94	5553678.2	657682.4	
81-511	1	6" pine	72-57	1.41	5554186.7	658049.7	
	2	3" pine	226-18	3.06	5554184.2	658046.1	1858.1
81-512	1	14" pine	66-15	1.67	5553810.2	657383.7	
	2	2" pine	253-24	1.92	5553809.0	657380.3	1791.7
81-513	1	4" pine	237-18	4.70	5554544.3	658017.1	1695.5
	2	8" pine	312-02	16.80	5554557.9	658008.7	
81-514	1	10" pine	203-54	13.43	5554361.4	657455.1	
	2	6" spruce	84-04	8.58	5554374.7	657469.1	1638.9
BTE DH 1	1	5" pine	91-45	9.30	5550486.6	655785.6	1944.3
	2	6" pine	145-37	11.53	5550477.4	655783.8	
	3	6" pine	346-45	15.80	5550502.3	655773.7	

NOTE:- All references are 4" nails.
- Reference elevations are to the top of nails.

ROAD TRAVERSE

STATION	BEARING	DISTANCE	NORTHING	EASTING	ELEVATION
80 BAN 3			5548116.08	658928.01	
80 NB 51	284-59-08	3363.87	5548985.82	655678.52	2062.91
80 NB 52	341-02-58	44.71	5549028.10	655664.00	2062.55
80 NB 53	22-32,14	63.29	5549086.56	655688.28	2068.99
80 NB 54	31-43-08	50.74	5549129.73	655714.94	2075.05
80 NB 55	47-13-23	17.44	5549141.57	655727.74	2076.12
80 NB 56	17-51-56	56.96	5549195.79	655745.21	2080.41
80 NB 57	41-10-53	30.86	5549218.87	655765.40	2063.84
80 NB 58	17-05-59	64.19	5549280.22	655784.27	2093.19
80 NB 59	354-33-50	51.01	5549331.00	655779.44	2091.55
80 NB 60	335-24-53	63.73	5549388.95	655752.93	2085.02
80 NB 61	326-28-56	125.85	5549493.70	655683.55	2078.39
80 NB 62	308-02-50	43.32	5549520.40	655649.43	2086.88
80 NB 63	336-43-47	50.30	5549566.61	655629.56	2081.23
80 NB 64	356-20-02	54.36	5549620.85	655626.09	2087.27
80 NB 65	352-58-11	307.357	5549925.90	655588.47	2069.95
80 NB 66	329-41-07	81.89	5549996.59	655547.13	2071.99
80 NB 67	321-28-12	86.16	5550063.99	655493.46	2071.93
80 NB 68	369-00-24	75.76	5550139.74	655492.15	2071.54
80 NB 69	56-57-21	37.38	5550160.67	655523.13	2069.93
80 NB 70	8-20-31	44.51	5550204.71	655529.58	2070.45
80 NB 71	355-51-22	33.457	5550238.08	655527.17	2070.27
80 NB 72	358-21-52	168.11	5550406.12	655522.37	2056.76
80 NB 73	149-18-58	173.88	5550256.58	655611.10	2030.41
80 NB 74	354-18-16	113.72	5550369.74	655599.82	2024.21
80 NB 75	358-07-49	123.94	5550493.62	655595.77	2012.69
80 NB 76	149-01-31	142.52	5550371.42	655669.12	1998.08
80 NB 77	358-25-24	162.89	5550534.25	655664.64	1978.70
80 NB 78	142-06-48	140.25	5550423.57	655750.76	1962.54
80 NB 79	157-23-48	64.57	5550363.96	655775.58	1957.06
80 NB 80	2-25-42	135.77	5550499.61	655781.33	1943.13
80 NB 81	347-20-05	96.54	5550593.79	655760.16	1932.87
80 NB 82	328-10-14	49.35	5550635.73	655734.13	1928.43
80 NB 83	283-50-34	64.46	5550661.92	655675.23	1922.45
80 NB 84	301-22-31	82.08	5550704.66	655605.16	1922.03
80 NB 85	321-35-55	104.26	5550786.36	655540.40	1906.83
80 NB 86	284-43-04	64.80	5550802.82	655477.72	1909.83
80 NB 87	5-56-59	134.24	5550936.34	655491.64	1903.61
80 NB 88	288-29-01	134.32	5550978.72	655364.25	1895.36
80 NB 89	354-01-28	19.28	5550998.10	655362.24	1895.53
80 NB 90	345-07-23	57.09	5551053.28	655347.58	1888.30
80 NB 91	312-41-08	32.45	5551075.28	655323.72	1887.49
80 NB 92	2-21-26	93.44	5551168.63	655327.57	1883.65
80 NB 93	53-31-14	47.00	5551196.58	655365.35	1880.59
80 NB 94	25-50-23	67.84	5551257.45	655394.83	1875.45
80 NB 95	358-01-02	26.10	5551283.64	655393.93	1874.49
80 NB 96	89-39-26	35.64	5551283.75	655429.57	1868.72
80 NB 97	175-52-35	38.84	5551245.01	655432.36	1865.36
80 NB 98	217-40-30	41.63	5551212.06	655406.92	1861.20
80 NB 99	62-50-08	42.22	5551231.99	655444.14	1854.03
80 NB 100	33-37-23	45.53	5551269.90	655469.35	1844.60
80 NB 101	5-41-59	32.87	5551302.60	655472.61	1836.62
80 NB 102	83-08-22	12.37	5551304.08	655484.89	1830.19
80 NB 103	164-44-55	42.71	5551262.88	655496.13	1826.15
80 NB 104	19-00-19	42.78	5551303.32	655510.06	1822.04
80 NB 105			5548791.00	655666.95	2061.37
80 NB 106	340-19-07	214.05	5548992.54	655593.87	2010.02
80 NB 107	334-51-34	64.87	5549051.27	655566.30	2001.86
K46 455	30-29-10	175.47	5549202.48	655655.32	2080.67
K46 456	157-13-49	56.59	5549150.30	655677.23	2075.08

STA	NORTHING	EASTING	ELEVATION
BAN 3	5548116.08	658928.01	1967.77
BAN 4	5547174.56	657194.83	1529.12
COB 106	5554652.47	655453.33	1723.89
COB 110	5554339.98	655541.93	1689.24
COB 120	5555400.38	655459.17	1811.55
COB 130	5555386.66	655584.47	1851.05
GOB 140	5548693.89	655737.09	2080.25
GOB 150	5548603.76	655761.50	2037.96
GOB 160	5548496.10	655865.83	1989.59
GOB 170	5548156.86	655741.29	2027.31
BOB 50	5553413.93	658263.75	2190.43
COB 100	5554685.92	655680.80	1764.75
HW 6S	5549331.42	655774.97	2092.79
HW 5S	5549359.45	655756.98	2090.15
HW 4S	5549394.00	655738.17	2085.56
GOP 9	5550228.62	655531.66	2070.94
COB 16	5554945.84	655163.46	1707.97
COB 15	5555060.11	655189.44	1703.42
COB 14	5555887.21	655042.10	1780.99
COB 13	5555941.52	655026.19	1781.38

STA	NORTHING	EASTING	ELEVATION
LITTLE	5541250.85	663393.61	2274.30
NORTH	5549585.37	655531.60	2135.70
401 (BOB 17)	5552837.59	658867.41	2362.27
BOP 20	5551644.24	658584.18	2282.76
BOB 33	5551180.99	658694.86	2219.91
BOB 36	5550962.23	658634.98	2193.03
80 CH 986	5558566.04	656402.01	2480.95
CH W	5558246.02	655304.12	2409.65
COB 20	5556362.87	656979.21	2363.46
COB 19	5556299.61	656980.87	2360.91
COB 16	5556053.40	657050.95	2329.10
COB 46	5555609.51	657056.37	2217.63
COB 63	5555162.05	656986.86	2085.87
BOP 1	5552714.51	658770.92	2368.06
BOP 6	5552515.77	658479.32	2262.08
BOB 11	5552443.14	658099.06	2122.02
BOB 16	5552882.30	657647.09	1965.23
BOB 7	5553047.31	658457.01	2251.59
BOB 23	5552121.79	658760.59	2259.24
~~BOB 18~~	~~5552850.26~~	~~659038.35~~	~~2313.27~~
BOB 19	5552505.96	658880.11	2336.80
BOP 30	5551820.18	658211.74	2120.42
BOP 32	5551809.51	658087.23	2050.45
COP 24	5555978.78	657335.26	2153.07
COP 28	5555952.87	657452.42	2088.44
COP 31	5555820.39	657572.93	1986.41
COB 50	5555406.98	657223.21	2115.86
COP 40	5555245.53	657468.45	1935.82
COB 66	5555045.15	657045.56	2004.98
COB 23	5556629.67	657033.39	2375.23
COB 29	5557021.81	656884.62	2452.71
COB 6	5556097.33	656613.28	2162.41
80 CH 1	5555638.76	656188.80	1990.46
80 CH 3	5556555.63	656082.48	2098.30
80 CH 2	5556442.10	655505.41	1926.97
COB 106	5554652.47	655453.33	1723.89
COB 110	5554339.98	655541.93	1689.24
COB 120	5555400.36	655459.17	1811.55
COB 130	5555386.66	655584.47	1851.05
BOB 50	5553413.93	658263.75	2190.43
COB 100	5554685.92	655680.80	1764.75

STA	BEARING	NORTHING	EASTING	ELEVATION
NORTH				
80 BAN 2	143-28-41	5543832.03	659777.45	2490.
80 NB 1	336-12-28	5553482.65	655522.58	1572.73
80 NB 2	8-05-35	5553724.46	655556.97	1591.01
80 NB 3	180-44-33	5553657.91	655594.24	1600.67
80 NB 4	131-01-27	5553608.00	655650.61	1610.66
80 NB 5	67-30-36	5553615.95	655669.82	1614.13
80 NB 6	341-02-39	5553872.97	655581.56	1626.21
80 NB 7	347-15-04	5554089.63	655532.53	1638.39
80 NB 8	349-27-40	5554175.47	655516.55	1640.07
80 NB 9	333-57-31	5554309.83	655450.90	1641.23
80 NB 10	5-51-52	5554434.75	655463.73	1655.51
80 NB 11	355-52-40	5554476.18	655460.75	1657.41
80 NB 12	301-35-23	5554510.58	655404.82	1663.82
80 NB 13	261-39-07	5554504.20	655361.34	1669.62
80 NB 14	321-00-49	5554578.07	655301.56	1678.46
80 NB 15	331-36-11	5554762.80	655201.68	1690.72
80 NB 16	343-54-47	5554908. 0	655159.66	1704.80
80 NB 17	2-30-20	5554961.73	655161.99	1705.38
80 NB 18	15-24-11	5555031.48	655181.21	1702.44
80 NB 19	6-19-56	5555113.34	655190.29	1697.78
80 NB 20	25-39-24	5555220.54	655241.78	1707.37
80 NB 21	37-11-40	5555256.24	655268.87	1710.84
80 NB 22	332-49-37	5555304.99	655243.85	1712.99
80 NB 23	310-00-07	5555349.42	655190.90	1720.39
80 NB 24	351-12-43	5555417.35	655180.40	1726.42
80 NB 25	26-51-30	5555472.41	655208.28	1731.38
80 NB 26	37-16-03	5555579.75	655289.95	1741.39
80 NB 27	32-08-33	5555610.60	655308.34	1746.27
80 NB 28	1-16-29	5555719.87	655311.76	1753.81
80 NB 29	261-14-05	5555707.21	655229.64	1756.13
80 NB 30	228-33-59	5555656.19	655171.83	1760.51
80 NB 31	279-21-20	5555661.93	655137.00	1763.09
80 NB 32	327-47-05	5555761.08	655074.52	1769.81
80 NB 33	344-13-50	5555915.65	655030.87	1780.66
80 NB 34	334-16-59	5556056.21	654963.17	1776.97
80 NB 35	299-31-38	5556134.20	654825.48	1795.65
80 NB 36	197-02-47	5556056.79	654801.74	1802.54
80 NB 37	216-32-47	5556018.27	654773.19	1806.01
80 NB 38	346-50-41	5556097.53	654754.67	1811.65
80 NB 39	11-56-08	5556163.89	654768.66	1815.60
80 NB 40	3-13-02	5556261.17	654774.15	1806.39
80 NB 41	338-07-42	5556351.90	654737.73	1813.41
80 NB 42	3-33-03	5556436.38	654742.97	1821.68
80 NB 43	54-12-09	5556495.68	654825.20	1830.06
80 NB 44	182-39-36	5556439.03	654822.87	1838.77
80 NB 45	117-52-24	5556424.57	654848.91	1842.09
80 NB 46	37-41-02	5556560.99	654955.29	1867.79
80 NB 47	113-34-05	5556546.70	654988.04	1871.16
80 NB 48	75-26-08	5556589.27	655074.90	1873.67
80 NB 49	96-14-43	5556552.13	655234.52	1886.52
80 NB 50	69-37-40	5556607.60	655330.91	1904.12

LEGEND

- • — PLANT 6" NAIL
- X — PLANT 12" NAIL
- ● — FOUND 12" NAIL
- ⊙ — PLANT 1981 3' REBAR WITH CAP AND MARKER POST
- ⬡ — 1981 DRILL HOLE
- ⊡ — 1981 TRENCH

ALL ELEVATIONS ARE TO THE TOP OF SPIKE OR IRON-BAR UNLESS OTHERWISE NOTED.
ALL DISTANCES HAVE BEEN REDUCED TO THE U.T.M. PLANE AND ARE IN METRES AND DECIMALS THEREOF.
ALL BEARINGS ARE REFERRED TO 117°W LONGITUDE
SURVEY PERFORMED BY Sheltech Canada, 1980

Sheltech Canada

Shell K Bare Mountain 81 (2)A

Crows Nest Resources Limited

ENGINEERING

NORTH S.E.B.C. BLOCK
CHAUNCEY RIDGE
BARE MOUNTAIN
BURNT RIDGE EXTENSION

TRAVERSE SURVEY MAP

N.T.S. 82 J/2		ZONE 11
AUTHOR: SHELTECH	SCALE: 1:5000	ENCLOSURE No: 18
DATE: 1980	REVISED: 1981 NOV.	DRAWING No: H1-65C
To Accompany		

375

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 375

OPEN FILE
CONFIDENTIAL

CROWS NEST RESOURCES LIMITED

PROJECT: BARE MOUNTAIN

AREA: NORTH BLOCK, S.E. B.C. N.T.S.

HOLE I.D: BM-81-1

ZONE:

GRID TYPE: U.T.M.

EASTINGS: 657 371.53

NORTHINGS: 5 553 817.61

ELEVATION (m): 1 781.27

TOTAL DEPTH DRILLED: 519.68 DRILLER: D.W. COATES

AZIMUTH: 090°

INCLINATION: 60°

DRILL TYPE: DIAMIOND OVERBURDEN: 3.66

CORE DIAMETER: H.Q. CASING LEVEL: 3.65 m

LENGTH CORED: 516.02 WATER LEVEL: 12.70

LOGS RUN: CALIPER, NATURAL, GAMMA, DENSITY, RESESTIVITY, NEUTRON

LOGS USED: CALIPER, NATURAL, GAMMA, DENSITY, RESESTIVITY, NEUTRON

LOGGED BY: DAVIES EXPLORATION LOGGING LTD. LENGTH LOGGED: 519.68

CORE EXAMINED BY: D. LANGSTON, I. PIWEK

DATE EXAMINED: JULY, 1981

CORE SHEET LEGEND

CR	- Core recovered	Elev Bot	- Elevation of bottom of main lithology
CI	- Core interval		
M-M %/R	- % recovery between marker blocks	Lith % R	- % recovery of main litholog
		Geop Pick	- Pick using geophysical logs
Mn Lith	- Main lithology	Lith % R	- Recovery for each main lithology from geophysical logs
Sm Des	- Seam designation		
MTh	- Measured thickness in m.	C/B	- Core to bedding angle
ETh	- Expected thickness in m.	EL	- Elevation of reading

PROJECT: BARE MOUNTAIN | AREA: | N.B. | HOLE no. 1 | BOX nos | GEOP PICK | PAGE 1 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures Sample No. [10]	C/B El. [11]	C/P Code [12]
	2.81										SILTSTONE Cross bed colour, white to light grey grains, soft sediment deformation at 4.77m, iron staining, calcite coated fractures		
3.66	3.05	92%	SLST										
												60°	
6.71					9.63						Some mudstone bands	7.09	
	3.12												
9.75	3.04	102%	MDST								Highly fractured, carbonaceous, rubbly core		
					9.85								
												72°	20
			SLST		11.95						As above with abundant mud bands and as above siltstone at 3.66	11.37	315
			MDST								Dark grey, massive		
	2.47												
12.5	2.75	90%			12.66								
			SLST								As above with iron staining at 13.6 m also at 13.2 m soft sediment deformation becoming more muddy at base		
			SLST		15.48						Carbonaceous dark grey, muddy bands with interbedded Started at 14.82 end at 15.48		
	2.075												
14.94	2.44	85%											
			COAL		16.7						Sull with small bright areas at the top become bright, coal is 1.22 meters in length.		
											Sample # BM-81-101 15.48 - 15.60 Sample # BM-81-102 15.60 - 16.70 COAL RECOVERY = 100%		
	2.02										Highly carbonaceous, plant fragments with siltstone bands at 16.8 becoming more muddy at base, small bright coal bands at ~ 17.7 m		
16.76	1.82	100%	MDST		17.91								
	3.04											76°	
19.81	3.05	99.7%	SLST		19.97						Light grey, soft sediment deformation, iron staining, some small mud bands	18.11	
	—		-	—									
			MDST		20.6						Starts silty with iron stain on fracture becoming carbonaceous within ½ meter from start		

**ccf - calcite coated fractures,

PROJECT: BARE MOUNTAIN | AREA | N.B. | HOLE no. 1 | BOX nos. | GEOP. PICK | PAGE 2 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures. Sample No. [10]	C/B / El. [11]	C/P / Az / Code [12]
			COAL		20.87						Muddy, hard, bright		
			SLST		22.84						At top one small band of coal 5 cm ccf,		
22.86	2.37 / 3.05	78%	MDST		23.06						Highly carbonaceous, mud become silty at base .20cm		
			SLST		23.95						Soft sediment deformation, ccf, very clean, very light grey to white sandstone grains	68° / 23.54	
			SLST		24.54						Muddy bands up to 4mm thick, highly carbonaceous		
			MDST		24.78						With one coal band at start 8cm		
25.91	3.04 / 3.05	99.7%	SLST								Light grey, soft sediment deformation, small coal wisps at tops		
28.96	3.08 / 3.08	100%			29.13						Wisps bands of coarser siltstone, mud band and wisps bands		
			MDST		29.92						With plant fragment and coal wisps highly carbonaceous iron staining, siltstone interbeds		
			SLST								Soft Sediment deformation, Ccf. and mudstone bands		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: GEOP. PICK | PAGE: 3 OF 29

Marker Bl. [1]	CR / CI [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Az. Code [12]
32	3.01 / 3.04	99%												
					34.336						at 34.342 becoming well banded			
			MDST		34.65						With Ccf, some iron staining on fractures			
35.05	3.05 / 3.05	100%	SLST		37.8						Clean very light grey at 35.66 become more mud and carbonaceous			
													75° / 34.85	
38.1	2.89 / 3.05	95%	MDST		38.2						Becoming highly carbonaceous at base, Coal started at 38.2 meters end at 41.26 meters CR/CI = 3.01/3.16 = 95%		77° / 34.70	330° / 18° JOINT
39.62	1.50 / 1.52	99%	COAL				COAL 3.05 M THICK				Sample # BM - 81 - 103 38.20-38.50			
41.15	1.40 / 1.53	92%	SLST		41.26						Sample # BM- 81 - 104 38.50-41.26 Coal Recovery = 95%			
			MDST		42.34						Mud with interbedded coal goes up to .5 cm becomes silty at top			
43.59	2.30 / 2.44	99%	SLST		45.14						Light grey, soft sediment deformation and interbedded coal and mud, becoming muddy at base			
46.63	3.04 / 3.04	100%	MDST								As above, medium grey			

PROJECT: BARE MOUNTAIN AREA: N.B. HOLE no: 1 BOX nos: GEOP. PICK PAGE: 4 OF 29

Marker Bl [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures Sample No. [10]	C/B / El [11]	C/P / A / Code [12]
			SLST		47.2						As above		
			MDST		48.6						As above		
49.68	2.88 / 3.05	94%	COAL		49.72						Black dull some silty and muddy bands, coal is 1.12 meters long. Sample # BM-81-105 48.60 - 48.71 Sample # BM-81-106 48.71 - 49.72 Coal Recovery = 85%		
52.73	2.94 / 3.05	96%	SLST		55.02						Muddy at base with coal whisps, Ccf.		
55.77	2.58 / 3.05	85%	COAL								Muddy bands, Coal is 2.20 meters long Sample # BM-81-107 55.02 - 55.24 Sample # BM-81-108 55.24 - 57.22		
57.00	1.23 / 1.23	100%			57.22						Coal recovery = 85%		
			MDST/ SLST								Interbedded siltstone and mudstone, mudstone carbonaceous coal bands, Ccf., becoming coal at 71.5		
58.83	1.63 / 1.83	89%											
59.74	1.08 / .91	118%											
62.48	2.45 / 2.74	89%											
65.53	3.05 / 3.05	100%											
68.58	2.93 / 3.05	96%											
71.63	2.67 / 3.05	88%											

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOXnos GEOP. PICK PAGE 5 OF 29

Marker Bl [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures Sample No. [10]	C/B / El [11]	C/P / Az Code [12]
73.46	1.70 / 1.83	93%									As above, coal band, siltstone become more predominant		
74.68	1.02 / 1.22	83%			77.04								
77.72	2.72 / 3.04	90%	COAL								Hard bright with dull bands, coal is 3.76 Sample # BM-81-109 77.04 - 77.42 Sample # BM-81-110 77.42 - 80.80 m		
79.25	.95 / 1.53	62%											
80.77	1.01 / 1.52	67%	COAL								AS above coal recovery = 77%		
					80.80								
			MDST								Ccf massive, medium grey		
					81.28								
			COAL								Hard, bright some dull section, broken stick Coal is 1.81m long		
82.30	0.51 / 1.53	33%			83.09						Sample # BM 81-111 81.28 - 81.46 Sample # BM-81-112 81.46 - 83.05 m		
			MDST		84.09						Mudstone with bright coal bands, up to 2mm		
			SLST		84.75						Soft sediment deformation, ccf., white to medium grey, grain		
85.34	2.69 / 3.04	89%	MDST		85.34						Mudstone to coaly beds, (Mudstone carbonaceous upwards)		
			SLST		86.38								
			COAL		87.07						Hard, bright, crisp		
88.40	2.63 / 3.06	86%	COAL		88.40						Dull with bright bands and wisps, shaley in places, hard, badly slickensided, coal is 2.31 meter long		
			COAL		88.69						As above, Sample # BM-81-113 86.38 - 86.61 Coal Recovery = 81% Sample # BM-81-114 86.61 - 88.69		
			MDST		90.80						Dark grey to black, carbonaceous, abundant plant fragments on bedding planes, Stick core	79° / 89.8	

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 6 OF 29

Marker Bl. [1]	CR / CI [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B / El [11]	C/P / Az Code [12]
91.74	3.24 / 3.34	97%	SLST		91.74						Fine grained sandstone interbeds near base, light grey, siltstone is medium grey, carbonaceous plant fragments on bedding planes, calcite filled fractures, soft sediment deformation		76° 91.5	
			SS/ SLST		92.49						Interbedded as described above		82° 93.2	
93.57	1.53 / 1.83	84%	MDST/ SLST		92.57						Black, finely bedded mudstone with carbonaceous partings Siltstone interbeds of medium grey			
			MDST/ SLST		94.56						As above			
96.01	2.32 / 2.44	95%	MDST		96.01						Black carbonaceous plant fragments and pyrite on bedding planes slickensides		79° 94.8	
			MDST		96.24						As above			
			SST		96.88						Fine grain light grey, ripple cross laminated carbonaceous partings, calcite lined joints			
97.54	1.29 / 1.53	84%	MDST		97.54						Black carbonaceous, slickensided, calcite lined joints			
98.76	0.92 / 1.22	75%	MDST		98.76						As above, coaly bands, powdered (gouge?) zone at 98.65m			
			MDST		99.94						As above coal wisps, lenses, and bands			
			SLST/ SST		101.70						Light grey, very fine grain sandstone interbedded with medium grey siltstone, soft sediment deformation, calcite lined fractures, becomes very carbonaceous in lower .4 m - coaly splits		79° 100.0	
101.80	2.72 / 3.04	89%	MDST		101.80						Black carbonaceous coal wisps and lenses			
			MDST		102.27						As above			
			COALY MDST		103.35						Black mudstone with abundant coal wisps and bands.			
104.85	2.48 / 3.05	81%	MDST		104.85						Black carbonaceous, coaly wisps and partings, slickensides		78° 104.5	
			MDST		105.23						As above			
			SHALE		105.47						Black, carbonaceous, highly slickensided, coaly			
			COAL		105.67						Hard, dull with bright			

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 7 OF 29

Marker Bl [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures Sample No. [10]	C/B / El [11]	C/P / Az Code [12]
			COAL		105.74						Bright, fairly soft, friable, badly broken		
			COAL		105.79						Dull powdery, Sample # BM-81-115 105.47 - 105.79 Coal recovery = 99%		
			MDST		106.03						Black carbonaceous very slickensided, coaly		
107.29	2.41 / 2.44	99%	MDST		107.29						Black, carbonaceous, slickensided		
			MDST		107.59						As above with coal wisps and lenses, slickensided, powdery in bottom 2 cm		
			SHALEY/ COAL		107.70						Very shaley with coal wisps, highly slickensided		
			COAL		107.84						Bright soft platey, slickensided		
109.73	1.46 / 2.44	60%	MDST		109.73						Dark grey, carbonaceous contains plant fragments, highly slickenside, may have been movement along contact with coal above, calcite lined fractures		
			COALEY SHALE		109.82						Fissile coaly slickensided		
			MDST		110.39						Black, carbonaceous, abundant plant fragments slickensided gouge core at 110.17 m		
111.56	0.95 / 1.83	52%	COALY SHALE		111.56						As described above, slickensided, badly broken at base, probable core loss		
114.32	2.76 / 2.76	100%	MDST		114.32						Dark grey, plant fragments, calcite filled fractures semi stick, core	79° / ~~112.8~~	
												76° / 116.0	
117.35	2.98 / 3.03	98%	MDST		117.35						As above		
			MDST		119.60						As above		
120.40	3.05 / 3.05	100%	MDST/ SLST		120.40						Mudstone as described above with occasional siltstone to very fine grain sandstone interbeds, light grey		
123.44	3.04 / 3.04	100%	SLST/ SST		123.44						Medium grey siltstone to mudstone interbedded with light grey very fine grain sandstone to siltstone, soft sediment deformation ripple cross laminate calcite filled fractures	68 / 120.4	
			SLST		123.69						Medium grain, massive		

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 8 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures [10]	Sample No.	C/B / El [11]	C/P / Az / Code [12]
126.49	3.05 / 3.05	100%	MDST		126.49						Medium grey minor slickensides, some calcite lined fractures and joints			
			MDST		128.95						As above			
129.54	3.01 / 3.05	99%	MDST		129.54						As above with abundant plant fragments and slickensides			
			MDST		130.78						As above coal wisps at base			
			COAL		130.91						Dull with bright, hard, slickensided			
			MDST		131.38						Black, carbonaceous, abundant plant fragments, coal wisps			
132.59	2.77 / 3.05	91%	COALY/ SHALE		132.59						Black, carbonaceous, abundant bright coal wisps and bands becomes shalier at base			
			MDST		133.01						Dark grey, abundant plant fragments on bedding planes Bright coal partings and bands, slickensided			
			COAL		134.62						Bright, hard, blocky, slickensided			
			COAL		134.76						Dull with bright, moderately soft, slickensided			
			COAL		134.86						Dull, very soft, powdery			
			COAL		134.95						Dull with bright, moderately soft, slickensided			
			COAL		135.01						Dull, very hard			
			COAL		135.07						Dull with bright, moderately soft, slickensided			
135.64	2.67 / 3.05	88%	COAL		135.64						Moderately dull, crisp, blocky, hard			
			COAL		135.70						Bright, moderately soft, highly slickensided			
			COAL		136.43						Dull, hard, slickensided			
137.16	0.99 / 1.52	65%	COAL		137.16						Dull to moderately bright, blocky to powdery, soft slickensided			

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 9 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures Sample No. [10]	C/B / El [11]	C/P / Ash Code [12]
			COAL		137.31						Moderately dull, hard		
			COAL		137.36						Bright, soft, platey, highly slickensided		
			COAL		137.54						Bright hard, highly slickensided		
			COAL GOUGE		137.59						Gouge zone		
			COAL		138.04						Moderately bright, hard, crisp, slickensided		
			COAL		138.43						Dull hard, crisp, minor slickensides		
			COAL		139.07						Bright hard, crisp, highly slickensided		
			COAL		139.98						Moderately dull, hard, slickensided		
141.73	4.23 / 4.57	93%	COAL		141.73						Medium bright to bright, medium hard, crisp, slickensided		
			COAL		142.27						As above		
			COAL GOUGE		142.35						Gouge zone		
143.26	1.53 / 1.53	100%	COAL		143.26						As described above		
			COAL		144.53						As above		
			COAL		144.60						Bright, soft, powdery		
144.48	1.45 / 1.52	95%	COAL		144.78						Bright, hard, crisp, highly slickensided		
			COAL		145.43						Moderately bright to bright, hard, crisp, highly slickensided		
			COAL		145.52						Bright soft, powdery to small blocks, slickensided		
			SHALEY COAL		145.60						Very dull, very hard, slickensided		

PROJECT BARE MOUNTAIN AREA: N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 10 OF 29

Marker Bl. 1	CR / Cl 2	M-M %R 3	Mn Lith (Sm Des) 4	M Th / E Th 5	Elev. Bot. 6	Lith %R 7	Geop Pick 8	Lith %R 9	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures 10	Sample No.	C/B El. 11	C/P A Code 12
			COAL		146.07						Moderately bright to bright hard, crisp slickensided			
											Coal is 133.01 - 146.07 m to 13.06 m thick			
											Sample # BM-81-116 133.01 - 134.32 Sample # BM-81-117 134.32 - 146.07			
											Coal recovery = 84%			
147.22	1.52 / 2.44	62%	MDST		147.22						Black carbonaceous, plant fragments			
			MDST		147.66						As above, coal wisps and partings, slickensided			
			MDST		148.71						As above but minor siltstone interbeds, calcite lined fracture Burrow?			
			COAL		148.78						Dull, soft, powdery			
149.96	2.28 / 2.74	83%	COAL		149.96						Dull with bright hard slickensided very muddy			
			COAL		150.31						As above, bright coal lenses			
			COAL GOUGE		150.41						Gouge zone			
151.18	0.53 / 1.22	43%	COAL		151.18						Dull with bright hard, slickensided very muddy			
153.31	1.79 / 2.13	84%	COAL		153.31						As above			
			COAL		154.46						As above			
			COAL		154.64						Bright, soft flakey to powdery			
			COAL		154.78						Bright, moderately hard, crisp, blocky			
			COAL		154.85						Dull soft powdery			
			LOST COAL		155.64						0.79m lost coal			

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BUX nos GEOP. PICK PAGE 11 OF 29

Marker Bl [1]	CR / Cl [2]	M·M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures Sample No. [10]	C/B El. [11]	C/P Az Code [12]
											Coal seam 148.71 - 155.64m to 6.93 m		
											Sample # BM-81-118 148.71 - 149.40 Sample # BM-81-119 149.40 - 155.64		
											Coal recovery = 67%		
156.36	2.26 / 3.05	74%	MDST		156.36						Black, carbonaceous, abundant plant fragments, slickensides		
			MDST		156.90						As above		
			SHALE		157.00						Black, carbonaceous coal wisps and lenses, slickensided, fissile		
			SLST		157.50						Light grey with medium grey mudstone laminations, abundant plant fragments, coal wisps and lenses		
			MDST		158.12						Black, carbonaceous abundant plant fragments, coal wisps and lenses		
			COAL		158.47						Dull with bright lenses and wisps, hard, slickensided		
			COAL		158.60						Dull with bright, soft, slickensided		
			COAL		158.72						Bright, moderately soft, crisp, blocky		
			LOST COAL		158.98						0.26 m lost coal		
											Coal seam is 158.12 - 158.98m to 0.86 m Sample # BM-81-120 158.12 - 158.98m Coal recovery, = 70%		
159.41	2.79 / 3.05	91%	MDST		159.41						Black, carbonaceous abundant plant fragments, slickensides		
			MDST		160.63						Black, occassional plant fragments, carbonaceous	56° 160.20	
			COAL		161.12						Bright hard crisp, slickensided, Coal is 160.63-161.12 to 0.49		
			LOST COAL		161.19						0.07m lost coal, Sample # BM-81-121 160.63 - 161.12m Coal recovery = 86%		
			MDST		161.51						Black, very carbonaceous slickensided 0.32m thick		

PROJECT BARE MOUNTAIN AREA N.B. HOLE no. 1 BOX nos. GEOP. PICK PAGE 12 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	C/B / El. [11]	C/P / Code [12]
			COAL		161.66						Moderately bright, hard, slickensided, 0.15 m thick		
			MDST		162.06						Black very carbonaceous coal wisps and lenses, 0.40m thick		
162.46	2.98 / 3.05	98%	MDST/ SLST		162.46						Medium grey, dark grey, mudstone with light grey siltstone interbeds and lenses, coal wisps		
			MDST		162.94						Black very carbonaceous, plant fragments slickensided, coal wisps		
165.51	2.90 / 3.05	95%	SLST/ MDST		165.51						Interbedded light grey siltstone and medium to dark grey mudstone, Slickensides, minor coal wisps and lenses, soft sediment deformation, Calcite lined joints and fractures, carbonaceous partings.	75° 165.0	
			SLST		168.08						Siltstone as described above with medium dark grey mudstone laminations. Rare coal wisps, soft sediment deformation, calcite lined fractures, Carbonaceous partings		
168.55	2.89 / 3.04	95%	COALY MDST		168.55						Black, Carbonaceous, coaly, highly slickensided		
			COALY MDST		169.18						As described above		
			MDST/ SLST		169.76						Interbedded light grey siltstone and medium dark grey mudstone		
			COAL		169.88						Bright, hard, crisp, slickensided		
170.69	1.73 / 2.14	81%	MDST		170.69						Black Very carbonaceous, coaly - Coal splits and wisps, slickensided		
			COAL		170.80						Dull with bright, hard, crisp, very highly slickensided		
			SLST		171.38						Light grey siltstone with dark grey mudstone laminations, Carbonaceous partings, slickensides		
			MDST		172.06						Black very carbonaceous coaly wisps, splits and lenses, slickensided		
173.40	2.71 / 2.71	100%	MDST/ SLST		173.40						Interbedded light grey siltstone and medium dark gray mudstone, coal wisps Slickensided, Irregular upper contact with overlying mudstone.		
174.90	1.24 / 1.50	83%	COALY MDST		174.90						Black, very carbonaceous, Bright coal wisps and lenses, Slickensided		
			COALY MDST		175.08						As above		

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 13 OF 19

Marker Bl [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / Σ Th [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures Sample No. [10]	C/B El. [11]	C/P Az Code [12]
			MDST		176.06						Black carbonaceous, slickensided, Rubbly at base		
177.70	2.30 / 2.80	82%	COAL		177.70						Dull, hard, slickensided		
			COAL		177.80						As above		
			MDST		178.10						Black, carbonaceous, slickensided		
			COAL GOUGE		178.27						Small chunks to powder		
			MDST		178.34						Black, carbonaceous, highly slickensided		
180.40	0.64 / 2.70	24%	LOST CORE		180.40								
			SLST/ MDST		181.54						Interbedded light grey siltstone and dark grey carbonaceous Mudstone, abundant plant fragments in mudstone	73° 180.9	
			COALY MDST		181.76						Black, carbonaceous coaly, highly slickensided		
			COAL		181.89						Bright, hard, crisp		
			COALY MDST		182.17						Dull with bright wisps, very hard, highly slickensided		
			COAL		182.25						Dull, bright, powdery		
			MDST		182.76						Black carbonaceous abundant plant fragments.		
			MDST/ SLST		183.06						Mudstone as above interbedded with light grey siltstone Carbonaceous partings		
			COAL		183.16						Bright, hard, crisp		
183.20	2.76 / 2.80	99%	LOST COAL		183.20						0.04 Lost coal		
			COAL		183.67						Bright with dull hard, crisp, slickensides		
											COAL is 183.06 to 183.67m 0.61 m thick Sample # BM-81-122 183.06 - 183.67m COAL RECOVERY = 93%		

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 14 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures Sample No. [10]	C/B / El. [11]	C/P / Az Code [12]
			MDST		184.43						Black, carbonaceous plant fragments coaly partings		
			COAL		184.50						Bright soft, powdery in small blocks		
			COAL		184.58						Bright hard, crisp, blocky		
			COAL		184.69						Soft powdery, bright		
			COALY MDST		184.76						Black, carbonaceous, coal wisps, slickensided		
			COAL		184.90						Bright, hard, crisp, platey		
			LOST COAL		185.26						Coal is 184.43 - 185.26m 0.83m		
											Sample # BM-81-123 184.43 - 185.26 0.36m lost coal		
											Coal Recovery = 57%		
186.30			MDST		186.30						Black, carbonaceous, plant fragments, Bright coal lenses carbonaceous partings		
189.60	3.05 / 3.30	92%	MDST		189.60						As above		
192.60	3.00 / 3.00	100%	MDST		192.60						As above		
			MDST		194.27						As above, occasional light grey siltstone interbeds		
195.70	3.01 / 3.10	97%	MDST/ SLST		195.70						Mudstone as above interbedded with light grey siltstone, soft sediment deformation, Calcite lined joints and fractures		
			SLST/ MDST		196.35						As above		
198.80	3.06 / 3.10	99%	SST		198.80						Fine to medium grain salt and pepper with overall light grey color Bright coal lenses, calcite lined joints and fractures	69° / 196.4	
											Coal lenses very abundant at base		
			SST		203.04						Fine to very fine grain, salt and pepper with overall light grey color Carbonaceous partings, calcite filled fractures and joints	74° / 199.5	

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 15 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B / El. [11]	C/P / Az / Code [12]
			COAL		203.10						Bright, soft flakey			
203.60	4.80 / 4.80	100%	MDST		203.60						Black, carbonaceous, plant fragments, slickensides			
			MDST/ SLST		204.30						Interbedded light grey siltstone and dark grey to black carbonaceous mudstone, Calcite filled fractures			
			COAL		204.40						Bright to dull, soft, powdery to small chunks			
			COAL		204.70						Bright, hard, crisp, slickensided, platey			
			COAL		204.76						Dull, soft, powdery			
			COAL		205.02						Bright, hard, crisp, slickensided			
			LOST COAL		206.45						Coal seam is 204.30 - 206.45m 2.15m Sample # BM-81-124 204.30 - 206.45m 1.43 m lost coal			
											COAL RECOVERY = 33%			
			COALY MDST		207.05						Black, carbonaceous, coal wisps, slickensided			
208.80	3.67 / 5.20	71%	MDST		208.80						Black, carbonaceous occassional bright coal lenses, plant fragments			
211.90	2.84 / 3.10	92%	MDST		211.90						As above			
214.90	3.00 / 3.00	100%	MDST		214.90						As above			
217.90	2.96 / 3.00	99%	MDST		217.90						As above, plant fragments rare, no coal lenses			
			MDST		218.85						As above calcite lined joints			
220.10	3.10 / 2.20	141%	MDST/ SLST		221.00						Mudstone as above interbedded with light grey siltstone calcite lined joints and fractures			
224.03	2.98 / 3.03	98%	MDST/ SLST		224.03						As above, Bright coal wisps and lenses near base of unit Carbonaceous partings		68° 223.9	
			MDST/ SLST		226.86						As above Bright coal wisps and lenses Carbonaceous partings			

PROJECT BARE MOUNTAIN AREA: N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 16 OF 29

Marker Bl [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B Et [11]	C/P Az Code [12]
227.80	3.00 / 3.77	80%	SST		227.80						Fine to medium grain; salt and pepper with overall light grey color Abundant carbonaceous material, coal lenses, Calcite filled fractures.			
			SST		229.10						As above			
230.12	3.03 / 2.32	131%	MDST/ SLST		230.12						Dark grey to black, carbonaceous mudstone interbedded with light grey siltstone. Slickensided, Ripple cross stratification, Mudstone to siltstone			
			MDST SLST		230.65						As above			
			MDST		232.20						Black, very carbonaceous, coal lenses, plant fragments, slickensided			
233.20	2.94 / 3.08	95%	MDST SLST		233.20						As described above			
236.20	3.00 / 3.00	100%	MDST		236.20						Black carbonaceous One calcite filled joint			
			MDST		236.94						As above			
			MDST SLST		237.73						Black carbonaceous mudstone interbedded with light grey siltstone very carbonaceous, coaly, coal splits			
239.30	3.00 / 3.10	97%	MDST		239.30						Black carbonaceous slickensided			
			MDST		241.27						As above			
242.31	3.01 / 3.01	100%	SLST		242.31						Light grey siltstone with dark grey mudstone laminations. Calcite lined fractures and joints, Burrows			
			SLST		243.82						As above			
245.36	3.44 / 3.05	113%	MDST/ SLST		245.36						Siltstone as above interbedded with black carbonaceous mudstone abundant plant fragments			
			MDST		247.30						Black, carbonaceous, plant fragments, occasional siltstone interbeds			
248.41	2.95 / 3.05	97%	MDST/ SLST		248.41						Mudstone as above interbedded with light grey siltstone			
			MDST/ SLST		250.59						As above		81° 250.4	
251.50	2.95 / 3.09	97%	SST		251.50						Siltstone to very fine sand, salt and pepper with overall light grey color, Mudstone laminations, Ripple cross stratification, Slickensided, carbonaceous partings very carbonaceous			

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 17 OF 29

Marker Bl [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bol [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures Sample No. [10]	C/B / El. [11]	C/P / Az / Code [12]
254.60	3.10 / 3.10	100%	SST		254.60						As above	80° / 252.9	
			SST		255.70						As above		
			SST		255.98						As above, but highly fractured and welded, Calcite filled fractures		
257.60	2.96 / 3.00	99%	SST		257.60						As described above (not fractured) Contains bright coal wisps and partings, Calcite filled fractures		
260.30	2.50 / 2.70	93%	SST		260.30						As above		
			SST		262.15						As above, Brecciated at base (lower 0.3m)		
			MDST		265.04						Black, very carbonaceous, shaley in places, slickensided, Rare bright coal lenses.		
266.09	5.65 / 5.79	98%	MDST/ SLST		266.09						Mudstone as described above interbedded with light grey siltstone Mudstone < siltstone		
			MDST/ SLST		267.87						As above		
269.14	3.05 / 3.05	100%	MDST		269.14						Black, carbonaceous plant fragments		
			MDST		270.12						As above		
			SLST		271.47						Light grey with dark grey mudstone (as above) laminations ocasional interbeds		
272.19	3.05 / 3.05	100%	SST		272.19						Siltstone to very fine grain sandstone, salt and pepper with overall medium to light grey color, very carbonaceous, Carbonaceous partings Ripple Cross stratification		
275.23	3.04 / 3.04		SST		275.23						As above		
			SST		278.22						As above with mudstone interbeds and occassional bright wisps and lenses. Calcite lined joints and fractures.		
278.28	3.05 / 3.05	100%	MDST		278.28						Black, carbonaceous		
281.30	3.02 / 3.02	100%	MDST		281.30						As above ocasional light grey siltstone interbeds		
284.38	3.08 / 3.08		MDST		284.38						As above, calcite lined joints		

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 18 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			MDST		286.30						As above, calcite lined joints			
287.80	3.02 / 3.42	88%	MDST/ SLST		287.80						Nudstone as above interbedded with light grey siltstone Calcite lined joints			
290.47	3.07 / 2.67	115%	MDST/ SLST		290.47						As above mudstone> Siltstone			

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 1 BOX nos GEOP. PICK PAGE 19 OF 29

Marker Bl [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			COALY MDST		302.73						Dull with bright wisps, very hard, highly slickensided, Bright Coal lenses and partings			
			COAL		302.48						Bright, hard, crisp, slickensided			
			COAL		302.63						Dull, soft, powdery			
			COAL		302.70						Bright, hard, crisp			
303.30	4.00 / 4.60	87%	LOST COAL		303.30						0.60 m lost coal			
			COAL		303.96						As above			
			COAL		304.23						Bright, soft, platey			
			COAL		304.31						Dull, powdery			
			COAL		304.41						Dull with bright, hard, crisp			
304.80	1.11 / 1.50	74%	LOST COAL		304.80						0.39 m lost coal			
			COAL		305.72						Bright and dull, very hard			
			COAL		305.79						Bright, hard, crisp			
			MDST		305.84						Black, carbonaceous			

PROJECT: BARE MOUNTAIN | AREA | N.B. | HOLE no 1 | BOX nos | GEOP. PICK | PAGE 20 OF 29

Marker Bl. [1]	CR / CI [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures — Sample No. [10]	C/B El. [11]	C/P Code [12]
305.70	1.37 / 0.90	152%	COAL		306.17						Bright and dull, moderately hard, crisp Powdery bands		
			COAL		306.21						Dull with bright, hard, crisp		
			COAL		306.51						Bright, hard, crisp		
			MDST		306.59						Black, carbonaceous		
			COAL		306.83						Bright, hard, crisp		
			LOST COAL		307.59						Coal is 302.13 - 306.83m 4.70m long		
											0.76 m lost coal Sample # BM - 81 - 128 302.13-302.60		
											Sample # BM - 81 - 129 302.60-306.83 Coal Recovery - 73%		
307.80	1.34 / 2.10	64%	MDST/ SLST		307.80						Dark grey mudstone interbedded with light grey siltstone		
310.90	2.90 / 3.10	94%	MDST		310.90						Black, extremely carbonaceous, Abundant plant fragments Bright coal wisps, lenses and bands(up to 7-10cm thick)		
			MDST		311.21						As above		
			COAL		311.61						Bright, hard, crisp, slickensided		
			COAL		311.80						Bright, soft, powdery to small chunks		
			COAL		311.89						Bright hard, crisp, slickensided, Coal is 311.21-312.30m 1.09m		
			LOST COAL		312.30						Sample # BM - 81 - 130 311.21 - 312.30m 0.41 m lost coal		
											Coal Recovery = 66%		
313.13	2.02 / 2.43	83%	MDST		313.33						Black, carbonaceous, bright coal wisps and lenses		
			MDST		313.60						As above		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: GEOP. PICK | PAGE: 21 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Az Code [12]
			SLST		313.93						Light grey with dark grey mudstone laminations, calcite filled fractures			
			MDST		314.94						Dark grey mudstone with rare light grey siltstone interbeds			
315.46	1.93 / 2.13	91%	MDST		315.46						Black, carbonaceous			
318.52	3.06 / 3.06	100%	MDST		318.52						As above, Rare plant fragments			
			MDST		319.11						As above			
			MDST		319.62						Black, carbonaceous, coaly, Bright coal wisps, lenses and bands			
			COAL		319.64						Bright, soft, powdery			
321.60	2.72 / 3.08	88%	MDST		321.60						Black, very carbonaceous, Bright coal lenses			
			MDST		323.04						As above			
			MDST		324.35						Black, carbonaceous, rare plant fragments and coal lenses			
324.69	3.09 / 3.09	100%	SLST		324.69						Light grey siltstone with dark grey mudstone laminations			
			MDST		325.85						Dark grey, bright coal lenses in some bands, calcite filled fractures			
327.66	2.97 / 2.97	100%	MDST		327.66						Black, carbonaceous, bright coal lenses and bands			
			MDST		328.40						As above without coal bands			
			SLST		329.49						Light grey siltstone with dark grey mudstone laminations			
330.80	3.14 / 3.14	100%	MDST/ SLST		330.80						Siltstone as described above interbedded with dark grey mudstone		73° 330.6	
			MDST/ SLST		331.62						As above, calcite lined joint			
333.15	2.30 / 2.35	98%	MDST		335.15						Black, carbonaceous, plant fragments, Bright coal wisps			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 22 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Code [12]
			MDST		334.48						As above			
			MDST SLST		335.40						Mudstone as above interbedded with light grey siltstone			
336.19	2.91 / 3.04	96%	MDST		336.19						As described above			
329.24	3.05 / 3.05	100%	MDST		339.24						As above, calcite filled fractures			
339.85	0.61 / 0.61	100%	MDST		339.85						As above			
342.90	3.05 / 3.05	100%	MDST		342.90						As above			
345.95	3.00 / 3.05	98%	MDST		345.95						As above			
348.99	2.96 / 3.04	97%	MDST		348.99						As above 0.09			
352.04	1.10 / 3.05	36%	MDST		352.04						As above			
			MDST		352.50						As above			
			COAL		353.18						Bright, hard, crisp			
353.57	1.14 / 1.53	75%	LOST COAL		353.57						0.39 m Lost core			
			COAL		354.20						Bright, hard, crisp			
			LOST COAL		354.99						0.79m lost core Coal - 352.50 - 354.99m 2.49m Sample # BM - 81 - 131 132.50 - 354.99m			
											COAL RECOVERY = 53%			
355.09	0.73 / 1.52	48%	MDST		355.09						Black, very carbonaceous, coal wisps and lenses, slickensided			
			MDST		355.51						As above			
358.14	2.81 / 3.05	92%	MDST SLST		358.14						Mudstone as above with light grey siltstone interbeds Mudstone > Siltstone			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE: 23 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Az Code [12]
361.19	3.05 / 3.05	100%	MDST / SLST		361.19						As above coal lenses and splits			
364.24	3.00 / 3.05	98%	MDST / SLST		364.24						As above Mudstone >> Siltstone, Calcite filled fractures			
367.28	3.04 / 3.04	100%	MDST / SLST		367.28						As above, fine grained sandstone band at 365.62 - 365.73			
			MDST / SLST		368.55						As above			
			SST		368.97						Very fine grain to siltstone light grey			
370.33	3.05 / 3.05	100%	MDST / SLST		370.33						As described above			
373.38	3.05 / 3.05	100%	MDST / SLST		373.38						As above			
376.43	2.93 / 3.05	96%	MDST / SLST		376.43						As above Mudstone >> Siltstone			
			SLST		377.43						Light grey with dark grey mudstone laminations, appears to be highly microfaulted			
379.48	3.05 / 3.05	100%	MDST		379.48						Black, very carbonaceous, abundant plant fragments, coaly partings. Slickensided, Bright coal lens			
			SLST		381.72						Light to medium grey, carbonaceous lined joints			
385.52	3.04 / 3.04	100%	MDST		382.52						Black, carbonaceous, plant fragments on some surfaces			
385.57	2.98 / 3.05	93%	MDST / SLST		385.57						Mudstone as above with light grey siltstone interbeds Mudstone >> Siltstone		80° / 383.4	
			MDST		387.54						Black, carbonaceous, plant fragments on some surfaces			
388.12	3.05 / 3.05	100%	SLST		388.62						Light to medium grey with occassional dark grey mudstone and ligh+ grey, very fine grain sandstone interbeds			
391.67	3.05 / 3.05	100%	SLST		391.67						As above calcite filled joints and fractures			
394.72	3.05 / 3.05	100%	SLST		394.72						Dark grey siltstone with light grey siltstone to very fine grain sandstone interbeds		72° / 394.7	

PROJECT: BARE MOUNTAIN | AREA: | N.B | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE: 24 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures — Sample No. [10]	C/B / El. [11]	C/P / Az / Code [12]
397.76	3.04 / 3.04	100%	SLST		397.76						As Above		
400.81	2.94 / 3.05	96%	SST		400.81						Very fine to fine grain, salt and pepper with overall light grey color, Mudstone laminations and bright coal lenses	67° / 401.6	
			SST		401.71						As above, Numerous bright coal lenses, sand coarsens toward base almost medium grain at base		
403.86	2.52 / 3.05	83%	MDST		403.86						Black, very carbonaceous, bright coal lenses and partings		
406.91	2.88 / 3.05	94%	MDST		406.91						As above slickensides		
409.96	2.54 / 3.05	83%	MDST		409.96						As above		
413.00	3.00 / 3.04	99%	MDST		413.00						As above		
		MDST	MDST		413.23						As above		
416.00	3.00 / 3.00	100%	MDST SLST		416.00						Mudstone as above (black, carbonaceous coaly splits) interbedded with light grey mudstone and occassional very fine grain light grey sandstone beds.		
419.10	3.05 / 3.10	98%	MDST SLST		419.10						As above		
422.14	2.99 / 3.04	98%	SST SLST MDST		422.14						Mudstone/Siltstone as above with light grey very fine to fine grain sandstone interbeds, Calcite lined fractures	67° / 422.0	
			SST SLST MDST		424.34						As above		
425.19	3.05 / 3.05	100%	MDST		425.19						Black, carbonaceous, plant fragments		
			MDST		426.90						As above, becoming increasingly carbonaceous toward base of unit. Bright coal lenses and splits near base		
			COAL		427.60						Dull with bright, hard, slickensided		
428.24	2.41 / 3.05	79%	LOST COAL		428.24						0.64 lost coal, coal is 426.90 - 428.24m 1.34m SAMPLE # BM - 81 - 132 426.90 - 428.24m COAL RECOVERY = 52%		
			COALY MDST		428.74						Black, very carbonaceous, bright coal wisps and lenses		
			COAL		428.93						Dull with bright, hard, crisp		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE: 25 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4] / M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Code [12]
			MDST	430.81						Black, very carbonaceous, abundant plant fragments, coal lenses, Calcite lined fractures			
			COAL	430.85						Moderately bright, highly slickensided			
			MDST	430.97						As described above			
			COAL	431.17						Bright, hard, crisp, highly slickensided			
431.29	2.93 / 3.05	96%	LOST COAL	431.29						0.12 m lost coal			
			COAL	432.25						Dull and bright, very hard, crisp, Very bright coal lenses slickensided			
			LOST COAL	432.64						0.39m lost coal Coal is 430.85 - 432.64 1.79m			
										Sample # BM - 81 - 133 430.85 - 432.64 COAL RECOVERY = 72%			
433.12	1.44 / 1.83	79%	COALY MDST	433.12						Black, very carbonaceous, bright coal wisps, slickensided			
			COALY MDST	433.30						As above			
			COAL	433.58						Bright, hard, crisp			
			COALY MDST	433.75						As described above			
			COAL	433.87						Dull with bright, hard, crisp			
			COALY MDST	434.12						As described above			
			COAL	434.21						Dull with bright, hard, crisp			
			MDST	435.61						Black, carbonaceous, plant fragments, bright coal wisps and lenses, slickensided			
			COAL	435.75						Bright, hard, crisp, slickensided			
436.16	2.63 / 3.04	87%	LOST COAL	436.16						0.41m lost core			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK: | PAGE: 26 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4] / M Th / ETh [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B / El. [11]	C/P / Ag / Code [12]
439.21	3.05 / 3.05	100%	MDST	439.21						Black carbonaceous, plant fragments, bright coal wisps Slickensided			
442.26	3.05 / 3.05	100%	MDST	442.26						As above, occassional bright coal lenses			
445.31	3.05 / 3.05	100%	MDST	445.31						As above, no coal lenses, occassional light grey siltstone interbeds			
			MDST	447.57						As above, no siltstone interbeds, Bright coal lenses and bands			
448.36	2.83 / 3.05	93%	MDST	448.36						Black, carbonaceous, plant fragments			
451.41	2.76 / 3.05	90%	MDST	451.51						As above, slickensides in places			
454.46	3.05 / 3.05	100%	MDST	454.46						As above bright coal bands and lenses			
			MDST	456.78						As above with bright coal lenses only, becomes silty towards base			
457.50	3.04 / 3.04	100%	MDST SLST	457.50						Darg grey to black mudstone interbedded with light grey siltstone, Calcite filled fractures and joints. Carbonaceous partings, Mudstone > Siltstone		50° 457.3	
			MDST SLST	459.33						As above			
			SST	459.95						Fine grain, salt and pepper with overall light grey color. Bright coal lenses			
			MDST	462.49						Black very carbonaceous, Bright coal lenses and bands, Slickensided			
463.60	5.80 / 6.10	95%	SLST	463.60						Dark grey, carbonaceous, plant fragments becomes less carbonaceous down section			
			SLST	464.36						Medium grey			
			MDST	465.13						Black, very carbonaceous, bright coal lenses			
466.65	3.05 / 3.05	100%	MDST SLST	466.65						Mudstone as above interbedded with light grey siltstone Coal lenses in upper 0.30 m Mudstone > Siltstone		66° 468.	
469.69	3.04 / 3.04	100%	MDST SLST	469.69						As above Mudstone >> Siltstone			
472.74	3.05 / 3.05	100%	MDST SLST	472.74						As above, Mudstone >> Siltstone, Mud clasts in siltstone Matrix in lower 0.40m			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE: 27 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) / M Th / E Th [4,5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith / Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
475.79	3.05 / 3.05		MDST / SLST	475.79					As above, mud clasts in siltstone, Calcite filled fracture, bright coal lenses		76° / 476.2	
			SLST / MDST	476.72					Light grey siltstone with dark gray to black mudstone clasts and interbeds. Light grey very fine grain sandstone ~~interbeds near base, Bright Coal lenses~~			
			SST	477.95					Fine grain, salt and pepper with overall light grey color. Bright coal lenses in sand. Minor siltstone/Mudstone interbeds			
478.84	2.92 / 3.05	96%	SLST	478.84					Dark grey, carbonaceous plant fragments			
483.72	2.92 / 4.88	64%	SLST	483.72					As above with some light grey siltstone interbeds Calcite lined joints			
485.24	3.05 / 1.52	200%	MDST	485.24					Black carbonaceous plant fragments, Light grey siltstone band at 484.09 - 484.36m			
			MDST	485.70					As above			
			MDST / SLST	486.96					Mudstone as above with light grey siltstone interbeds			
488.28	3.04 / 3.04	100%	MDST	488.28					Black carbonaceous, plant fragments			
491.33	2.84 / 3.05	93%	MDST	491.33					As above			
494.38	3.10 / 3.05	102%	MDST	494.38					As above			
			MDST	496.41					As above			
497.43	3.05 / 3.05	100%	MDST / SLST	497.43					Mudstone as above interbedded with light grey siltstone			
			MDST / SLST	499.22					As above			
500.48	3.02 / 3.05	99%	MDST	500.48					Black, carbonaceous, plant fragments			
			MDST	500.90					As above			
			COAL	500.94					Bright, soft, platey			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE: 28 OF 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Code [12]
			COAL		501.63						Dull with bright, very hard			
			COAL		501.77						Bright with dull, soft, powdery			
			COAL		502.07						Dull with bright, hard, crisp			
			COAL		502.28						Bright, soft, powdery			
503.52	1.80 / 3.04	59%	LOST COAL		502.52						1.24m lost coal (0.12m recovered in next run)			
			COAL		503.83						Dull with bright, hard			
			COAL		503.94						Dull with bright, hard			
			COAL		504.23						Dull with bright, hard, crisp			
			COAL		504.32						Dull soft, powdery, Coal is 500.90 - 504.32m 4.42m Sample # BM - 81 - 134 500.90 - 501. 34 Sample # BM - 81 - 135 501.34 - 504.32m COAL RECOVERY = 75%			
504.44	1.09 / 0.92	118%	MDST		504.44						Black, carbonaceous, plant fragments			
			MDST SLST		506.41						Mudstone as above interbedded with light grey siltstone		75° 506.0	
507.49	2.50 / 3.05	75%	MDST		507.49						Black, carbonaceous, plant fragments			
			COAL		507.65						Dull with bright, hard, crisp			
			MDST		507.76						Black, carbonaceous,			
			COAL		508.04						Bright, hard, dull in places			
510.54	2.05 / 3.05	67%	MDST		510.54						Blackcarboanceous, occassional light grey siltstone interbeds			
			MDST		510.36						As above			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE: 29 OF: 29

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			COAL		511.49						Dull, hard, crisp			
			MDST		511.75						As described above			
			COAL		512.50						Dull with bright, hard slickensides			
			MDST		512.72						Black carbonaceous			
			MDST SLST		513.08						Mudstone as above interbedded with light grey siltstone			
513.58	2.91 / 3.04	96%	SST		513.58						Medium grain, salt and pepper with over all light grey color with coaly partings			
516.63	2.94 / 3.05	96%	SST		516.63						Sandstone as above			
519.68	3.05 / 3.05	100%	SST		519.68						Sandstone, as above			

CROWS NEST RESOURCES LIMITED

PROJECT: BARE MOUNTAIN

AREA: NORTH BLOCK, S.E. B.C. N.T.S.

HOLE I.D: BM-81-2

ZONE:

GRID TYPE: U.T.M.

EASTINGS: 657681.17

NORTHINGS: 5 553 700.08

ELEVATION (m): 1 915.74

TOTAL DEPTH DRILLED: 556.6 m DRILLER: D.W. COATES

AZIMUTH: 090

INCLINATION: 60

DRILL TYPE: DIAMOND OVERBURDEN: 3.66

CORE DIAMETER: H.Q. CASING LEVEL: 2.5

LENGTH CORED: 552.26 WATER LEVEL: FULL

LOGS RUN: GAMMA, DENSITY, CALIPER, NEUTRON, RESISTIVITY

LOGS USED: GAMMA, DENSITY, CALIPER, NUETRON, RESISTIVITY

LOGGED BY: ROKE LENGTH LOGGED: 556.0

CORE EXAMINED BY: D. LANGSTON, I. PIWEK

DATE EXAMINED: AUGUST, 1981

CORE SHEET LEGEND

CR - Core recovered

CI - Core interval

M-M %/R - % recovery between marker blocks

Mn Lith - Main lithology

Sm Des - Seam designation

MTh - Measured thickness in m.

ETh - Expected thickness in m.

Elev Bot - Elevation of bottom of main lithology

Lith % R - % recovery of main lithology

Geop Pick - Pick using geophysical logs

Lith % R - Recovery for each main lithology from geophysical logs

C/B - Core to bedding angle

EL - Elevation of reading

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no. 2 | BOX nos. | GEOP. PICK | PAGE 1 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B / El. [11]	C/P / Code [12]
			SLST								Medium grey (core starts at ~ 3.7m) interbedded with siltstone, some iron stains. Slickensides on joints, small beds of mud also		59° 3.7 m	
4.57					4.57						(Broken core, poor recovery, possible lost core up to 1st marker block, % recovery not known) Siltstone becoming sandy at base			
			SST		4.68						With interbedded siltstone c.f.f. ~ 5mm wide, iron stained			
			MDST								Medium to dark grey with siltstone bands some very muddy coaly areas at 7.60 m very powdery. Core recovery of 48% lost at base			
7.62	1.47 / 3.05	48%			7.62						carbonaceous around ~ 6.7-7.5 true elevation becoming coaly at base			
			MDST/ SLST								medium grey, c.f.f. (calcite filled fractures)			
12.80	3.63 / 5.18	70%												
14.0	1.06 / 1.20	88%			14.0								48 13.6	
			COAL MDST		14.7						Hard bright coal with muddy zones, broken to rubble, slickensides			
16.76	1.17 / 2.76	42%	SLST MDST								Slickensides, medium grey, calcite filled fractures			
19.20	2.07 / 2.44	85%			20.40									
			MDST		21.70						Dark grey, few calcite filled fractures			
			SLST		22.70						Soft sediment deformation Interbeds with mud, slickensides, calcite filled fractures,		60 72.5	
25.29	5.03 / 6.09	87%	MDST								With small interbeds of siltstone and iron stain and calcite filled fractures, slickensides			
27.7	2.41 / 2.41	100%									at 27.9 m silty area of ~ .30m with mudstone and abundant calcite filled fractures at 28.4 m polished slickensides			
28.9	1.15 / 1.2	96%			30.3									
32.0	2.93 / 3.1	95%	SLST								With minor mud, soft sediment deformation, calcite filled fractures slickensides, becoming more silty at base			
35.0	2.94 / 3.00	98%												

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 2 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) / M Th / E Th [4][5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Az Code [12]
38.1	2.77 / 3.10	89%											
39.6	1.48 / 1.5	99%											
40.2	0.38 / 0.6	63%											
42.36	1.99 / 2.16	92%											
			SLST	42.72m									
45.7	3.17 / 3.34	95%	MDST							Medium to dark grey, very few calcite filled fractures with small bands of interbedded siltstone. Becoming carbonaceous at base			
48.4	2.49 / 2.7	92%											
51.2	2.39 / 2.8	85%		51.2									
			COAL	51.55						Hard bright rubbly			
			MDST	52.15						With coal wisps			
54.86	3.45 / 3.6	96%	COAL							Dull with bright bands with occasional areas of hard bright coal, muddy at base (lost 0.14m)			
										Coal is 52.15-54.80 m → 2.65m Coal Sampled: Sample # BM-81-201 52.15-52.42 Sample # BM-81-202 52.42-54.80 COAL RECOVERY = 96%			
			COAL	54.86									
			MDST	55.00						Mudstone, highly carbonaceous			
			SLST							Highly fractured abundant calcite filled fractures, soft sediment deformation, some polished joints, slickensided			
60.96	3.0 / 6.16	49%	3.10 lost core	60.96						core broken to broken stick, loss of 3.16m of core may have occured at the very top which is the base of the coal and the mudstone			
			SLST	62.12						As above micro faulting			

PROJECT: BARE MOUNTAIN AREA: N.B. HOLE no: 2 BOX nos: GEOP PICK PAGE: 3 OF 25

Marker Bl. [1]	CR / CI [2]	M-M %R [3]	Mn Lith (Sm Des) [4] / M Th / E Th [5]	Elev Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	Sample No.	C/B El [11]	C/P Code [12]
62.79	1.63 / 1.83	89%	MDST	62.79						Dark grey to black, highly slickensided, abundant calcite filled fractures			
64.92	2.13 / 2.13	100%	MDST	64.92						As above, silty bands			
66.14	1.22 / 1.22	100%	MDST/ SLST	66.14						Mudstone, as above wtih light grey siltstone interbeds. Soft sediment deformation, microfaulting, abundant calcite filled fractures and joints			
68.58	2.14 / 2.44	88%	SLST	68.58						Medium to dark grey with some light grey interbeds, calcite filled joints and fractures (abundant fractures), slickensides (rare)		70	
71.63	3.01 / 3.05	99%	SLST	71.63						As above		70.10	
72.89	1.18 / 1.26	94%	SLST	72.89						As above, calcite filled fractures less abundant than in above units			
73.45	0.83 / 0.56	148%	SLST	73.45						As above, calcite filled joints only			
77.11	3.07 / 3.66	84%	SLST	77.11						As above			
80.16	2.87 / 3.05	94%	SLST	80.16						As above, calcite filled fractures			
83.21	2.98 / 3.05	98%	SLST	83.21						As above			
			SLST	86.77						As above			
			MDST	86.97						Black, carbonaceous, slickensided			
			COAL	87.05						Bright, hard crisp			
87.17	3.84 / 3.96	97%	LOST COAL	87.17						0.12 m lost coal			
			COAL	87.81						As described above			
			COALY MDST	87.89						Black, very carbonaceous, highly slickensided			
			COAL	88.23						Moderately bright, hard, crisp			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no. 2 | BOX nos. | GEOP. PICK | PAGE 4 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Code [12]
			LOST COAL		88.61						0.38m lost coal Coal is 86.97-88.61 → 1.64 m			
											Sample # BM-81-203 86.97-88.61			
											COAL RECOVERY = 70%			
88.70	1.15 / 1.53	75%	SLST		88.70						Dark grey with light grey interbeds, calcite filled fractures abundant. Abundant polished surfaces			
			SLST		89.95						As above			
			MDST		90.10						Black, carbonaceous, slickensided, bright coal wisps			
			COAL		90.22						Bright soft, flakey to powdery			
			COAL		90.62						Bright, hard, crisp			
91.13	1.92 / 2.43	79%	LOST CORE		91.13						0.51 Lost core - presumably coal			
			SLST		91.60						Dark grey with light grey interbeds, carbonaceous, soft sediment deformation, coaly splits			
			COAL		91.96						Moderately bright, hard, crisp			
92.96	0.83 / 1.83	45%	LOST COAL		92.96						1.00 m lost core - presumably coal			
			SLST		93.58						Medium grey			
			SLST/ SST		94.04						very fine grain sandstone to siltstone, light grey with mudstone laminations and bright coal partings and lenses, polished surfaces			
96.01	2.98 / 3.05	98%	COALY MDST		96.01						Black, carbonaceous, coal wisps and lenses (bright coal) silty near base			
			COALY MDST		96.43						As above			
			COAL		97.41						Hard, bright, crisp			
97.54	1.40 / 1.53	92%	LOST COAL		97.54						0.13m lost coal			

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 2 BOX nos GEOP. PICK PAGE 5 OF 25

Marker Bl [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B / El. [11]	C/P / Code [12]
			COAL		98.75						As above			
99.06	1.21 / 1.52	80%	LOST COAL		99.06						0.31 m lost coal			
											Coal is 96.43-99.06 2.63			
											Sample # BM-81-204 96.43-96.69 m			
											Sample # BM-81-205 96.69-99.06 m			
											COAL RECOVERY = 83%			
			MDST		99.45						Black, carbonaceous, coaly highly polished surfaces, slickensided			
100.28	0.86 / 1.22	70%	SLST		100.28						Light grey with dark grey interbeds and mudstone laminations Ripple cross stratification, soft sediment deformation, calcite filled fractures.			
102.11	0.91 / 1.83	50%	SLST		102.11						As above			
			MDST		102.72						Black carbonaceous, bright coal wisps			
105.16	2.81 / 3.05	92%	SLST		105.16						Medium to light grey with coaly partings polished surfaces		59 / 103.9	
			SLST		105.75						As above			
106.68	1.19 / 1.52	78%	MDST		106.68						Black, carbonaceous plant fragments, polished surfaces			
			SLST		107.13						As described above calcite filled fractures			
108.20	1.42 / 1.52	93%	MDST		108.20						Black carbonaceous plant fragments polished surfaces, bright coal wisps			
			MDST		110.41						As above, siltstone interbed at 108.32-108.48 bright coal lenses and bands are numberous			
110.64	2.44 / 2.44	100%	COAL		110.64						Bright, crisp, soft granular			
			COAL		110.85						Bright, very hard			

PROJECT | BARE MOUNTAIN | AREA | N.B. | HOLE no. 2 | BOX nos | GEOP. PICK | PAGE 6 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	C/B El. [11]	C/P Code [12]
			LOST COAL		112.28						1.43 m lost coal		
112.47	0.40 / 1.83	22%	MDST		112.47						Black carbonaceous, coal wisps and partings, slickensided		
			MDST SLST		113.52						Mudstone as above interbedded with light grey siltstone, calcite filled fractures		
114.30	1.21 / 1.83	66%	MDST		114.30						Black, carbonaceous, rare plant fragments, bright coal lenses and bands		
116.43	1.64 / 2.13	77%	MDST		116.43						As above		
			MDST		116.61						As above		
			SLST		118.53						Medium to dark grey with light grey interbeds, microfaulting, calcite filled fractures slickensides, very fine grain light grey sandstone near base	57°	
			SST		119.31						Very fine grain, light grey calcite filled fractures		
119.78	3.09 / 3.05	97%	SLST/ MDST		119.78						Light grey siltstone interlaminated with dark grey to black mudstone		
			SLST/ MDST		120.31						As above		
			MDST		120.62						Black, carbonaceous bright coal lenses and partings		
122.83	2.96 / 3.05	97%	SLST		122.83						Medium to dark grey, some carbonaceous partings, jointed		
			SLST		125.66						As above with light grey interbeds, very fine grain light grey sandstone interbeds at very base - coaly with bright coal lenses and wisps in sandstone		
125.88	3.05 / 3.05	100%	MDST		125.88						Black, carbonaceous, bright coal wisps		
128.93	3.05 / 3.05	100%	MDST		128.93						As above, minor calcite lined joints		
131.06	2.09 / 2.13	98%	MDST		131.06						As above with occasional light grey siltstone interbeds		
			MDST/ SLST		132.23						As above with light grey siltstone interbeds, some slickensides		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP PICK | PAGE 7 OF 25

Marker Bl. [1]	CR / CI [2]	M-M % R [3]	Mn Lith (Sin Des) [4]	M Th / ETh [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	C/B El. [11]	C/P A Code [12]
	3.05												
134.11	3.05	100%	MDST		134.11						Black, massive silty in places, calcite filled joints		
	3.05												
137.16	3.05	100%	MDST		137.16						As above		
			MDST		137.88						As above		
	2.65												
140.21	3.05	87%	SLST		140.21						Dark grey with light grey interbeds		
			SLST		140.37						As above		
			MDST		142.51						Black, carbonaceous, coaly splits, slickensided, rare light grey siltstone interbeds		
	3.05												
143.26	3.05	100%	SLST		143.26						Light to medium grey with dark grey interbeds carbonaceous partings		
	3.04												
146.30	3.04	100%	SLST		146.30						As above, some bright coal wisps and lenses		
	3.05												
149.35	3.05	100%	SLST		149.35						As above		
			SLST		151.52						As above with occassional medium grey medium grain sandstone interbeds, mud clasts, carbonaceous partings		
	6.08												
155.45	6.10	(100%?)	SST		155.45						Medium grey, fine grain at top coarsening down section to coarse grain at base. Bright coal lenses and partings calcite filled fractures. Massive sandstone		
	0.96												
156.97	1.52	63%	MDST		156.97						Black carbonaceous slickensided shaley zone ~ 0.2 m thick in middle of unit		
			MDST		159.51						As above wtih rare bright coal lenses and minor calcite filled fractures		
	3.05		MDST/										
160.02	3.05	100%	SLST		160.02						Mudstone as above interbedded with light grey siltstone		
			MDST										
			SLST		160.17						As above		
	3.05												
163.07	3.05	100%	SST/ SLST		163.07						Light grey very fine grain sandstone interbedded with muedium grey siltstone		
			SST/ SLST		163.41						As above, small ripple cross stratification, carbonaceous partings	55° 163.0	

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 2 BOX nos GEOP. PICK PAGE 8 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Thk [5]	Elev. Bot [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	C/B El. [11]	C/P A Code [12]
166.11	3.04 / 3.04	100%	SLST/ MDST		166.11						Light grey siltstone interbedded with medium to dark grey mudstone, soft sediment deformation. A few bright coal lenses		
169.16	3.05 / 3.05	100%	SLST/ MDST		169.16						As above		
172.21	3.05 / 3.05	100%	MDST		172.21						Black, carbonaceous, some polished surfaces, minor light grey siltstone interbeds near base		
174.95	2.41 / 2.74	88%	MDST		174.95						As above, some slickensides		
177.39	2.20 / 2.40	92%	MDST		177.39						As above		
179.83	2.16 / 2.44	89%	MDST		179.83						As above		
181.05	1.35 / 1.22	111%	MDST		181.05						As above		
182.88	1.53 / 1.83	84%	MDST		182.88						As above, some calcite lined joints		
184.70	1.67 / 1.82	92%	MDST		184.70						As above		
			COAL		185.65						Bright, hard, crisp. Slickensides		
185.92	0.95 / 1.22	78%	LOST COAL		185.92						0.27 m lost coal		
			COAL		186.87						As above		
187.30	0.95 / 1.38	69%	LOST COAL		187.30						0.43 m lost core		
			COAL								As above		
189.12	1.90 / 1.82	104%	COAL RECOVERED		189.12						0.08m coal recovered		
											Coal is 184.70 - 189.12 → 4.42 m Sample # BM-81-206 184.70-185.14 Sample # BM-81-207 185.14-189.12		
											COAL RECOVERY = 86%		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no. 2 | BOX nos. | GEOP. PICK | PAGE 9 OF 25

Marker Bl. [1] / CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4] / M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
		MDST	189.98						Black, carbonaceous, coaly, slickensided			
		COAL	190.25						Hard, bright, crisp			
		COALY MDST	190.81						Black, extremely carbonaceous, coal wisps and lenses, slickensided			
		COAL	190.94						Hard, bright, crisp			
		COAL	191.04						Bright, soft, powdery			
1.92 / 191.41 / 2.29	84%	LOST COAL	191.41						0.37 m lost coal			
		COALY MDST	191.47						Black, extremely carbonaceous, coal wisps and lenses			
		COAL	193.28						Hard, bright, crisp			
1.87 / 193.55 / 2.14	87%	LOST COAL	193.55						0.27 m lost coal			
		COAL	194.58						As above			
1.03 / 195.07 / 1.52	68%	LOST COAL	195.07						0.49 m lost coal			
									Coal is 190.87-195.07 → 4.20 m Sample # BM-81-108 190.87 - 191.29 Sample # BM-81-109 191.29 - 195.07			
									COAL RECOVERY = 73%			
0.68 / 196.59 / 1.52	45%	MDST/ SLST	196.59						Dark grey to black mudstone with light grey siltstone interbeds bright coal wisps carbonaceous partings			
		MDST/ SLST	197.08						As above			
1.98 / 198.73 / 2.14	93%	COALY MDST	198.73						Black, very carbonaceous, bright coal wisps, lenses and bands			
		COALY MDST	199.01						As above			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE 10 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	C/B El. [11]	C/P Az Code [12]
			COAL		200.40						Hard, bright, crisp		
			LOST COAL		200.75						0.35 m lost coal Coal is 199.01-200.75 → 174 m Sample # BM-81-210 199.01-200.75		
											COAL RECOVERY = 80%		
200.86	1.78 / 2.13	84%	MDST		200.86						Black, carbonaceous, coal wisps		
			MDST		202.05						As above		
202.69	2.09 / 1.83	114%	MDST SLST		202.69						Mudstone as above interbedded with light grey siltstone soft sediment deformation		
			SLST MDST		205.39						As above		
205.74	2.88 / 3.05	94%	MDST		205.74						Black, carbonaceous massive		
208.78	3.04 / 3.04	100%	MDST		208.78						As above		
			MDST		210.09						As above, slickensided surfaces		
			COAL		210.30						Hard bright		
214.27	5.42 / 5.49	99%	MDST		214.27						As described above, calcite filled fractures, bright coal lenses		
217.62	3.09 / 3.35	92%	MDST		217.62						As above		
			MDST		220.28						As above with a few light grey siltstone interbeds		
220.67	3.05 / 3.05	100%	SLST/ MDST		220.67						Dark grey mudstone interbedded with light grey siltstone Mudstone Siltstone		
223.72	3.05 / 3.05	100%	SLST/ MDST		223.72						As above Mudstone > Siltstone		
226.77	3.05 / 3.05	100%	SLST MDST		226.77						As above Siltstone > Mudstone		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 11 OF 25

Marker Bl. [1]	CR / CI [2]	M-M %R [3]	Mn Lith (Sm Des) [4] / M Th / E Th [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures [10]	C/B / El. [11]	C/P / Az / Code [12]
231.34	3.10 / 4.57	68%	SLST/ MDST	231.34						As above Mudstone > Siltstone		
232.86	3.11 / 1.52	205%	SLST/ MDST	232.86						As above Mudstone > Siltstone	72° / 231.4	
236.22	3.12 / 3.36	93%	SLST/ MDST	236.22						As above Mudstone >> Siltstone, bright coal lense, calcite filled fracture		
			SLST/ MDST	238.42						As above Mudstone >> Siltstone	70° / 237.3	
239.27	3.01 / 3.05	99%	MDST	239.27						Black, carbonaceous, coaly partings		
			MDST	239.89						As above, slickensides		
			COAL	239.95						Bright, granular to powdery		
240.79	0.68 / 1.52	45%	LOST COAL	240.79						0.84 lost core--presumably coal		
			COAL	241.40						Hard, bright, crisp		
242.31	0.61 / 1.52	40%	LOST COAL	242.31						0.91 m lost coal		
			COAL	243.19						As above		
			COALY MDST	243.28						Black, very carbonaceous, bright coal wisps and lenses, slickensided		
			COAL	243.33						Hard, bright, slickensided		
			COALY MDST	243.60						As described above		
			COAL	243.73						Hard, bright, crisp, slickensided		
243.84			LOST COAL	243.84						0.11 m lost coal		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 12 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Az Code [12]
			COAL		244.51						As above			
			COAL		244.80						Dull, very hard,			
			COAL		244.87						Hard bright, platey			
245.36	1.03 / 1.52	68%	LOST COAL		245.36						0.49 m lost coal			
			COAL		245.44						As above			
			COAL		245.48						Soft, bright, powdery			
			COAL		245.65						Hard, bright, slickensided			
			COAL		245.69						Bright, soft, granular			
			COAL		245.81						Hard, bright, crisp			
246.89	0.45 / 1.53	29%	LOST COAL		246.89						1.08 m lost coal			
			COAL		247.60						Hard, bright, crisp, slickensided, powdery in places			
248.41	0.71 / 1.52	47%	LOST COAL		248.41						0.81 m lost core			
			COAL		249.67						As above, hard, bright, crisp, slickensided			
249.94	1.26 / 1.53	82%	LOST COAL		249.94						0.27 m lost core			
			COAL		249.97						As above			
			COAL		250.15						Dull, very hard,			
			COAL		251.26						Hard, bright, crisp			

PROJECT: BARE MOUNTAIN | AREA: | N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE 13 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4] / M Th / ETh [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith / Th	REMARKS: Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			LOST COAL	251.33					0.07 m lost coal coal is 239.89-251.33 m 11.44m long Sample #BM-81-211 239.89-241.03 Sample #BM-81-212 241.03-251.33 COAL RECOVERY = 60%			
251.46	1.45 / 1.52	95%	COALY MDST	251.46					Black, very carbonaceous, bright coal lenses and partings			
			COALY MDST	252.07					As above			
253.28	1.52 / 1.82	84%	MDST	253.28					Black, carboanceous, coaly partings, calcite lined joint			
256.33	3.15 / 3.05	103%	MDST	256.33					As above rare light grey siltstone interbeds, calcite lined joint			
			MDST	258.11					As above 0.91 m long			
259.38	3.05 / 3.05	100%	SLST	259.38					Medium to light grey some dark grey mudstone interbeds, calcite filled fractures and joints			
			SLST	261.57					As above			
262.43	3.05 / 3.05	100%	MDST	262.43					Black, carbonaceous massive			
			MDST	263.52					As above			
265.48	2.92 / 3.05	96%	SST/ MDST/ SLST	265.48					Very fine to fine grain, light grey sandstone interbedded with light grey siltstone and medium to dark grey mudstone, calcite lined joints		53° 265.1	
			SST/ MDST/ SLST	267.06					As above			
268.83	3.00 / 3.35	90%	MDST/ SLST	268.83					Dark grey to black mudstone interbedded with light to medium grey siltstone Bright coal lenses and bands, calcite filled fractures and joints			
			SLST	270.75					As above with mudstone laminations, calcite lined joints, carbonaceous partings			
271.88	3.00 / 3.05	98%	SST	271.88					Fine to medium grain, light grey, contains medium grey siltstone interbeds and bright coal lenses and partings, mud clasts in sandstone			
			SST	272.25					As above			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 4 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
274.63	2.75 / 2.75	100%	SST		274.63						Light grey, medium grain, massive, jointed, one bright coal band 1 cm thick			
			SST		277.00						As above			
277.67	3.04 / 3.04	100%	SST		277.67						Light grey, medium to coarse grain, massive very carbonaceous, bright coal wisps, lenses and bands			
			SST		279.05						As above, mud clasts incorporated in Sandstone			
280.72	3.05 / 3.05	100%	SST		280.72						As above with occassional siltstone and mudstone interbeds mud clasts			
283.77	3.05 / 3.05	100%	SST		283.77						As above			
284.99	1.22 / 1.22	100%	SST		284.99						As above, large mudstone interbed at 284.02-284.49 m calcite filled fractures and joints			
			SST		285.98						As above, one fine grain sandstone interbed at 285.41-285.69 m			
			MDST		287.15						Black, carbonaceous with minor light grey siltstone carbonaceous partings			
288.04	2.72 / 3.05	89%	SST		288.04						Light grey, medium grain massive calcite lined joints			
			SST		288.19						As above			
291.08	2.45 / 3.04	81%	MDST		291.08						Black, carbonaceous, bright coal lenses and splits			
292.00	0.09 / 0.92	10%	MDST		292.00						As above rubble			
			SST		292.0						Light coarse grain			
			MDST		293.15						Black, carbonaceous			
295.35	3.13 / 3.35	93%	MDST/ SLST		295.35						Mudstone as above interbedded with light grey siltstone mudstone > siltstone			
			MDST/ SLST		297.23						As above, Mudstone >> Siltstone			

PROJECT: BARE MOUNTAIN | AREA: | N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 15 OF: 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) / M Th / E Th [4][5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures [10]	Sample No.	C/B El. [11]	C/P A Code [12]
298.40	3.02 / 3.05	99%	MDST	298.40						Black carbonaceous			
			MDST	300.05						As above, bright coal lenses and bands, polished surfaces			
			COAL	300.28						Bright, hard, crisp			
301.45	2.97 / 3.05	97%	MDST	301.45						As described above, coaly in places			
304.80	3.17 / 3.35	95%	MDST	304.80						As above			
			MDST	306.01						As above			
			SLST	307.62						Light grey siltstone to very fine grain sandstone dark grey mudstone laminations carbonaceous partings bright coal lense near base			
307.85	2.99 / 3.05	98%	MDST	307.85						Black, carbonaceous coaly, bright coal lenses and partings			
			MDST	309.55						As above			
310.90	3.05 / 3.05	100%	SLST	310.90						Medium grey, dark grey mudstone interbeds in lower 0.50 m, calcite lined joints and fractures			
313.94	3.04 / 3.04	100%	SLST SST MDST	313.94						Siltstone as above with dark grey mudstone interbeds and light grey very fine grain sandstone, Soft sediment deformation Calcite lined joints and fractures polished surfaces			
			MDST SLST	315.14						Dark grey mudstone interbedded wtih light grey siltstone and occasional very fine grain sandstone interbeds, calcite filled fractures			
316.99	3.05 / 3.05	100%	MDST	316.99						Black, carbonaceous plant fragments calcite lined joints			
			MDST	318.80						As above, bright coal lenses near base and coaly partings			
			COALY MDST	319.09						Black, very carbonaceous, plant fragments coaly			
			COAL	319.75						Hard, bright crisp			
320.04	2.76 / 3.05	90%	LOST COAL	320.04						0.29 m lost coal			

PROJECT: BARE MOUNTAIN | AREA: | N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 16 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4] / M Th / E Th [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			COALY MDST	320.45						Black, very carbonaceous bright coal bands slickensides			
			COAL	320.55						Hard bright, granular to powdery			
			COAL	320.68						Hard bright, crisp			
			LOST COAL	321.10						0.42 m lost coal			
321.56	1.10 / 1.52	72%	MDST	321.56						Black carbonaceous			
			MDST	320.97						As above			
324.61	2.81 / 3.05	92%	SLST MDST	324.61						Light-medium grey siltstone interbedded with mudstone as described above, Mudstone >> Siltstone, Carbonaceous partings			
			SLST/ MDST	325.08						As above Mudstone >> Siltstone			
			COALY MDST	327.04						Black, very carbonaceous, coaly, bright coal lenses and partings			
			COAL	327.35						Very hard, moderately bright			
327.66			LOST COAL	327.66						0.31 lost coal			
			COAL	328.57						Very hard, dull with bright bands			
			MDST	328.81						Black, very carbonaceous, slickensided			
			COAL	328.89						Hard, bright, crisp			
329.18	1.23 / 1.52	81%	LOST COAL	329.18						~~0.29~~ m lost coal			
			COAL	329.37						Moderately bright, soft, granular to powdery			
			LOST COAL	329.83						0.46 m lost coal Coal is 327.04-329.83 → 2.79 m ~~Sample # BM-81-213~~ ~~327.04-329.83~~ COAL RECOVERY = 62%			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 17 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures, Sample No. [10]	C/B El. [11]	C/P A Code [12]
330.71	1.07 / 1.53	70%	COALY MDST		330.71						Black, very carbonaceous, numerous bright coal lenses and bands		
			COALY MDST		330.79						As above		
			MDST		331.61						Black, carbonaceous, calcite lined joints		
			COALY MDST		332.47						As described above		
333.15	2.28 / 2.44	93%	MDST		333.15						Black carbonaceous		
336.19	2.56 / 3.04	84%	MDST		336.19						As above Slickensides		
			MDST		337.72						As above, bright coal lenses and bands		
			MDST RUBBLE		338.08						As above, powdery		
338.37	1.99 / 2.18	91%	MDST		338.37						As above		
			MDST		339.31						As above, coaly in places		
			COAL		339.51						Dull, soft, granular to powdery		
			MDST		339.67						As described above		
			COAL		339.79						Dull with bright soft powdery		
341.99	2.28 / 3.62	63%	MDST		341.99						As described above		
343.10	1.11 / 1.11	100%	MDST		343.10						As above, coaly bands, polished surfaces		
345.95	2.28 / 2.85	80%	MDST	--	345.95						As above, carbonaceous partings. Rare light grey siltstone interbeds 345.5	59°	
349.00	3.05 / 3.05	100%	MDST SLST SST		349.00						Mudstone as above interbedded with light grey siltstone and very fine grain sandstone, calcite lined joints and fractures, rare bright coal lenses and partings		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 18 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures [10]	C/B El. [11]	C/P A Code [12]
350.82	1. / 1.82	100%	MDST SLST SST		350.82						As above, Siltstone >> Mudstone	61° 348.9	
			MDST SLST		352.38						Black carbonaceous mudstone interbedded with light grey siltstone Calcite filled fractures. A few bright coal wisps in siltstone		
353.87	2.92 / 3.05	96%	MDST		353.87						Black, carbonaceous, rare light grey siltstone interbeds		
356.92	2.97 / 3.05	97%	MDST		356.92						As above, calcite filled fractures, bright coal wisps and polished surfaces in lower part of unit		
			MDST		358.03						As above		
358.14	1.16 / 1.22	95%	SLST MDST		358.14						Mudstone as above interbedded with light grey siltstone		
			SLST MDST		358.54						As above		
			MDST		359.29						Black, carbonaceous, plant fragments, bright coal wisps and partings		
			SLST MDST		359.79						As described above		
361.19	2.75 / 3.05	90%	MDST		361.19						Black, carbonaceous, plant fragments, bright coal wisps and partings		
364.23	3.17 / 3.04	104%	MDST		364.23						As above, rare light grey siltstone interbeds		
			MDST		366.53						As above, calcite filled fractures and joints		
367.28	2.96 / 3.05	97%	SLST MDST SST		367.28						Mudstone as above interbedded with light grey siltstone and very fine grain sandstone, Bright coal lens and partings, Mud clasts in Sandstone		
			MDST SLST SST		369.78						As above, soft sediment deformation, polished carbonaceous surfaces	72° 368.4	
370.33	3.03 / 3.05	99%	MDST		370.33						Black, carbonaceous		
373.38	2.96 / 3.05	97%	MDST		373.38						As above, occasional bright coal lenses and bands		
			MDST		374.05						As above		

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no. 2 | BOX nos | GEOP. PICK | PAGE 19 OF 25

Marker Bl. [1]	CR / CI [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bor [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS — Lithology, Sedimentary - Tectonic - Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			MDST SLST		376.67						Mudstone as above interbedded with light grey siltstone, Mudstone Siltstone			
376.42	2.94 / 3.04	97%	MDST		376.42						As described above			
379.47	2.87 / 3.05	94%	MDST		379.47						As above, very carbonaceous			
381.00	0.99 / 1.53	65%	MDST		381.00						As above, abundant polished surfaces very rubbly at base, rubbly at base, rubbly coal zone at 380.22 - 380.31			
384.04	3.11 / 3.04	102%	MDST		384.04						As above			
387.09	3.05 / 3.05	100%	MDST		387.09						As above			
390.14	2.88 / 3.05	94%	MDST		390.14						As above, calcite lined joints and fracture			
391.67	0.39 / 1.53	25%	MDST		391.67						As above, coaly and rubbly at top of unit			
			COAL		391.93						Hard, bright, crisp. Slickensided			
			COAL		392.03						Soft, bright, granular to powdery			
			COAL		392.31						Moderately hard, bright, chunky to granular			
393.19	0.64 / 1.52	42%	LOST COAL		393.19						0.88 m lost coal			
			COAL		394.00						Hard, bright, crisp			
			COAL		394.13						Bright, soft, powdery			
			LOST COAL		394.36						Coal is 391.67 - 394.36 m 2.69 m 0.26 m lost coal Sample # BM-81-214 391.67-394.36			
											COAL RECOVERY = 58%			

PROJECT BARE MOUNTAIN | AREA | N.B. | HOLE no 2 | BOX nos | GEOP. PICK | PAGE 20 OF 25

Marker Bl. [1]	CR / CI [2]	M·M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures [10]	C/B El. [11]	C/P A Code [12]
396.54	3.09 / 3.35	92%	MDST SLST		396.54						Dark grey to black mudstone, interbedded with light grey siltstone carbonaceous mudstone Mudstone Siltstone	72° 396.4	
			MDST SLST		397.46						As above		
			MDST		398.11						Black, very carbonaceous, coaly bands		
			COAL		398.25						Bright, dull, hard		
			COAL		398.49						Bright, soft, granular to powdery		
399.87	2.78 / 3.33	83%	MDST SLST		399.87						Mudstone, black, carbonaceous interbedded with light siltstone,		
											Mudstone Siltstone		
			MDST		401.18						As above, with rare siltstone interbeds		
			COAL		401.82						Hard, bright, crisp		
402.33	2.27 / 2.49	92%	MDST		402.33						Black, very carbonaceous, coaly partings, slickensided		
			MDST		403.25						As above		
			COAL		403.40						Hard, bright, crisp extemely slickensided		
403.86	1.22 / 1.53	80%	MDST		403.86						As above		
			MDST		403.98						As above		
406.60	2.50 / 2.74	91%	SST		406.60						Fine to medium grain, light grey, massive, carbonaceous partings, bright coal lens, pyrite band		
409.65	3.05 / 3.05	100%	SST		409.65						As above, bedded	80° 407.7	
412/69	3.04 / 3.04	100%	SST		412.69						As above, occasional dark grey siltstone interbeds, calcite lined joints	84° 411.0	

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE 21 OF 25

Marker Bl [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / ETh [5]	Elev. Bor [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P Code [12]
415.74	3.05 / 3.05	100%	SST		415.74						As above, calcite lined joints			
418.79	3.05 / 3.05	100%	SST		418.79						As above			
422.14	3.12 / 3.35	93%	SST		422.14						As above, calcite lined joints			
425.19	3.05 / 3.05	100%	SST		425.19						As above, calcite lined joint, dark grey siltstone interbed at 422.79 - 422.93			
427.63	3.08 / 2.44	126%	SST		427.63						As above, massive			
431.29	2.81 / 3.66	77%	SST		431.29						As Above, calcite lined joint			
434.34	3.05 / 3.05	100%	SST		434.34						As above, black carbonaceous mudstone at 433.53 - 433.92			
437.38	3.04 / 3.04	100%	SST		438.38						As above			
440.43	3.05 / 3.05	100%	SST		440.43						As above, calcite lined fracture			
443.48	3.05 / 3.05	100%	SST		443.48						As above, calcite lined joints and fractures, occasional mudstone dark grey interbeds			
446.53	3.05 / 3.05	100%	SST		446.53						As above, no mudstone, calcite lined joints		80° 444.70	
449.58	3.02 / 3.05	99%	SST		449.58						As above, carbonaceous partings, polished		80° 449.4	
452.62	2.99 / 3.04	99%	SST		452.62						As above, calcite lined joints			
455.67	3.03 / 3.05	99%	SST		455.67						As above			
458.72	3.05 / 3.05	100%	SST		458.72						As above, carbonaceous mudstone interbeds at 456.10 - 456.30 m			
461.77	3.05 / 3.05	100%	SST		461.77						As above, calcite lined fractures, carbonaceous partings carbonaceous mudstone interbed at 460.14 - 460.25 m, polished surfaces, vertical bedding 90°			
464.82	3.05 / 3.05	100%			464.82						As above, several calcite filled fractures and joints, polished carbonaceous surfaces			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 22 OF: 25

Marker Bl [1]	CR / Cl [2]	M-M % R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev. Bot. [6]	Lith % R [7]	Geop Pick [8]	Lith % R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B El. [11]	C/P A Code [12]
			SST		466.4						As above, carbonaceous, carbonaceous mudstone interbeds near base			
			COAL		466.5						Soft, dull, bright, powdery			
467.25	2.13 / 2.43	88%	MDST		467.25						Black, very carbonaceous, polished surfaces			
470.30	3.05 / 3.05	100%	MDST		470.30						As above, coaly bands, numerous calcite filled fractures and joints			
476.70	6.40 / 6.40	100%	MDST		476.70						As above, bright coal wisps, lenses, and bands, calcite filled fractures			
479.75	2.94 / 3.05	96%	MDST		479.75						As above			
			MDST		482.00						As above			
483.10	2.80 / 3.35	84%	SLST/SST		483.10						Sandstone light, grey, very fine grain, interbedded with siltstone medium to dark grey plus minor mud, calcite filled fractures, soft sediment deformation			
486.15	3.05 / 3.05	100%	SLST/SST		486.15						As above, carbonaceous partings			
489.20	3.05 / 3.05	100%	SLST/SST		489.20						As above Siltstone >> Sandstone			
			SLST/SST		490.64						As above, Siltstone >> Sandstone			
495.25	3.05 / 3.05	100%	MDST		492.25						Black, carbonaceous, very bright coal wisps			
			MDST		493.47						As above			
			MDST SLST		494.43						Mudstone as above interbedded with siltstone - light grey Mudstone >> Siltstone			
495.05	2.77 / 2.80	98%	MDST		495.05						Black, very carbonaceous, bright coal wisps and bands up to 0.08m thick			
497.13	2.07 / 2.08	100%	MDST		497.13						As above, polished surfaces			
500.48	3.03 / 3.35	90%	MDST		500.48						As above, polished surfaces			

PROJECT: BARE MOUNTAIN | AREA: N.B. | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE: 23 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des [4]	M Th / ETh [5]	Elev. Bot. [5]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS — Lithology, Sedimentary-Tectonic Structures	Sample No. [10]	C/B / El. [11]	C/P / Code [12]
502.92	2.27 / 2.44	93%	MDST		502.92						As above, calcite lined joints			
505.96	2.86 / 3.04	94%	MDST		505.96						As above, calcite lined fractures			
509.01	2.94 / 3.05	96%	MDST		509.01						As above, polished surfaces			
			MDST		511.27						As above			
512.06	2.79 / 3.05	91%	COAL		512.06						Hard, dull with bright bands			
			MDST		512.60									
515.11	2.84 / 3.05	93%	SST SLST MDST		515.11						Sandstone very fine grain, light grey small scale cross bedding interbedded with siltstone-medium grey and mudstone-dark grey carbonaceous; soft sediment deformation			
518.16	3.05 / 3.05	100%	SST SLST MDST		518.16						As above, calcite filled fractures			
			SLST MDST		519.59						As above, mudstone Siltstone, calcite filled fractures at base			
			COAL		521.21						Medium bright, hard, slickensided			
			COAL		521.59						Hard, bright, crisp, platey			
522.12	3.43 / 3.96	87%	LOST COAL		522.12						0.53 m lost coal			
			COAL		522.37						As above,			
											Coal is 519.59-522.37 → 2.78 m Sample # BM 81 215 519.59 - 519.87 m Sample # BM 81 216 519.87 - 522.37 m COAL RECOVERY = 81%			
522.73	0.61 / 0.61	100%	MDST		522.73						Black, very carbonaceous, coaly, polished surfaces			
			SLST MDST		525.07						Mudstone as above interbedded with siltstone-light grey, polished surfaces			

PROJECT: BARE MOUNTAIN | AREA | N.B. | HOLE no 2 | BOX nos | GEOP PICK | PAGE 24 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Mn Lith (Sm Des) [4]	M Th / E Th [5]	Elev Box [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures — Sample No. [10]	C/B / El. [11]	C/P / A / Code [12]
575.78	2.98 / 3.05	98%	MDST		525.78						As above		
527.47			MDST		527.47						As above, bright coal lenses and bands		
			MDST		528.52						As above with minor siltstone interbeds, polished surfaces		
			COAL		528.61						Hard, bright, crisp		
528.82	1.20 / 1.35	89%	LOST COAL		528.82						0.15 m lost coal		
			COAL		529.04						As above		
			COAL		529.19						Soft, bright, powdery to platey		
			SLST MDST		530.33						Mudstone - black carbonaceous, polished surfaces interbedded with Siltstone - light grey, soft sediment deformation Mudstone > Siltstone,		
			COAL		530.57						Hard, bright, crisp		
			MDST		531.02						Black, carbonaceous, polished surfaces		
531.87	2.93 / 3.05	96%	SST		531.87						Medium grey, light grey, rare bright coal wisps, massive		
534.92	3.05 / 3.05	100%	SST		534.92						As above, 1 coal wisp, carbonaceous partings		
537.97	3.05 / 3.05	100%	SST		537.97						As above	76° / 535.0	
538.88	.86 / .91	95%	SST		538.88						As above, calcite lined joints		
541.93	3.00 / 3.05	98%	SST		541.93						As above, large scale cross beds, calcite lined joints, occasional mudstone interbeds		
544.98	3.00 / 3.05	98%	SST		544.98						Unit fines towards base sandstone fine to medium grain, light grey, carbonaceous, partings, calcite lined joints	83° / 342.5	
548.03	3.05 / 3.05	100%	SST		548.03						As above, coarsens to medium grain and massive at base		

PROJECT BARE MOUNTAIN AREA N.B. HOLE no 2 BOX nos GEOP. PICK PAGE 25 OF 25

Marker Bl. [1]	CR / Cl [2]	M-M %R [3]	Ma Lith (Sm Dec) [4]	M Th / EThs [5]	Elev. Bot [6]	Lith %R [7]	Geop Pick [8]	Lith %R [9]	Minor Lith	Th	REMARKS Lithology, Sedimentary - Tectonic Structures	Sample No. [10]	C/B / El. [11]	C/P / Code [12]
	3.04													
551.07	3.04	100%	SST		551.07						As above, no carbonaceous partings			horiz.
	2.02													
553.21	2.14	95%	SST		553.21						As above			
	3.00													
556.26	3.05	98%	SST		556.26						As above, large scale Cross Beds			
											STOP			
											END			

375 Skull Bare Mountain 81(3)A

ENCLOSURE 13

STRATIGRAPHIC SECTION

PROJECT:	BARK MOUNTAIN	DESIGNATION:	BM - 1 - 81
AREA:	S.E. BRITISH COLUMBIA	AUTHOR: B. RYAN	PART 1 OF 1
LOCATION:	NORTH BLOCK	DATE: 1981	
		SOURCE OF DATA:	DH - BM - 1 - 81

SCALE 1:200

SCALE (m) | CONTROL POINT | INTERVAL | LITHOLOGY | STRIKE & DIP | DESCRIPTION: MAIN | AMPLIFIED | SAMPLE

Control point – Core bedding angles & joints:

- 7.09m 60°
- rubble
- 11.4m 72°, J 20/315
- 23.5m 68°
- 34.85m 75° J 18/330
- 89.8m 79°
- 104.5m 78°
- 112.8m 79°
- 116.0m 76°
- 120.4m 68°
- 160.2m 56°
- 165.0m 75°
- 180.9m 73°
- 196.4m 69°
- 199.5m 74°
- 223.9m 68°
- 250.4m 81°
- 252.9m 80°
- 330.6m 73°
- 383.4 80°
- 349.7m 72°
- 401.6m 67°
- 422.0m 69°
- 457.3m 50°
- 476.2m 75°
- 506.75m 75°

Depth (m)	Main	Amplified
	Lithology	
	Casing	
3.66	Siltstone	Cross beds, white to light grey soft sediment deformation at 4.77 meters Iron staining some mudstone bands
9.63 / 9.85	Mudstone	Carbonaceous highly fractured
11.95	Siltstone	Abundant mudstone bands
12.66	Mudstone	Dark grey, massive
	Siltstone	Iron staining at 13.6 meters, soft sediment deformation at 13.2 meters, becomes carbonaceous with dark grey muddy bands at 14.82 meters
15.5	COAL	Dull with bright bands with increase downwards
16.7	Mudstone	Highly carbonaceous, siltstone bands
17.9	Siltstone/ Mudstone interbeds	Light grey, iron staining on fractures carbonaceous with muddy bands and coal stringers, soft sediment deformation
		becoming well banded
		clean very light grey becomes muddy and carbonaceous
38.2	COAL	
46.3	Siltstone/ Mudstone	Light grey, soft sediment deformation, interbedded coal and mudstone Dark grey
48.6	COAL	Dull, some silty and muddy bands
49.72	Siltstone	With coal wisps
55.07	COAL	Muddy bands
57.22	Siltstone/ Mudstone	interbedded siltstone and mudstone mudstone carbonaceous coal bands
77.04	COAL	Hard, bright with dull bands
80.80	Mudstone	Massive, medium grey
81.28	COAL	Hard, bright
83.09	Siltstone/ Mudstone	Siltstone color white to light grey Mudstone with bright coal
86.38	COAL	Hard, bright dull with bright bands shaley in places, badly slickensided
87.07 / 88.69	Mudstone	Dark grey to black, carbonaceous plant fragments
90.8	Siltstone	Medium grey, calcite filled fractures grades to sandstone interbedded with siltstone
91.74 / 92.49	Mudstone/ Siltstone	Sandstone light grey, fine grain
94.56	Mudstone	
96.24	Sandstone/ Mudstone	Small sandstone/siltstone band black, carbonaceous, coal wisps and lenses
99.94		
105.7	COAL	Shaley hard, bright mainly grades to powder
105.79	Mudstone	Small (1/4 cm) coal bands Slickensides Calcite filled fractures
		grades into siltstone
120.4	Siltstone/ Sandstone	Medium grey siltstone to mudstone interbedded with light grey very fine grain sandstone ripple cross laminated
	Mudstone	Medium grey, minor slickensides some calcite filled fractures coal wisps, coal stringers 10cm carbonaceous material increases downwards
133.01 / 134.62		Bright, hard, blocky, slickensides
	COAL	Dull with bright bands ranges from powdery to hard, mainly hard slickensides
141.73		Moderately bright to bright medium hard, slickensides
146.07	Mudstone	Black, carbonaceous, coal wisps slickensided
148.71	COAL	Dull, with bright bands powdery to hard, high ash
155.64	Mudstone	Black, carbonaceous, abundant plant fragments half meter siltstone band, laminated
158.12	COAL	Mainly dull, soft
158.98	Mudstone	
160.63	COAL	
161.19	Mudstone	Black, very carbonaceous, coal partings
162.06	Mudstone/ Siltstone	Interbedded light grey siltstone and dark grey mudstone. Irregular contact with overlying mudstone 10cm coal partings
173.40	Coaly mudstone	Black, carbonaceous, slickensided coal - dull, hard to powdery
180.06	Siltstone/ Mudstone	Light grey siltstone, dark grey mudstone
181.54	Coaly Mudstone	Bright with dull bands, slickensides
183.06	COAL	Bright
183.67	Mudstone	
184.43	COAL	
185.26	Mudstone	Black carbonaceous, bright coal lenses and partings
194.27	Mudstone/ Siltstone	Soft sediment deformation calcite lined joints and fractures
	Sandstone	Light to medium grey salt and pepper with bright coal lenses fine to medium grain
203.04	Mudstone/ Siltstone	
204.30	COAL	Bright, hard with dull, soft bands
206.45	Mudstone	Black, carbonaceous, slickensided, occasional coal lenses
218.85	Mudstone/ Siltstone	
222.86	Sandstone	Fine to medium grain salt and pepper abundant carbonaceous material coal lenses, calcite filled fractures
229.10		
230.65		
232.20		
233.2	Mudstone/ Siltstone	
236.94		
239.30		
241.27		
243.82		
245.36		
247.30		
250.29	Sandstone	Siltstone to very fine grain sandstone, salt and pepper mudstone laminations ripple cross laminations slickensides, very carbonaceous
262.15	Mudstone	Shaley in places very carbonaceous Brecciated at base with slickensided
265.04	Mudstone/ Siltstone	
267.87	Mudstone	
270.12	Siltstone	very carbonaceous
271.47	Sandstone	Mudstone interbeds bright coal lenses
278.22	Mudstone/ Siltstone	
290.47	Mudstone	Black, carbonaceous abundant plant fragments
294.43	COAL	Mainly bright with dull bands mainly hard some soft
300.38 / 301.17 / 302.17	COAL	Dull with bright bands mainly bright
307.59	Mudstone	
311.21	COAL	Bright, mainly hard
312.30	Mudstone	Black, carbonaceous bright coal lenses
352.50	COAL	Bright, hard
354.99	Mudstone/ Siltstone	Black, carbonaceous mudstone interbedded with light grey siltstone some 10 cm sandstone bands
	Mudstone/ Siltstone	
387.54	Siltstone	Light to medium grey with occasional dark grey mudstone and light grey very fine grain sandstone interbeds
		Dark grey siltstone with light grey siltstone and sandstone interbeds
397.76	Sandstone	Very fine grain, salt and pepper mudstone laminations bright coal lenses coarsens downward
401.71	Mudstone	Black, very carbonaceous bright coal lenses slickensides
413.23	Mudstone/ Siltstone	Sandstone interbeds become significant at base
419.10	Mudstone/ Siltstone/ Sandstone	
424.34	Mudstone	Black, carbonaceous, plant fragments
426.90	COAL	Bright coal lenses and carbonaceous splits
428.24	Mudstone	
	COAL	
432.64	Coaly Mudstone	
433.30	Mudstone	
434.21	COAL	
435.61 / 436.16	Mudstone	With coal lenses
439.21	Mudstone	No coal lenses
		With coal lenses become silty downwards
456.78	Mudstone/ Siltstone/ Sandstone	
459.33	Mudstone/ Siltstone	Black, carbonaceous mudstone interbedded with light grey siltstone
477.95	Siltstone	Dark grey, carbonaceous plant fragments with light grey interbed
483.72	Mudstone	Black, carbonaceous plant fragments Light grey siltstone bands
496.41	Mudstone/ Siltstone	
499.22	Mudstone	Black, carbonaceous plant fragments
500.90	COAL	Bright, dull bands bright bands soft dull bands hard
504.32	Mudstone/ Siltstone	
506.41	Mudstone	Dull hard
507.65	COAL	Bright hard
510.96 / 511.49	COAL	Dull, hard
512.50	Mudstone/ Siltstone	
513.08	Sandstone	Medium grain salt and pepper coaly partings
519.58		

Shell
K, Bare Mountain
81(3)A
375

ENCLOSURE 13

STRATIGRAPHIC SECTION

PROJECT: BARE MOUNTAIN
AREA: S.E. BRITISH COLUMBIA
LOCATION: NORTH BLOCK

DESIGNATION: BM - 2 - 81
PART 1 OF 1
AUTHOR: B. RYAN
DATE: 1981
SOURCE OF DATA: DH - BM - 2 - 81

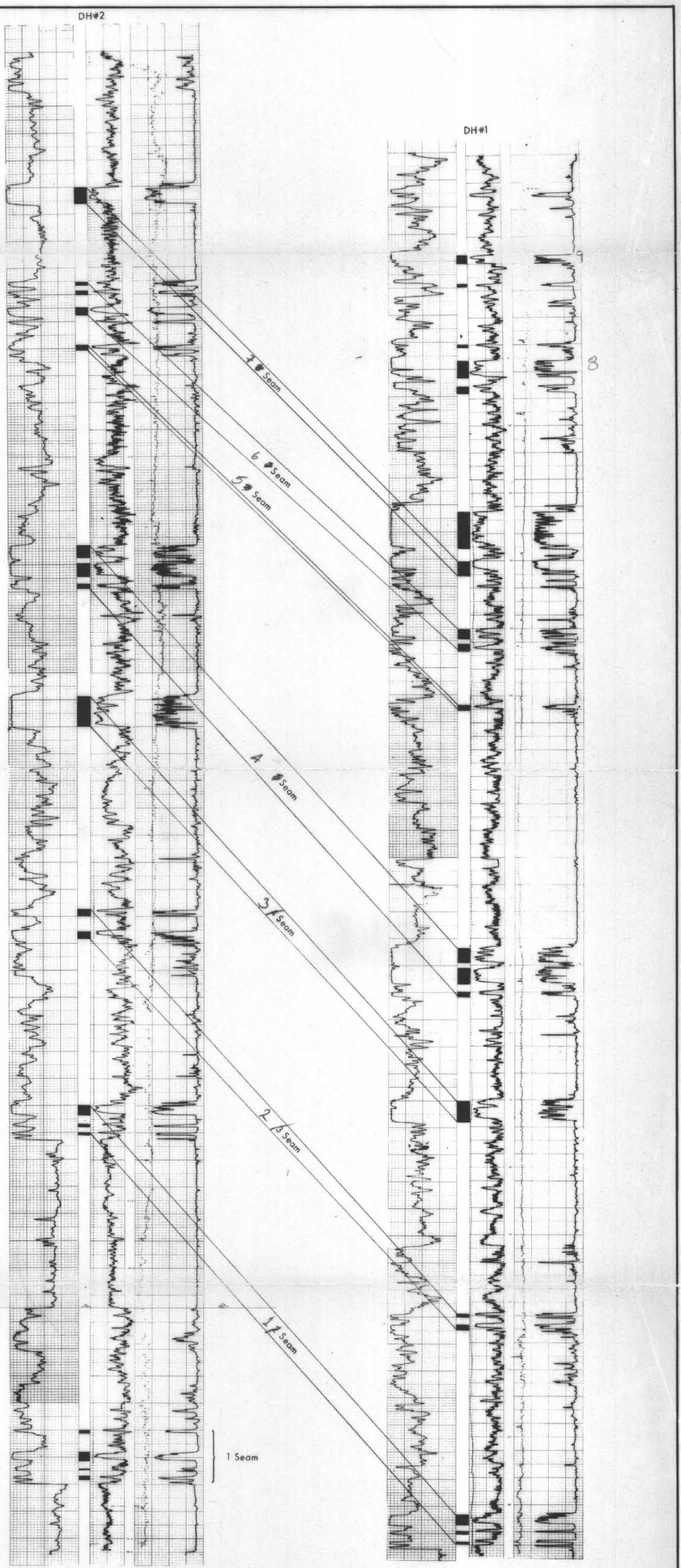
SCALE 1:200

Description (Main Lithology / Minor Lithology)

Depth (m)	Main Lithology	Minor Lithology
0	Casing	
3.7, 4.57	Siltstone	Medium grey, grades to sandstone
7.62	Mudstone	Medium to dark grey, with siltstone bands becomes coaly at base
	Mudstone/Siltstone	Medium grey
14.0	Coal/Mudstone	Hard, bright coal with muddy zones
14.7	Siltstone/Mudstone	Medium grey
20.40	Mudstone	Dark grey
21.7	Siltstone	Interbedded with mud
22.7	Mudstone	With small interbeds of silt
30.3	Siltstone	With minor mud becomes coarser at base
42.72	Mudstone	Medium to dark grey, small bands of silt becoming carbonaceous at base
51.2	COAL	Hard bright
51.55	Mudstone	With coal wisps
52.15	COAL	Dull with bright bands, occasional areas of hard bright muddy at base
54.86	Siltstone	
62.12	Mudstone	Dark grey to black, grades to siltstone
66.14	Siltstone	Medium to dark grey with some light grey interbeds
86.77	COAL	Bright hard
86.61	Siltstone	Dark grey with light grey interbeds
89.95		Bright, soft bright hard
	COAL	Moderately bright hard
92.96	Siltstone, Sandstone/Siltstone	Medium grey
93.58, 94.04	Coaly/Mudstone	Black, carbonaceous, lenses and wisps of bright coal
	Coal	Hard, bright
96.43, 96.06, 99.45	Siltstone/Mudstone	Siltstone - light grey with dark grey interbeds; Mudstone - black, carbonaceous, bright coal wisps
110.41	COAL	Bright, soft granular; Bright very hard
112.28	Mudstone	Black, carbonaceous
116.61	Siltstone, Sandstone	Medium to dark grey with light grey interbeds; Grades to sandstone very fine grain light grey
118.53, 119.31	Siltstone/Mudstone	
120.31	Siltstone	Medium to dark grey, light grey interbeds; Sandstone interbeds at base
125.66	Mudstone	Black, carbonaceous, silty in places
137.88	Siltstone	Dark grey with light grey interbeds
140.37	Mudstone	Black, carbonaceous, coaly splites
142.51	Siltstone	Light to medium grey with dark grey interbeds; Carbonaceous partings, coal wisps; Occasional sandstone interbeds
151.52	Sandstone	Medium grey, fine grain at top coarsens downwards to coarse grain at base, bright coal lenses, massive
155.45	Mudstone	Black carbonaceous, shaley zone in the middle
159.51	Mudstone/Siltstone	
160.17	Sandstone/Siltstone	Light grey, very fine grain sandstone interbedded with medium grey siltstone
163.41	Siltstone/Mudstone	Light grey siltstone interbedded with medium to dark grey mudstone
169.16	Mudstone	Black, carbonaceous
184.70	COAL	Bright, hard
189.12	Mudstone	
189.98	Coaly Mudstone	
190.87	Coal	Hard, bright soft, powdery, bright; Hard bright
195.07	Mudstone/Siltstone	Dark grey to black mudstone with light grey siltstone
197.08	Coaly Mudstone	
199.01	Coal	
200.75, 205.74	Mudstone/Siltstone	
	Mudstone	Black, carbonaceous massive
220.28	Siltstone/Mudstone	
238.42	Mudstone	Black, carbonaceous, coaly partings
239.89	Coal	Hard, bright; Some soft areas; Hard, bright
251.33	Coaly Mudstone	
252.07	Mudstone	Black, carbonaceous, coaly partings
258.11	Siltstone	Medium to light grey, some dark grey mudstone interbeds
261.57	Mudstone	Black, carbonaceous, massive
263.52	Sandstone/Mudstone/Siltstone	Very fine to fine grain, light grey sandstone with light grey siltstone and medium to dark grey mudstone
267.06, 268.83	Mudstone/Siltstone, Siltstone	Black to dark grey mudstone with light to medium grey siltstone, bright coal lenses and bands
270.75, 271.88	Sandstone	Light grey, medium grain massive; Light grey, medium to coarse grain massive very carbonaceous, coal wisps, bands; occasional siltstone and mudstone bands mud clasts
285.88	Mudstone	Black, carbonaceous
287.15	Sandstone	Light grey, medium grained
288.19	Mudstone	Black carbonaceous
292.0	Mudstone	
293.5	Mudstone/Siltstone	Black, carbonaceous mudstone with light grey silt mudstone to siltstone
297.23	Mudstone	
300.05	Coal	Bright, hard
300.28	Mudstone	
306.1	Siltstone	Light grey siltstone to very fine grain sandstone; Dark grey mudstone laminations
307.62	Mudstone	
309.55, 310.90	Siltstone, Siltstone/Sandstone/Mudstone	Medium grey, dark grey mudstone interbeds; Dark grey mudstone with light grey siltstone very fine grain sandstone
313.94	Mudstone/Siltstone	
315.14	Mudstone	Black carbonaceous plant fragments
318.80	Coal	Hard, bright
321.10	Mudstone/Siltstone	Mudstone is much greater than siltstone
322.97	Coaly Mudstone	
325.08, 327.04	Coal	Very hard, medium bright; Very hard, dull with bright bands, hard, bright
329.83	Coaly Mudstone	Moderately bright, soft, granular to powdery
330.79	Mudstone	
331.61	Coaly Mudstone	
332.47	Mudstone	Black, carbonaceous coaly in places
339.67	Coal	Dull, soft, powdery
339.79	Mudstone	
345.95	Mudstone/Siltstone/Sandstone	Black, carbonaceous mudstone with light grey and very fine grain sandstone
352.78	Mudstone	
358.03	Mudstone/Siltstone	
359.79	Mudstone	Black, carbonaceous plant fragments
366.53	Mudstone/Siltstone	
369.78	Mudstone	
391.67	Coal	Hard, bright soft, bright, granular to powdery; Moderately hard, bright, chunky to granular; Hard Bright
394.36	Mudstone/Siltstone	
397.46	Mudstone, Coal, Mudstone/Siltstone	
398.11, 399.87, 401.18	Mudstone, Coal, Mudstone, Coal, Mudstone	
403.25	Sandstone	Fine to medium grained light grey, massive carbonaceous partings, bright coal lens pyrite band, occasional mudstone band
	Sandstone	
	Sandstone	
466.4	Coal	Dull, soft, powdery
	Mudstone	Black, very carbonaceous coaly bands
482.0	Siltstone/Sandstone	Sandstone very fine grain, light grey, with siltstone, medium to dark grey plus minor mud carbonaceous partings
490.64	Mudstone	Black, very carbonaceous, bright coal wisps and bands up to 0.08 meters thick
511.22	Coal	Hard, dull with bright bands
512.06	Siltstone/Sandstone/Mudstone	
519.59	Coal	
522.37	Mudstone	
	Siltstone/Mudstone	
525.07	Mudstone	
528.52	Coal	
529.19	Mudstone/Siltstone	
530.33	Coal	
531.02	Mudstone	
	Sandstone	Medium grain, light grey rare bright coal wisps massive scale cross beds occasional mudstone interbeds
556.26		

Depth (m), Bedding Structure & Joint angles / Interval

Depth (m) / angle	Interval
3.7 59°	Slickensides on joints semi-stick
10	Calcite filled fractures (c.f.f.)
13.6 48°	Rubble, slickensides
	Slickensides c.f.f.
20	few c.c.f.
22.5 50°	slickensides c.c.f, soft sediment deformation
	Iron-staining c.f.f. slickensides
	Abundant cff polished slickensides
30	Soft sediment deformation c.f.f. slickensides
	Very few cff
	Rubble
	Very fractured abundant cff soft sediment deformation some polished joints slickensided rubble-semi-stick Slickensides cff
70.10 70°	cff, abundant fractures, rare slickensides
	cff abundant
103.9 59°	ripple cross-laminations soft sediment deformation cff
	Slickensides
	Micro faulting cff slickensides
	Slickensides
	c.f.f.
163.9 55°	Ripple cross-lamination
	Soft sediment deformation
	Some slickensides cfj
	Slickensides
	Soft sediment deformation
	Slickensides
	c.f.j.
260	c.f.f., c.f.j.
	c.f.j.
	c.f.f., c.f.j.
	c.f.j.
310	cff,cfj soft sediment deformation cff,cfj
368.4 72°	Soft sediment deformation
380	Rubble
390	Rubble
396.4 72°	
407.7 80°	bedding
	c.f.f.
447.7 80°	
449.4 68°	
460	cff,cfj polished surfaces
461.77 90°?	
	Polished surfaces cff, cfj
	c.f.f. soft sediment deformation
	Polished surfaces
	Soft sediment deformation



K-Shell Bare Mountain 81(3)A

375

Crows Nest Resources Limited
EXPLORATION

BARE MOUNTAIN
S.E. BRITISH COLUMBIA

DRILLHOLE CORRELATION CHART

AUTHOR: H. KUCERA	SCALE: 1:500	ENCLOSURE No.: 14
DATE: FEB., 1982 To Accompany	REVISED:	DRAWING No: HD-95A

375 Shell K. Bare Mountain 81(3)A

ENCLOSURE 15

STRATIGRAPHIC SECTION

PROJECT: BARE MOUNTAIN	DESIGNATION: BM-COMPOSITE
AREA: S.E. BRITISH COLUMBIA	AUTHOR: H. KUCERA
LOCATION: NORTH BLOCK	PART 1 OF 1
	DATE: 1981
	SOURCE OF DATA: BARE MOUNTAIN DRILL HOLE COMPOSITE

SCALE | CONTROL POINT | INTERVAL | LITHOLOGY | STRIKE & DIP | DESCRIPTION: MAIN | AMPLIFIED | SAMPLE

SCALE 1:500

ELK
MIST MOUNTAIN

[m] 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720

Main	Amplified
Siltstone	Dark grey, carbonaceous intercalated with mudstone
COAL	Dull with small bright areas
Shale	Fissile coaly
Mudstone	Intercalated with siltstone shows soft sediment deformation
COAL	
Siltstone	to mudstone interbedded
COAL	Dirty dull with numerous mudstone bands
Siltstone	Mudstone, carbonaceous, massive
COAL	Bright with dull bands
Mudstone	Carbonaceous, massive, dark grey, some calcite in filling
COAL	Hard, bright semi stick
Siltstone	Finely laminated, shows soft sediment deformation white to dark grey
COAL	Dull with bright bands
Siltstone	to very fine grain sandstone with a few coaly wisps Some carbonaceous plant fragments, some slickensides
Mudstone	Coaly at top carbonaceous black with abundant slickensides
COAL	Bright moderately soft, friable
Mudstone	Black, carbonaceous massive with coaly wisps
Siltstone	With some very fine grain sandstone interbeds
Mudstone	Dark grey to black massive, carbonaceous
COAL	Mainly dull and soft with bright bands
Mudstone	Black carbonaceous with plant fragments and coaly partings some slickensides
COAL	Dull to bright mainly soft, dirty a few gouge zones
Shale	Coaly, fissile
Siltstone	
Mudstone	Dark grey to black with coaly partings
Siltstone	Medium to dark grey with light grey banding a few coaly partings
COAL ZONE	Coal, coaly shale, shale splits etc
Siltstone	Mudstone unit - carbonaceous massive, hard
Sandstone	Fine to medium grain salt and papper sandstone with coaly lenses
Mudstone	
COAL	Bright, hard, granular with soft bands
Mudstone	Black carbonaceous with a few coal lenses
Siltstone	Light grey with dark grey interbeds
Sandstone	Fine to medium grain salt and pepper with abundant carbonaceous material, coal lenses and calcite filled fractures
Siltstone/ Mudstone	Blocky, carbonaceous, massive poorly sorted
Sandstone	Light grey very fine grain sandstone interbedded with medium grain siltstone. Sandstone coarsens downwards
Possible thrust zone	
Shale	With abundant slickensides, and calcite in filled frac
Mudstone/ Siltstone	Massive, blocky, carbonaceous
Sandstone	Poorly sorted vary from medium to very fine grain Carbonaceous
Siltstone	Light grey with medium to dark grey mudstone bands
Mudstone	Black carbonaceous with abundant plant fragments some slickensides
COAL	Hard bright
Mudstone	
Coaly Mudstone	
COAL	Mainly hard and bright
Siltstone	Mudstone unit
COAL	
Mudstone	
Coal split	
Mudstone	
Siltstone	With Mudstone bands
Mudstone	Black, carbonaceous with coaly partings
COAL	Hard bright
Mudstone	Black, carbonaceous with few silty bands
Mudstone/ Siltstone	very fine grain sandstone interbedded
Sandstone	Medium to coarse grain, light grey, coal wisps with small fine bands of siltstone and mudstone
Siltstone	
Mudstone	Black massive carbonaceous with coaly partings
Siltstone	To very fine grain sandstone, light grey
Siltstone- Mudstone Band	Poorly sorted with very fine grain sandstone lenses
COAL	Hard, bright
Mudstone	Black, carbonaceous
COAL	With shaley partings
Mudstone	
COAL	Clean at top shaley at base
Mudstone	With coal lenses
Mudstone	Black, massive no coal lenses
COAL	Split
Mudstone	As above silty at base
Siltstone	To very fine grain sandstone
Siltstone	Intercalated with mudstone
Siltstone	Dark grey carbonaceous with plant fragments shows soft sediment deformation
Mudstone	Black, carbonaceous with plant fragments
Siltstone	Light grey with mudstone bands
Mudstone	As above
COAL	Mainly hard bright
Mudstone	Siltstone
Mudstone	Dull and hard
COAL	
Siltstone/ Mudstone	
COAL	
Coaly shale	
Sandstone	Fine to medium grain, light grey, massive with carbonaceous partings, bright coal lenses, pyrite band some calcite filled fractures
COAL	Dull soft and powdery
Mudstone	Black very carbonaceous, coaly bands
Sandstone	To Siltstone, very fine grain, light to medium grey, soft sediment deformation
Mudstone	Black massive mudstone with thick coaly lenses
COAL	Hard and dull with bright bands
Siltstone/Sandstone/Mudstone	Intercalated
COAL	
Mudstone	
Siltstone/Mudstone	
Mudstone	
COAL	
Mudstone	
COAL	
Mudstone	
Sandstone	Medium grain, light to medium grey, massive, hard