

**CONFIDENTIAL**

LILLYBURT PROJECT

1982 GEOLOGICAL ADDENDUM

Kootenay Land District, British Columbia

B. C. Coal Licence Numbers: 4080-4089 Inclusive; 5313, 7292

Group Number: 243

Owner: Shell Canada Resources Limited

Operator: Crows Nest Resources Limited

NTS: 82G/7

Longitude: 114° 37' West

Latitude: 49° 22' North

**OPEN FILE**

Report Prepared By: B. McKinstry  
Staff Geologist

February 1983

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

00

40



## **Crows Nest Resources**

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

March 15, 1983

Ministry of Energy, Mines and  
Petroleum Resources  
525 Superior Street  
Victoria, B.C.  
V8V 1T7

Dear Sirs:

Enclosed please find our addendum report on the Lillyburt Project.

This report has been prepared by Mr. B. McKinstry, an employee of Crows Nest Resources Limited.

Mr. B. McKinstry, M.Sc., graduated in Geology from Carleton University, Ottawa in 1971. Prior to graduation, Mr. McKinstry worked as an assistant for a major mining firm and after graduation as a geologist with a mining firm, a research assistant at Carleton University and as a geologist with a consulting firm. Mr. McKinstry has been employed by Crows Nest Resources Limited as a Staff Geologist, since 1981.

Mr. McKinstry's work was carried out under the supervision of our Manager, Geology, Dr. Barry Ryan.

I consider the aforementioned geologists to be well qualified to undertake the responsibilities they were assigned on this project. I am satisfied that the attached report has been competently prepared and justly represents the information obtained from this project.

Yours very truly,

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

BMcK/md



## TABLE OF CONTENTS

### LIST OF ILLUSTRATIONS:

#### SUMMARY

#### 1.0 INTRODUCTION

- 1.1 Location and Access
- 1.2 Geography and Physiography
- 1.3 Tenure of Land and Coal Rights

#### 2.0 WORK DONE

- 2.1 Summary of Previous Work
- 2.2 Work Accomplished, 1981 (Licences 4081, 4084, 4087, 5313, 7292)
- 2.3 Costs of Work Done, 1981

#### 3.0 GEOLOGY

- 3.1 Regional Geology
- 3.2 Geology of Coal Licences 4081, 4084, 4087, 5313, 7292
- 3.3 Structural Geology

#### 4.0 RECOMMENDATIONS FOR FURTHER WORK

#### 5.0 BIBLIOGRAPHY

## LIST OF ENCLOSURES

- |              |   |
|--------------|---|
| ENCLOSURE 1  | Location Map of Lillyburt Project, B. C.<br>1:250,000   |
| ENCLOSURE 2  | Access Map, Lillyburt Project<br>1:50,000   |
| ENCLOSURE 3  | Index Map to Coal Licences, Lillyburt Project<br>1:50,000   |
| ENCLOSURE 4  | Regional Geological Compilation Map<br>1:50,000   |
| ENCLOSURE 5  | Typical Stratigraphic Section, Lillyburt, B. C.<br>1:1000   |
| ENCLOSURE 6  | Index to 1981 Cross-Section Lines   |
| ENCLOSURE 7  | 1981 Cross Section:<br><br>261 088 092 045 360<br>348 008 271 269 353<br>013 245 345 065 349 074<br>299 014 352 359 056 |
| ENCLOSURE 8  | Geology of Lillyburt (Revised 1983)<br>1:5000   |
| ENCLOSURE 9  | B. C. Coal Licences Tenure Standing   |
| ENCLOSURE 10 | Application to Extend Term of Licence;<br>Summary of Expenditures   |

## SUMMARY

The Lillyburt coal property is located within British Columbia coal licences 4080 through 4089 inclusive, and licences 5313 and 7292, acquired in 1982, covering some 2790 hectares of land. The licences are located in the north-east end of the Flathead River Valley in southeastern B. C. (Enclosure 1). Access to the property is obtained via the Corbin Valley forestry access road from the Corbin coal loading facilities (15 kilometers) or via the Lodgepole forestry access road from Morrissey Station on the main C.P.R. railway line (45 kilometers). Total rail distance to Roberts Bank, Vancouver, is approximately 1150 kilometers.

Coal licences, 4080-4089 (group #243), have been held since 1978 by Shell Canada Resources Limited with operations carried out by its wholly-owned subsidiary, Crows Nest Resources Limited. Exploration to date has included 25 rotary holes, 4 diamond drill holes, numerous backhoe trenches, geological mapping, ground control and location surveys and photogrammetric mapping. In 1982, Shell Canada Resources Limited obtained coal licences 5313 and 7292 immediately to the east of group #243. Geological mapping was carried out on these licences in 1981.

Geology within the area of interest is dominated by normal faults to the north east, and south and by a thrust fault to the west. Drilling and mapping data indicate Jurassic-Cretaceous Fernie, Kootenay and Cretaceous Blairmore Stratigraphy have been folded into an open doubly plunging asymmetric syncline with axial plane trending east-west.

Thickness of the coal-bearing member of the Kootenay Formation is 300 meters on the south limb of this syncline but reduced to 140 meters on the north limb. Within the coal-bearing member, there are five seams of economic interest totaling 21 meters in aggregate thickness. All seams exceed 1 meter; with the thickest averaging 10 meters, being the third seam in an ascending order from the Fernie-Kootenay contact.

Total indicated resources of coal underlying group #243 of the property are estimated to be some 130 million tonnes. Geological in place "reserves" are calculated to be 24.9 million tonnes with an overburden ratio of 3.8 cubic meters rock per tonne coal. These figures may increase with the added coal potential underlying licence #5313.

Analysis from rotary cuttings and drill core for 1979, 1980 and 1981 drilling indicate coal at Lillyburt to be medium volatile bituminous.

## 1.0 INTRODUCTION

### 1.1 Location and Access NTS 82G/7

The Lillyburt Coal Prospect is located in and near the Flathead River Valley in the Front Range of the Rocky Mountains of south-eastern British Columbia.

The prospect is 40 and 15 kilometers from the nearest railway points at Morrissey Station and the Corbin Mine Loop respectively. In addition, it is 60 kilometers by logging and forestry access roads from the towns of Sparwood and Fernie. (Enclosure #2). The port of Vancouver is approximately 1150 kilometers by rail from the property. Most of the project area has been extensively logged providing a dense network of roads throughout the property. These roads have been utilized for drilling access, backhoe trenching and geological mapping.

### 1.2 Geography and Physiography

Topography in the area is of relatively moderate relief ranging from 1480 meters near the Flathead River increasing to 1720 meters at the northern boundary. The Flathead River forms a natural boundary to the south while Squaw Creek bisects the property into east and west halves. Extensive logging operations have removed a substantial percentage of forest vegetation. The abandoned town-site of Flathead is located on Coal Licence #4087 within the property.

### 1.3 Tenure of Land and Coal Rights

The Lillyburt Coal Property consists of 11 B. C. Coal Licences, held by Shell Canada Resources Limited, a wholly-owned subsidiary of SCRL. The licences, #4080-4089, were acquired by SCRL in 1978 and have been recently grouped (#243). Licences 5313 and 7292 were purchased in 1982 from William Schenfield of Fernie, B. C. and are located immediately east of group 243. The licences total some 2790 hectares of land. Enclosure #3 details the position of licence boundaries with respect to topographic features.

## 2.0 WORK DONE

### 2.1 Summary of Previous Work

In 1978, aerial photography and ground control surveys were done on photogrammetric topographic maps which were constructed at a scale of 1:5000 with five-meter contour intervals.

Reconnaissance geological mapping at a scale of 1:5000 was initiated in 1979. Preliminary rotary drilling was carried out on the property in three localities totalling 571 meters. In addition, three backhoe trenches and six hand trenches were dug for a total length of 30 meters.

During the 1980 field season, an additional nineteen vertical rotary holes were drilled throughout the property totalling 3388 meters. Three backhoe trenches were excavated along the north



limb of the syncline for a total distance of 275 meters. Reconnaissance geological mapping continued at the scale of 1:5000. In addition, activity on licence 5313 by William Schenfield included two backhoe trenches, several pits and some mapping.

2.2 Work Accomplished, 1981 (Licences 4081, 4084, 4087, 5313, 7292)

Extensive logging operations on and to the east of licence #5313 exposed considerable outcrop. This report details the interpretation of unpublished mapping data obtained by SCRL personnel in the summer of 1981, as it relates to published data from group 243, and William Schenfield's observations.

Approximately three days of geological mapping was carried out over all new and old logging trails, in the newly logged out area. In addition, selected traverses were made along geophysical cut lines and between strategic points of interest. This data has been synthesized with previously submitted information to produce a more comprehensive understanding of the geology of the east side of Lillyburt Project (Enclosure 8).

2.3 Costs of Work Done, 1982

Total expenditure for 1982 work and report generation are \$8,619. A detailed summary of expenditures can be found in Enclosure 10.

### 3.0 GEOLOGY

#### 3.1 Regional Geology

The Lillyburt Coal Prospect is located in the Flathead Valley graben structure as outlined in Price (1965). The property is bounded by the south-dipping Flathead normal fault to the north and east and a north-dipping normal fault located in the Flathead River to the south (Enclosure #4). Westward, coal-bearing strata are confined by the Squaw Thrust. Strata to the north and south of the property consist of Cambrian to Pennsylvanian carbonates. Shales of the Jurassic Fernie Formation are dominant west of the Squaw Thrust. Precambrian Purcell sandstones, argillites and limestones outcrop to the east of the property. Thrusting and associated folding are dominant structural features within the strata surrounding the Lillyburt prospect but are of minimum importance within the property. However, due to the influence of the Flathead normal fault, high angle normal faulting and strike-slip faulting at a local scale dominate the geology within the property. (Enclosure #7)

#### 3.2 Geology of Coal Licences 4081, 4084, 4087, 5313, 7292

The stratigraphy of the Lillyburt Project has been extensively outlined by McKinstry (1981). Enclosure 5 details the main lithologic units which occur within the Jurassic-Cretaceous Kootenay Mist Mountain Formation. In particular, the thickest coal seam ('c' seam) occurs approximately 75 meters stratigraphically above

the Morrissey formation contact. It is considered by the writer that this seam can be traced along strike eastward to William Schenfield's trenching activity on licence 5313. In addition, the most southerly trenches and pits may also have exposed the surface trace of 'A' seam. The extension of the seam surface traces, and geological contacts are concordant with surrounding regional trends and maintains consistency with the regional geology of Price (1965). The mapping of numerous Precambrian Purcell Meta-Volcanic and Mississippian carbonate outcrops has allowed for a more precise definition of major faulting surfaces, in particular the Flathead normal fault.

### 3.3 Structural Geology

This interpretation is in sharp contrast to that proposed by Bethune (1936) and advocated by Gardner (1980). They suggest that the Lewis thrust underlies Hollebeke Mountain and Kootenay strata dip east beneath the thrust and the mountain. However, Price (1965) places the Lewis thrust some 2.8 km. east of Hollebeke Mountain and regional dips around Hollebeke Mountain are westward. Complications exist between the two interpretations as Gardner reports that the coal bearing strata in the trenches of licence 5313 are east dipping. As the trenches were strongly slumped in 1981, this observation could not be verified.

If this writer's interpretation is correct, the implication is that the Lillyburt synclinal structure is doubly plunging.

This may allow for additional open-pit preserves occurring on the east side of the structure. Due to the limited exposure of outcrop in this area, the hypothesis can only be tested with drilling.

#### 4.0 RECOMMENDATIONS FOR FURTHER WORK

Further exploration work on these eastern licences should consider the following:

- a) Drilling to define
  - i) coal quality
  - ii) structure
  - iii) overburden depth and ratio
- b) Geotechnical
  - i) study of hydrology (esp. near Pincher Creek);  
installation of Piezometers

## 5.0 BIBLIOGRAPHY

Bethune, P. de, 1936. *Un cas d'invololution de nappes du second genre dans les Montagnes Rocheuses du Canada (geologie des environs du Flathead Townsite, Columbie Britannique): Memoires de L 'Institut Geologique de l 'Universite de Louvain, Tome X, p. 151-197.*

Gardner, S., 1980. *A preliminary evaluation of the Hollebeke Mountain area, Southeastern British Columbia.*

Gibson, D.W., 1977. *Sedimentary facies in the Jura-Cretaceous Kootenay Formation, Crowsnest Pass area, Southwestern Alberta and Southeastern British Columbia: Bulletin of Canadian Petroleum Geology, v. 25, p. 767-791.*

Gibson, D.W., 1979. *The Morrissey and Mist Mountain Formations - newly defined litho stratigraphic units of the Jura-Cretaceous Kootenay Group, Alberta and British Columbia. Bulletin of Canadian Petroleum Geology, v. 27 p. 182-208.*

McKinstry, B.W., 1980. *Report on Coal Licences 4080 to 4089 inclusive Kootenay Land District, British Columbia.*

McKinstry, B.W., 1981. *Report on Coal Licences 4080 to 4089 inclusive, Kootenay Land District, British Columbia.*

Price, R.A., 1965. *Flathead Map Area, British Columbia and Alberta, Geological Survey Canada Memoir 336. 221 p.*

---

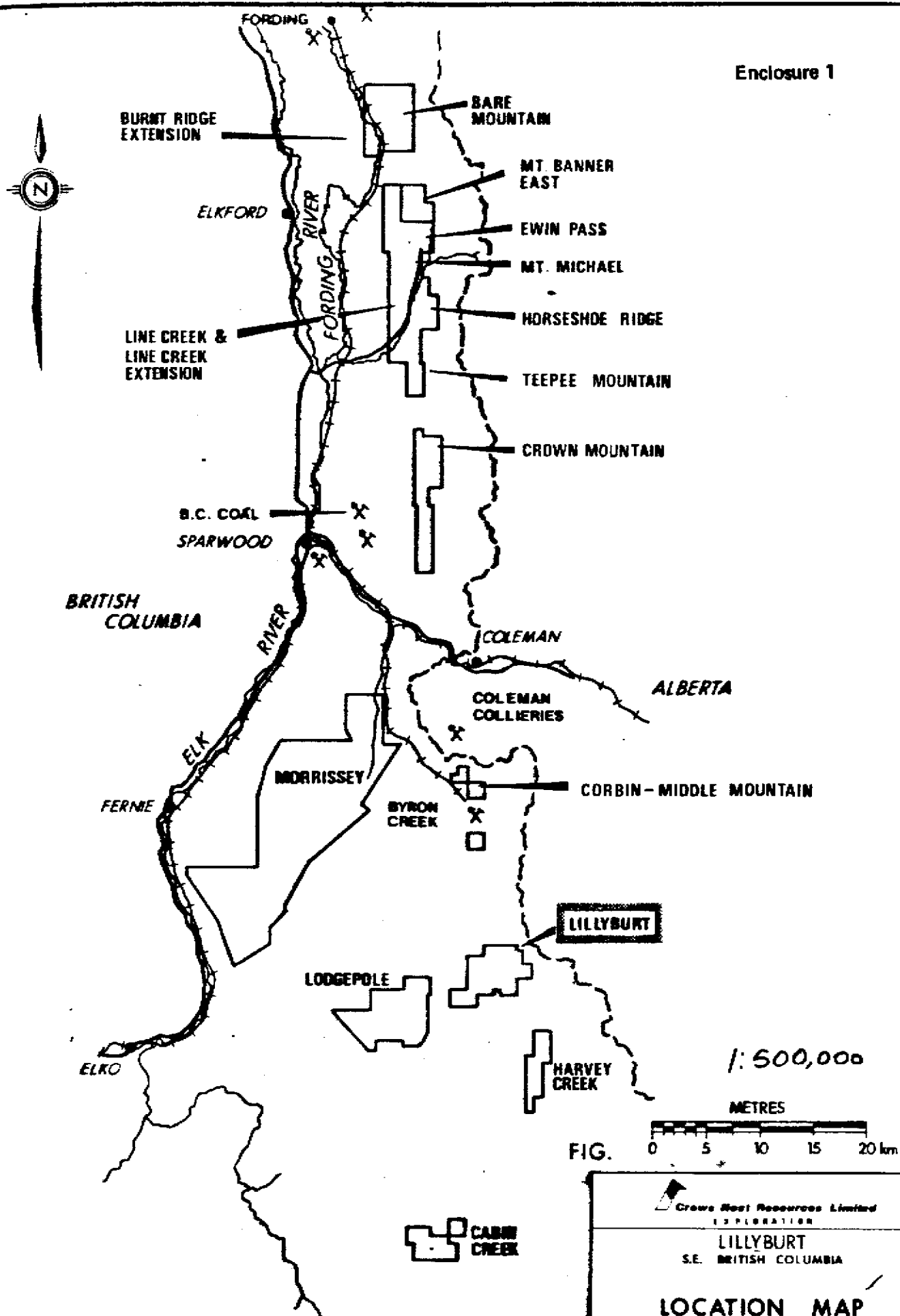
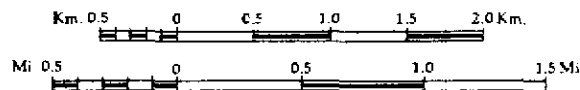
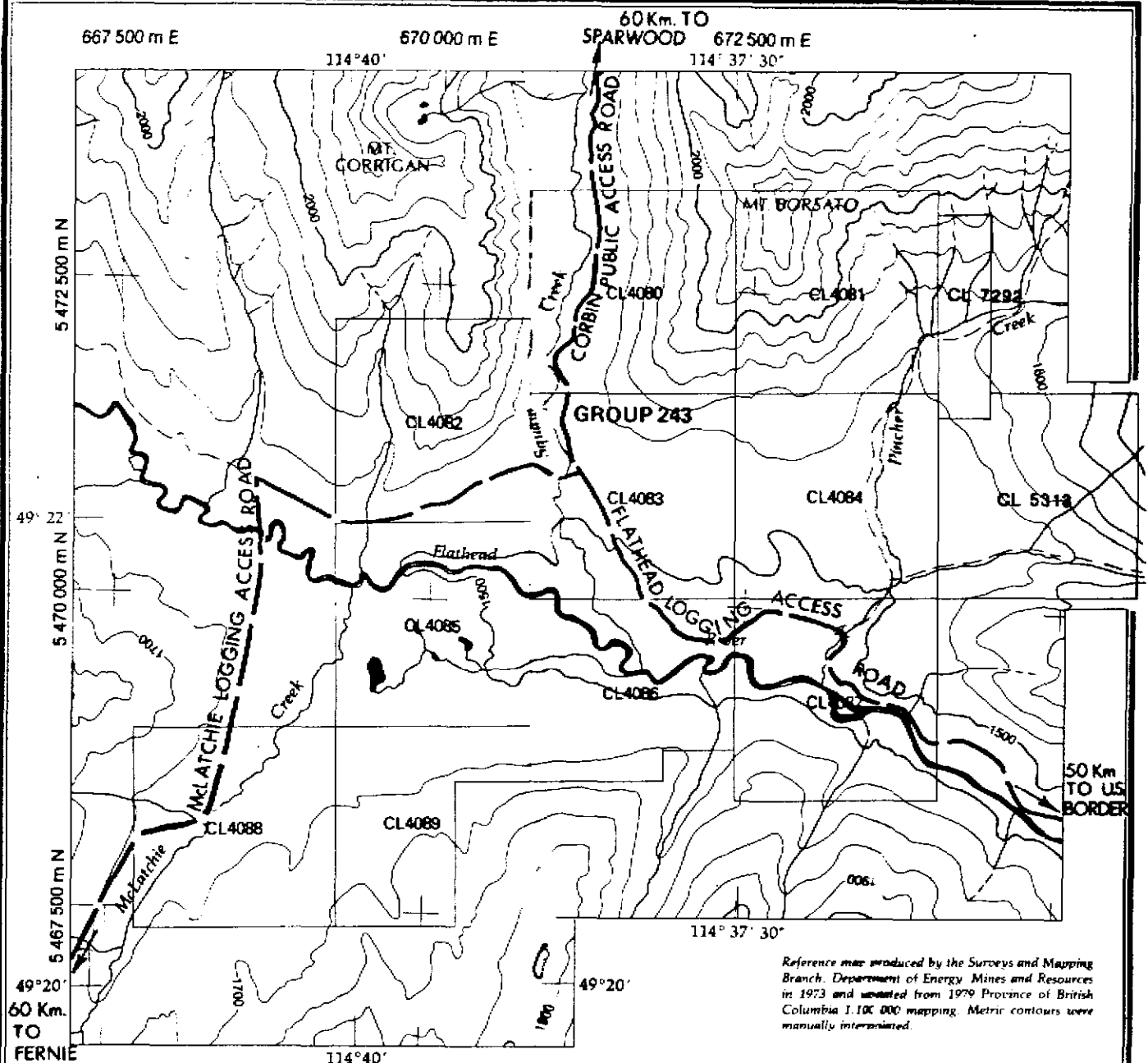


FIG.

0 5 10 15 20 km

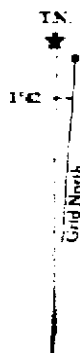
<p><b>Crows Nest Resources Limited</b> EXPLORATION</p>		
<p><b>LILLYBURT</b> S.E. BRITISH COLUMBIA</p>		
<p><b>LOCATION MAP</b></p>		
<p>AUTHOR: B. MCINSTRY DATE: 83-03 To: [ ]</p>	<p>SCALE: AS SHOWN BY: [ ]</p>	<p>ENCLOSURE NO: AA-817</p>



Contour Interval 100m  
 Transverse Mercator Projection  
 Universal Transverse Mercator Grid Zone 11

### Legend

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



### Enclosure 2

#### Crows Nest Resources Limited EXPLORATION

LILLYBURT  
 S.E. BRITISH COLUMBIA  
**ACCESS MAP**

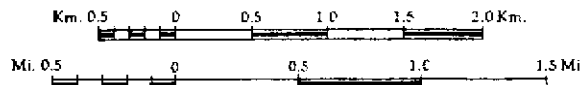
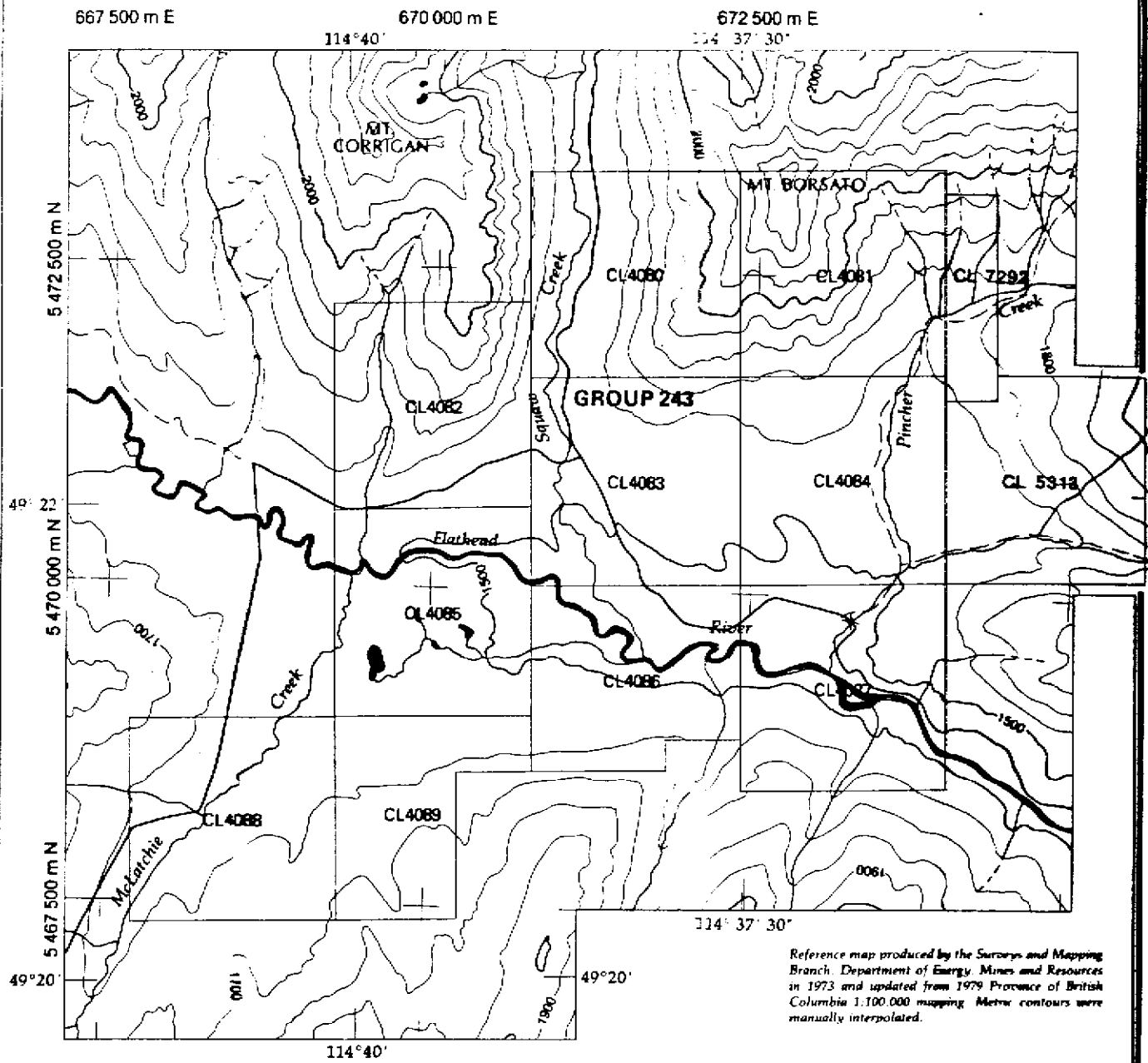
NTS. 82/G7

AUTHOR B. MCKINSTRY SCALE 1:50 000

DATE FEB 1982 REVISED 83-02

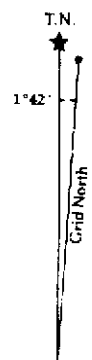
ENCLOSURE NO.

AA-820



Contour Interval 100m  
 Transverse Mercator Projection  
 Universal Transverse Mercator Grid Zone 11

- Legend**
- Road; Highway, Main road.....
  - Road; Loose surface, Dry weather.....
  - Track or trail.....
  - Railway.....
  - River.....
  - Stream.....
  - Contours.....
  - Licence boundary.....

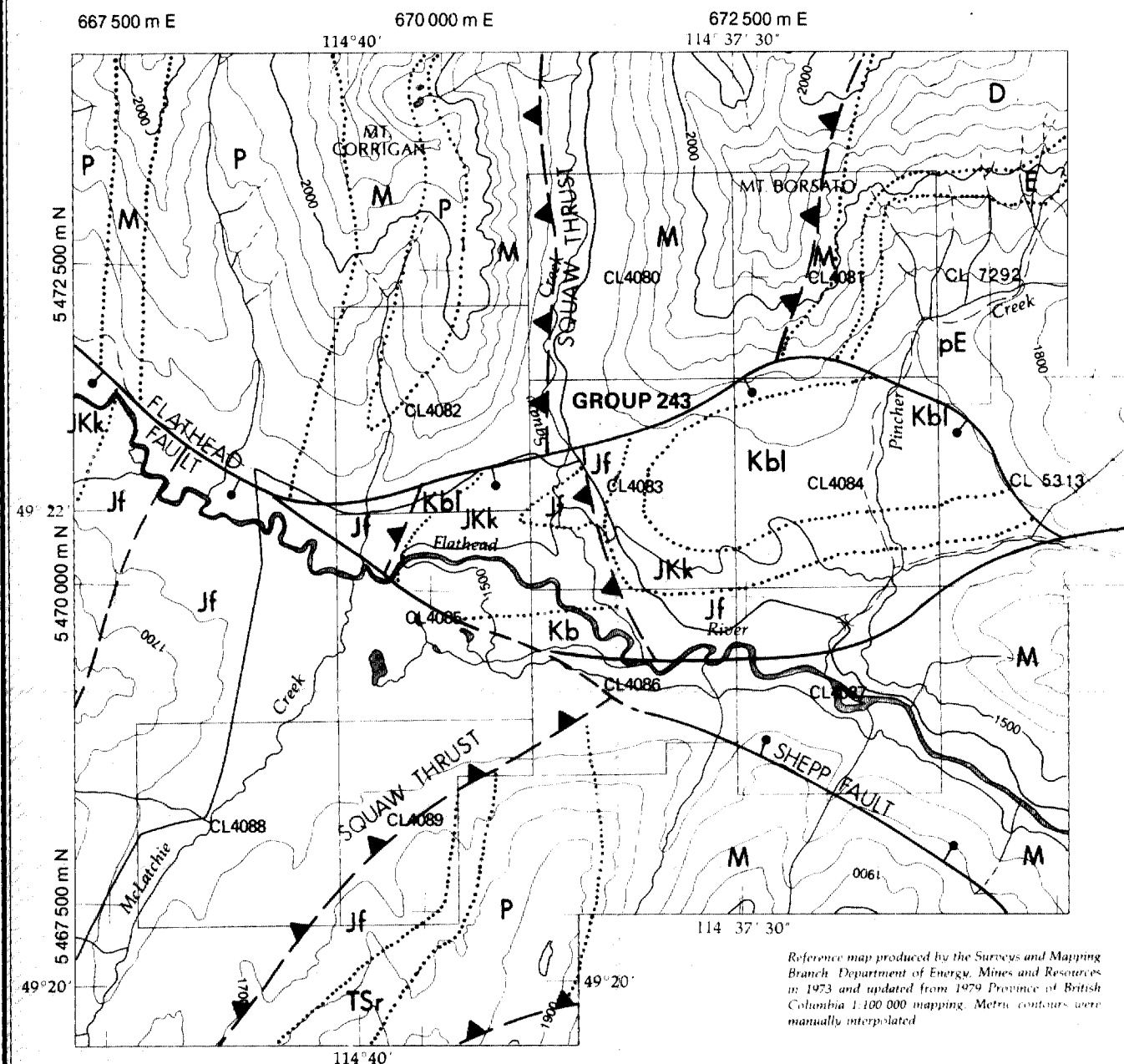


Enclosure 3

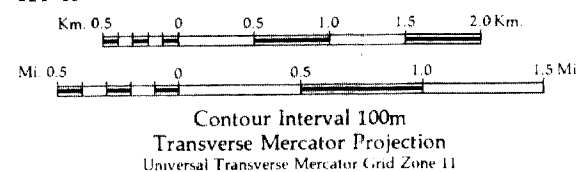
FIG.

<b>Crows Nest Resources Limited</b>		
EXPLORATION		
LILLYBURT		
S.E. BRITISH COLUMBIA		
<b>INDEX MAP TO</b>		
<b>COAL LICENSES</b>		
NTS 82/G7		
AUTHOR B. MCKINSTRY	SCALE 1:50,000	ENCLOSURE No.
DATE FEB 1982	REVISED 83-02	AA-821
To Accompany		

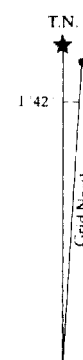




Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1973 and updated from 1979 Province of British Columbia 1:100 000 mapping. Metric contours were manually interpolated.



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



## GEOLOGICAL LEGEND

### CRETACEOUS

**Kbl** Blairmore Group

### JURASSIC - CRETACEOUS

**JKk** Kootenay Group

### JURASSIC

**Jf** Fernie Formation

### TRIASSIC

**TSr** Spray River Group

### PENNSYLVANIAN

**P** Rocky Mountain Formation

### MISSISSIPPIAN

**M** Rundle Group + Banff Formation

### DEVONIAN

**D** Palliser + Alexo Formations  
Fairholme Group

### CAMBRIAN

**E** Elko + Flathead Formations

### PRECAMBRIAN

**pE** Purcell Group

..... geological contact (approximate)

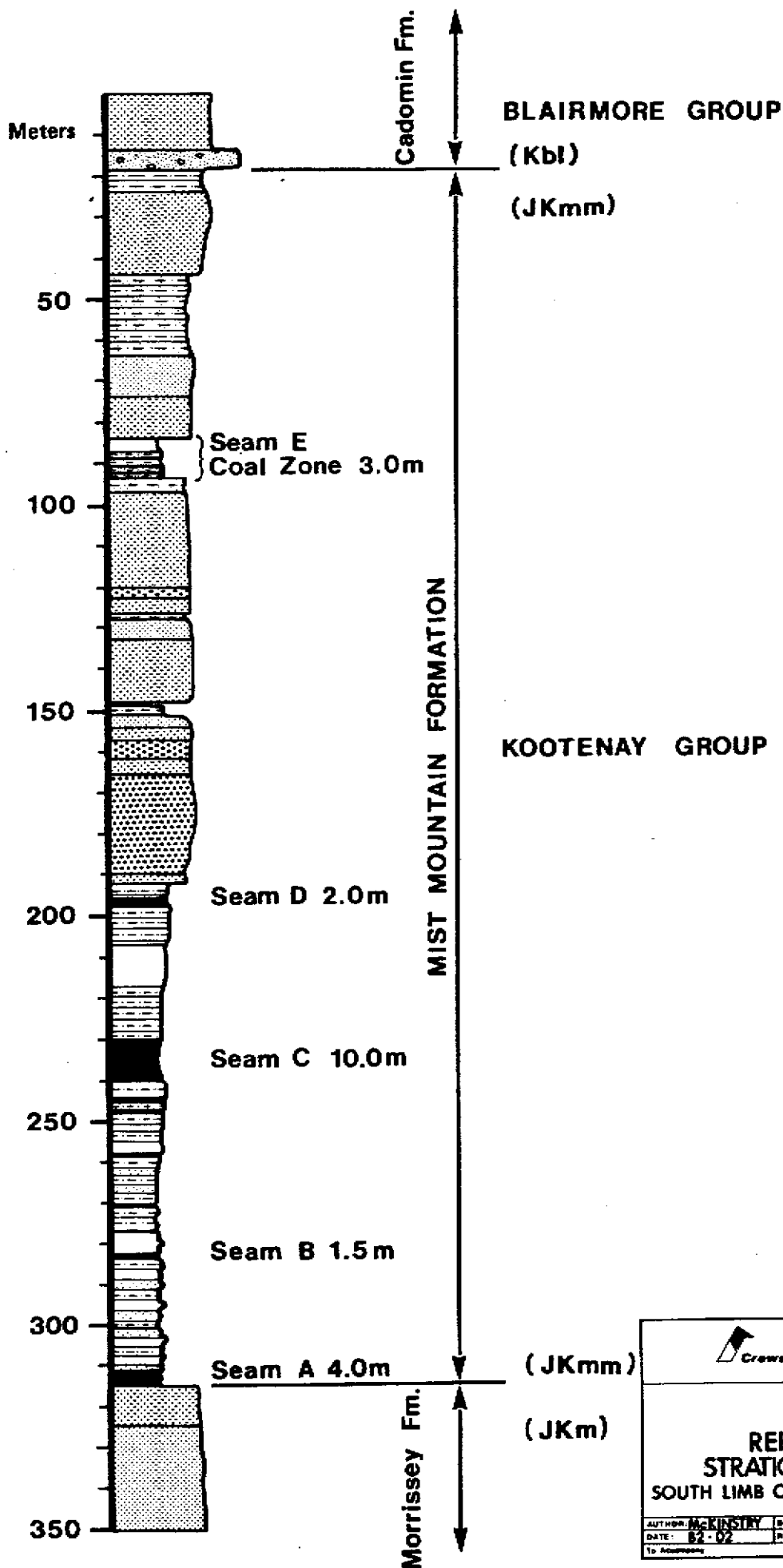
—▲— thrust fault (approximate)  
teeth on upthrust side

—●— gravity fault (approximate)  
solid circle on downthrown side


FIG.

Enclosure 4

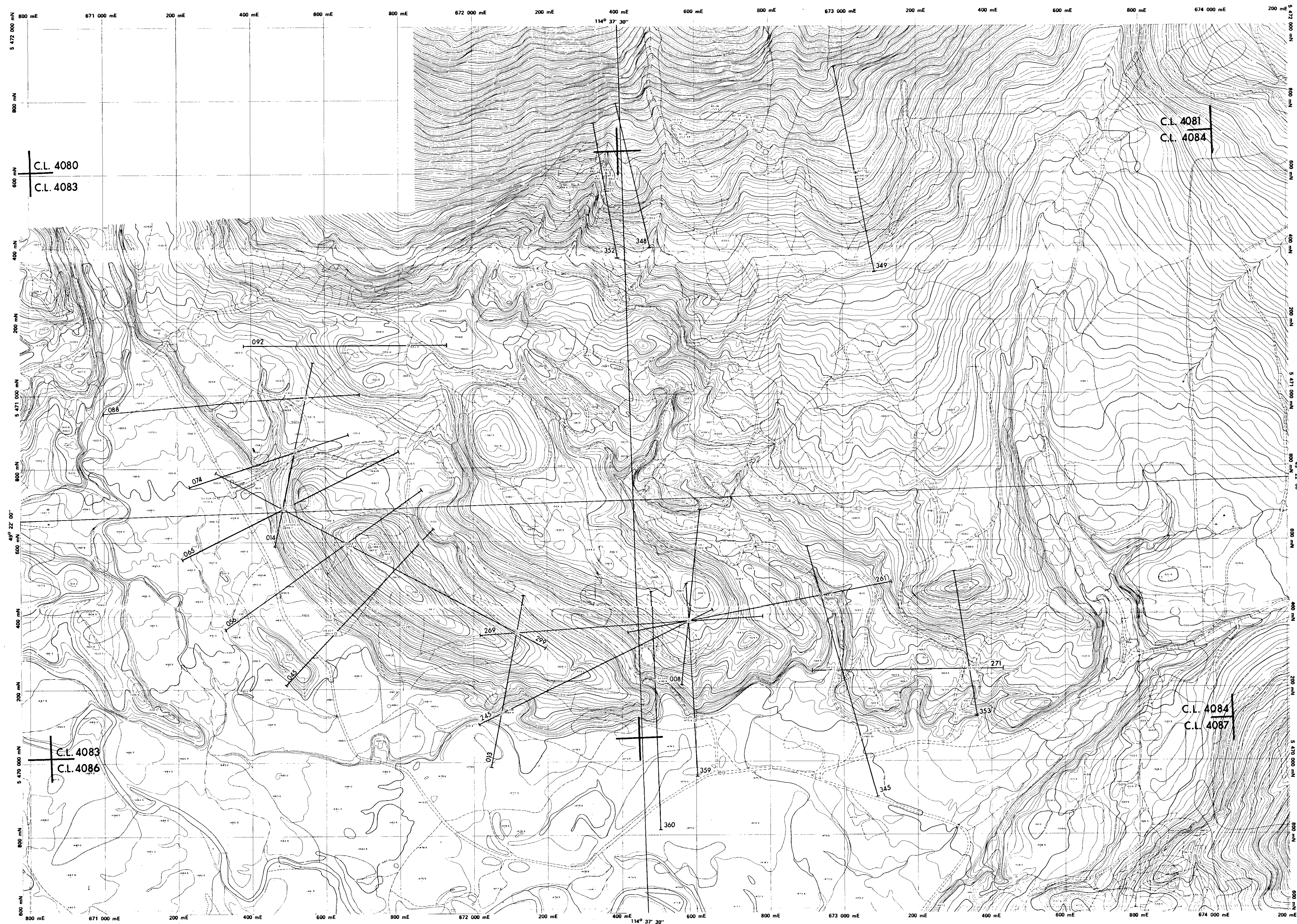
<b>LILLYBURT</b> SE BRITISH COLUMBIA <b>GEOLOGICAL</b> <b>COMPILATION MAP</b>		
82 3/7	AUTHOR: MCKINSTRY	SCALE: 1:50 000
DATE: 82 02	REVISOR: 83 02	ENCLOSURE NO.
To Accompany		DRAWING NO. AA-822



Enclosure 5

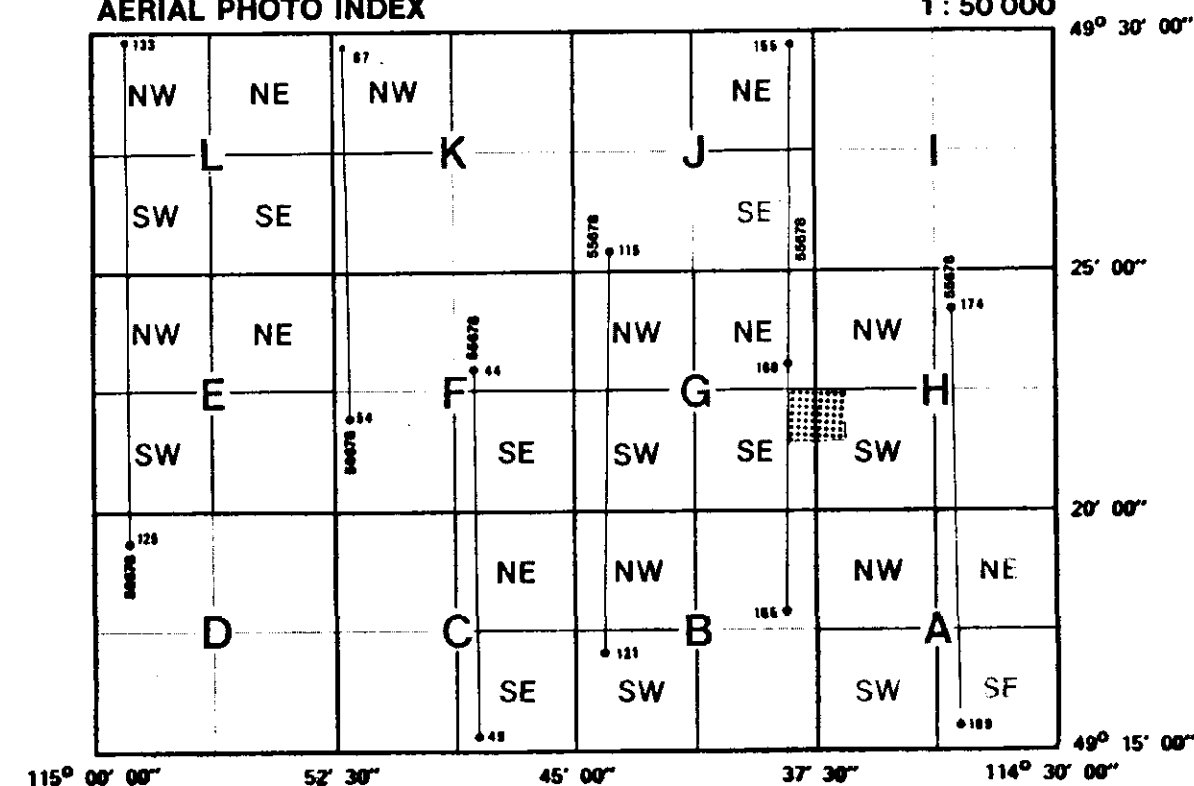
 <b>Crews Nest Resources Limited</b> EXPLORATION		
<b>LILLYBURT</b> S.E. B.C.		
<b>REPRESENTATIVE STRATIGRAPHIC COLUMN</b> SOUTH LIMB OF THE LILLYBURT SYNCLINE		
AUTHOR: MCKINSTRY	SCALE: AS SHOWN	ENCLOSURE IN:
DATE: 82-02	REVISED: 83-02	DRAWING: AA-828
To Accompany:		





# MAP INDEX AND AERIAL PHOTO INDEX

82G/7  
1:50 000



## REFERENCE

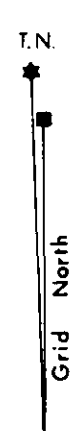
- MAIN ROAD
- SECONDARY ROAD
- TRACK OR TRAIL
- RAILWAY
- HEDGE FENCE
- BRIDGE CULVERT
- CUT FILL
- SWAMP
- DRILL HOLE
- CONTROL POINT
- RIVER, LAKE
- INTERMITTENT RIVER
- TREED AREA
- LINE OF TREES
- INDIVIDUAL TREES
- VERTICAL INTERVAL
- DEPRESSION
- SPOT HEIGHT

MAP PROJECTION: UNIVERSAL TRANSVERSE MERCATOR  
CENTRAL MERIDIAN REFERENCE 111° W.

PREPARED BY: THE ORTHOSHOP  
A DIVISION OF MCMURCHY - WARD SURVEYS (ALBERTA) LTD.  
CALGARY, ALBERTA

100 50 0 100 200 300 400 500 METRES

SCALE 1:5000  
CONTOUR INTERVAL: 2 METERS



408①



**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
SE. B.C.

## 1981 CROSS-SECTION LINES TO DETERMINE STRUCTURE

Enclosure 6

NTS. 82G/7

UTM. ZONE 11

AUTHOR: B. MCKINSTRY

SCALE: 1:5000

DRAWN BY:

DATE: FEB 1982

REVISED:

DRAWING No. LB2U02

To Accompany



# SECTION 056

SOUTHWEST

NORTHEAST

## GEOLOGICAL LEGEND

### CRETACEOUS

**Kbl** Blairmore Group

### JURASSIC - CRETACEOUS

**JKmm** Mist Mountain Formation  
(of Kootenay Group)


**JKm** Morrissey Formation  
(of Kootenay Group)


 FAULT

**LB-R 214** ROTARY DRILL HOLE

**LB-D 265** DIAMOND DRILL HOLE

 COAL

 CLAYSTONE

 SILTSTONE

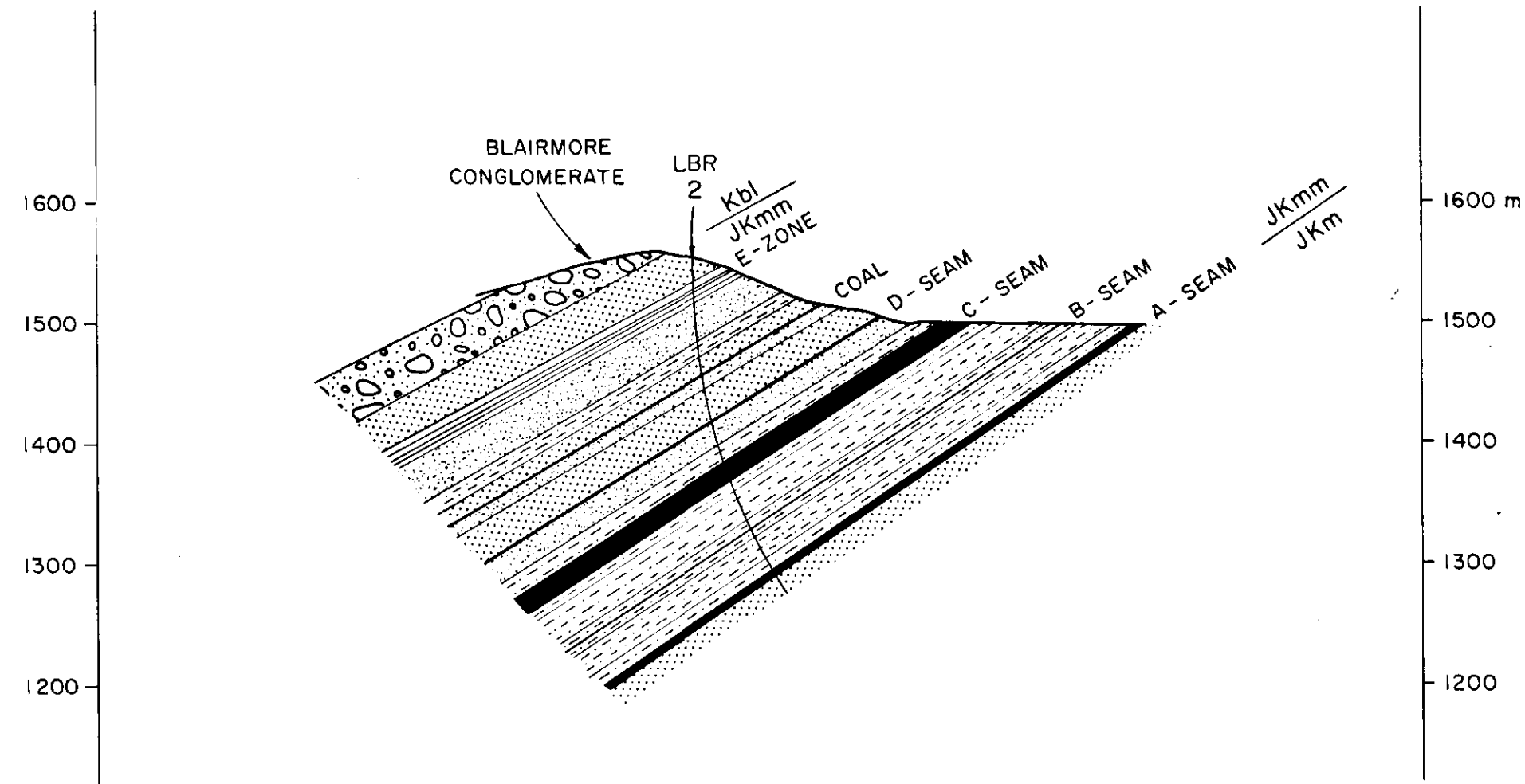
 FINE GRAINED SANDSTONE

 MEDIUM GRAINED SANDSTONE

 CONGLOMERATE


 GOUGE

 LIMESTONE



100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

Enclosure 7

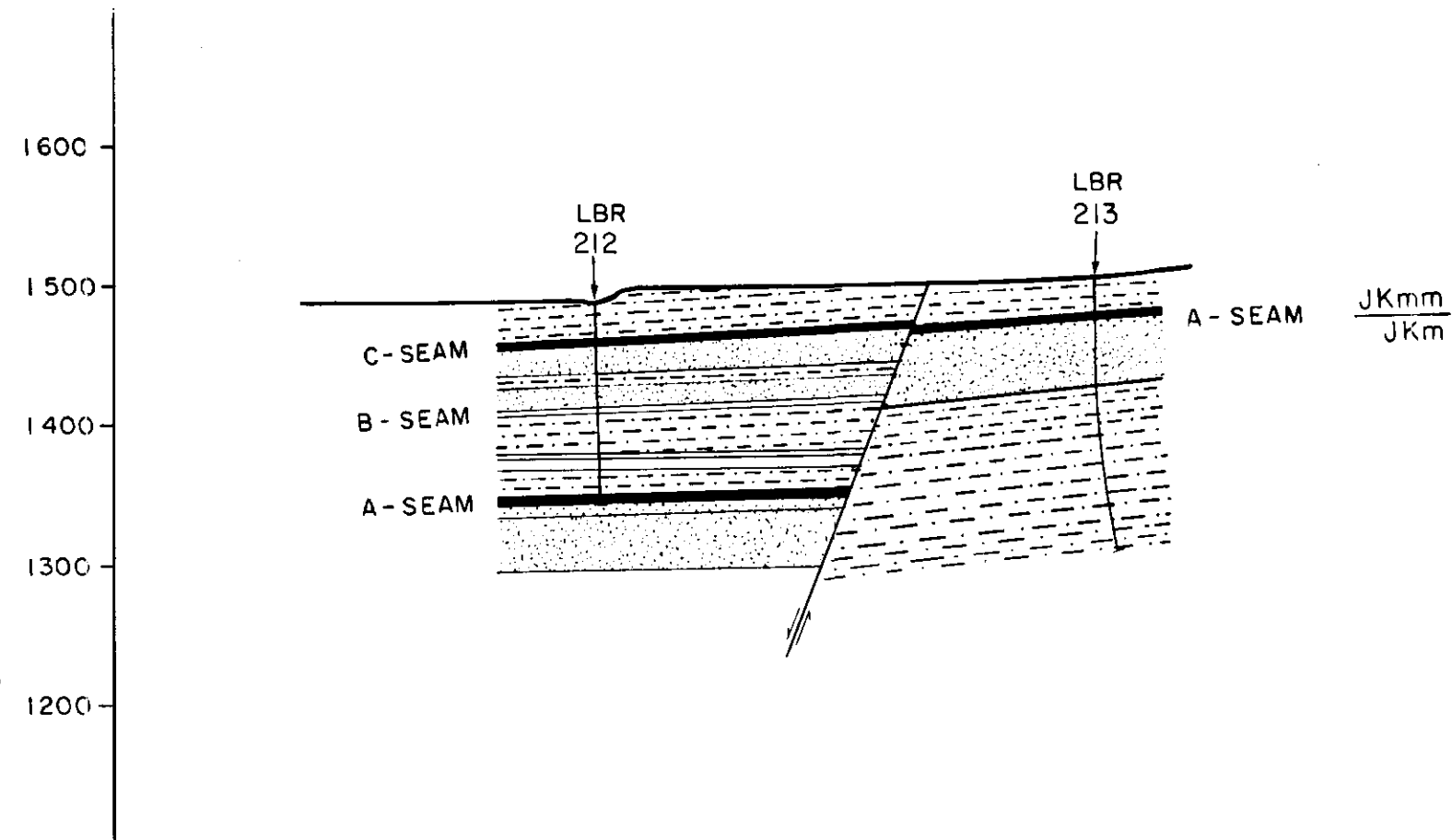
 <b>Crows Nest Resources Limited</b> EXPLORATION		
LILLYBURT S.E. B.C.		
CROSS SECTION 056		
K-SHELL - Lillyburt B2(2*)A*(1)		
AUTHOR: B. McKinstry	SCALE: 1:5000	ENCLOSURE No.
DATE: 83.01	REVISED:	DRAWING No. HC-106A
To Accompany		

4083

# SECTION 271

WEST

EAST



100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL  
CLAYSTONE  
SILTSTONE  
FINE GRAINED SANDSTONE  
MEDIUM GRAINED SANDSTONE  
CONGLOMERATE  
GOUGE  
LIMESTONE

### Enclosure 7

**Crows Nest Resources Limited**  
EXPLORATION

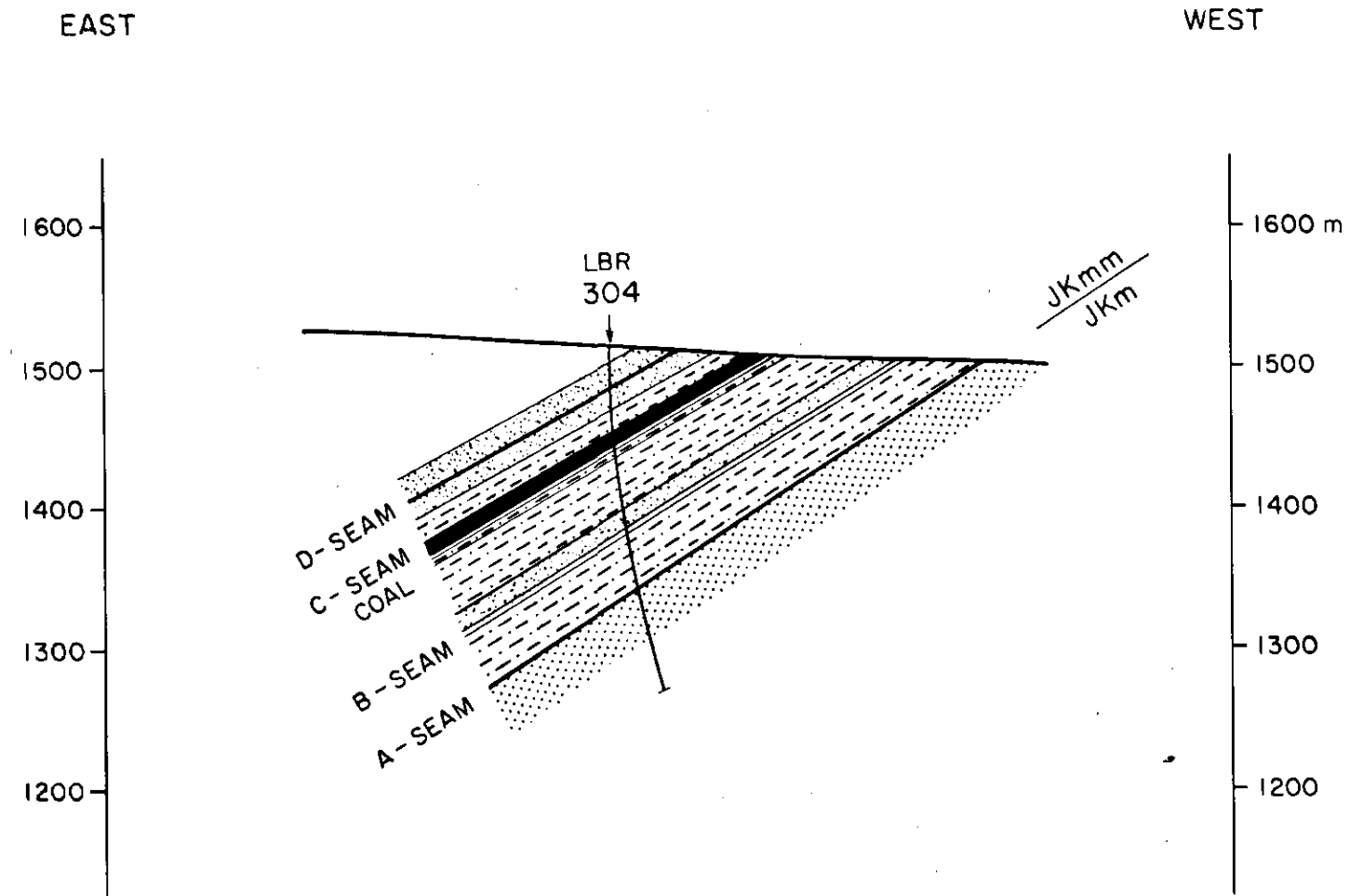
LILLYBURT  
S.E. B.C.

### CROSS SECTION 271

*K-SHELL Lillyburt 82(2\*)A \*11*  
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No:  
DATE: 83.01 REVISED: DRAWING No: HC-106  
To Accompany

408②

SECTION 074



GEOLOGICAL LEGEND

CRETACEOUS

**Kbl** Blairmore Group

JURASSIC - CRETACEOUS

**JKmm** Mist Mountain Formation  
(of Kootenay Group)

**JKm** Morrissey Formation  
(of Kootenay Group)

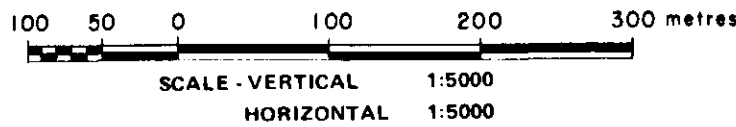
FAULT

**LB-R 214** ROTARY DRILL HOLE

**LB-D 265** DIAMOND DRILL HOLE

- COAL
- CLAYSTONE
- SILTSTONE
- FINE GRAINED SANDSTONE
- MEDIUM GRAINED SANDSTONE
- CONGLOMERATE
- GOUGE
- LIMESTONE

Enclosure 7



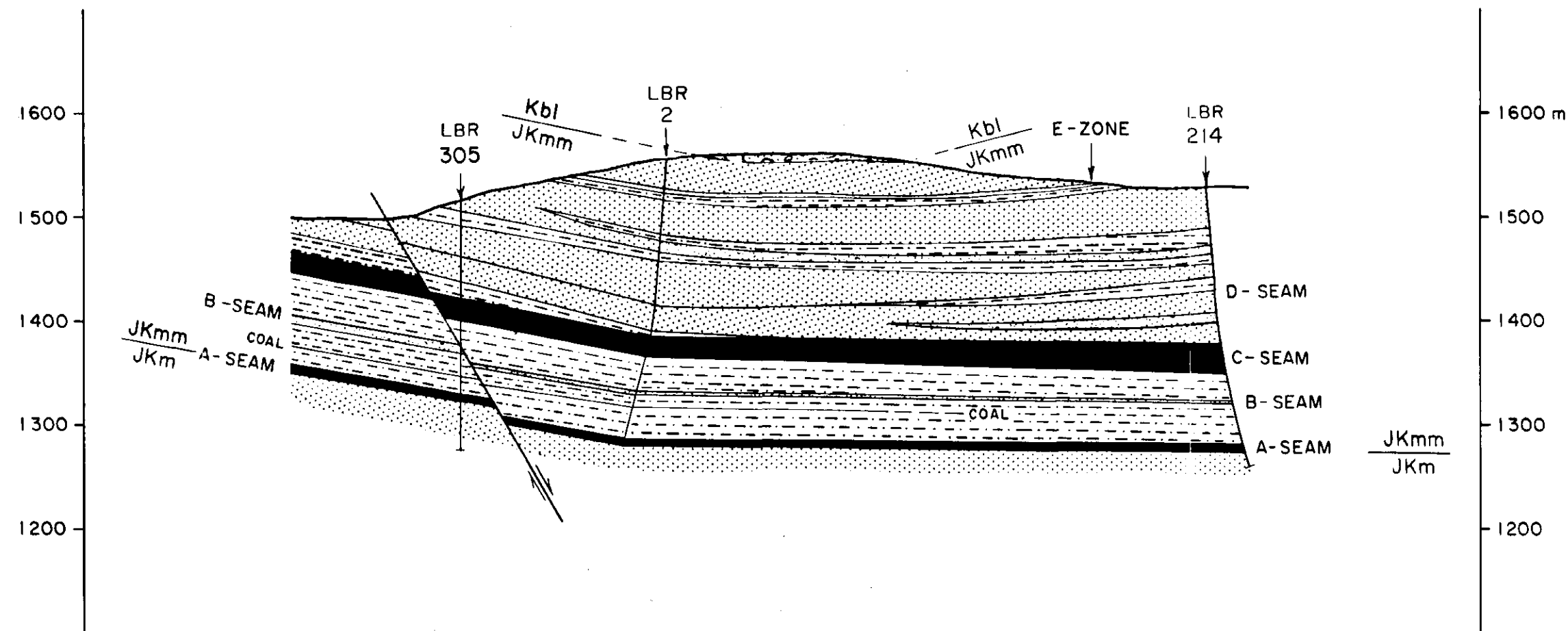
408 (4)

<b>Crows Nest Resources Limited</b> EXPLORATION			
LILLYBURT S.E. B.C.			
CROSS SECTION 074			
K-SHELL-Lillyburt 83(2*)n * (1)			
AUTHOR: B. MCKINSTRY	SCALE: 1:5000	ENCLOSURE No.	
DATE: 83.01.	REVISED:	DRAWING No. HC-106B	
To Accompany			

# SECTION 299

WEST

EAST



## GEOLOGICAL LEGEND

### CRETACEOUS

**Kbl** Blairmore Group

### JURASSIC - CRETACEOUS

**JKmm** Mist Mountain Formation  
(of Kootenay Group)

**JKm** Morrissey Formation  
(of Kootenay Group)

FAULT

**LB-R 214** ROTARY DRILL HOLE

**LB-D 265** DIAMOND DRILL HOLE

COAL  
 CLAYSTONE  
 SILTSTONE  
 FINE GRAINED SANDSTONE  
 MEDIUM GRAINED SANDSTONE  
 CONGLOMERATE  
 GOUGE  
 LIMESTONE

100 50 0 100 200 300 metres  
 SCALE - VERTICAL 1:5000  
 HORIZONTAL 1:5000

Enclosure 7

**Crows Nest Resources Limited**  
 EXPLORATION

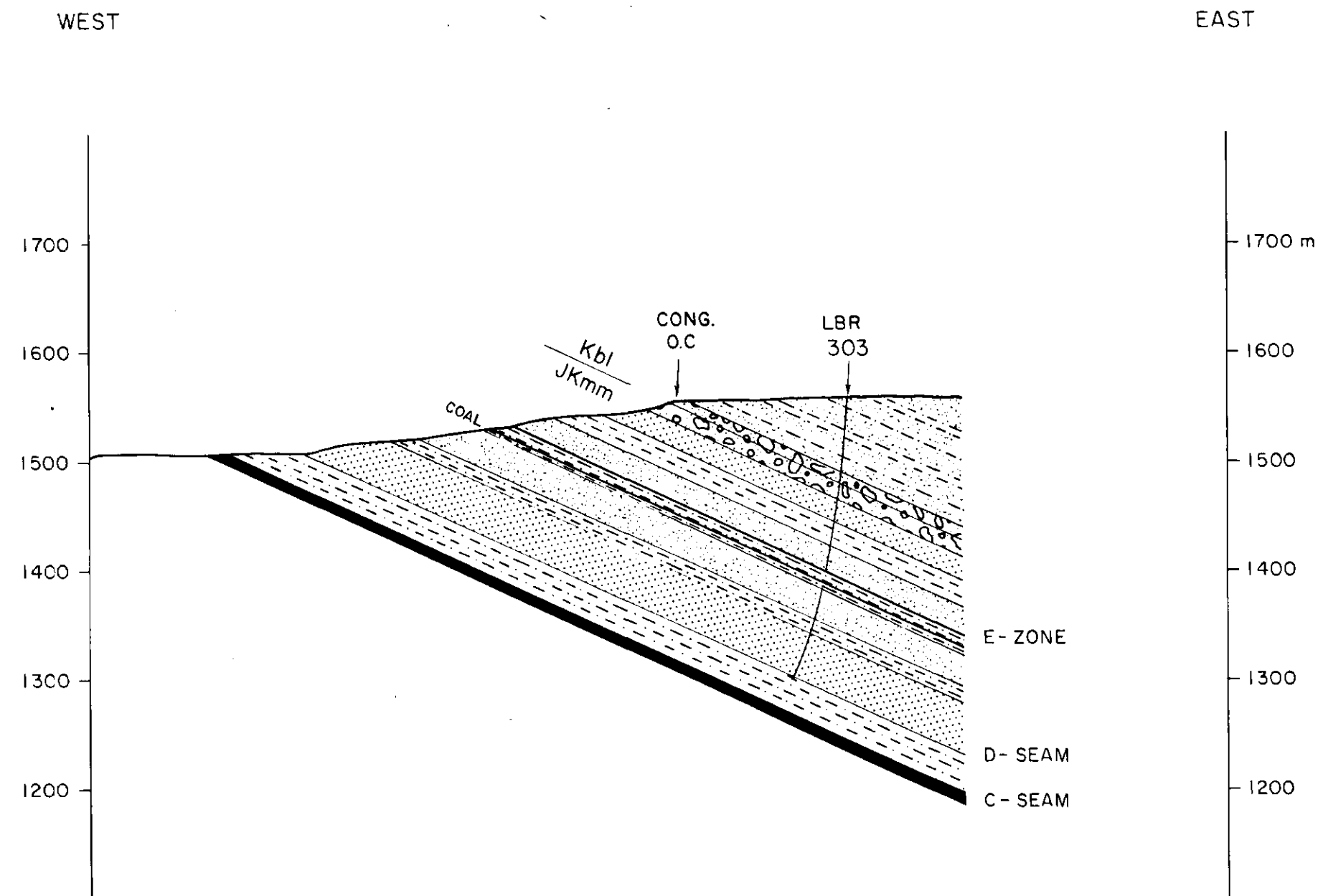
LILLYBURT  
 S.E. B.C.

CROSS SECTION 299

*K-SHELL - Lillyburt 82(2\*)A\*(1)*  
 AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No:  
 DATE: 83.01 REVISED: DRAWING No: HC-106C  
 To Accompany

408⑤

SECTION 092



GEOLOGICAL LEGEND

CRETACEOUS

Kbl Blairmore Group

JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation (of Kootenay Group)

JKm Morrissey Formation (of Kootenay Group)


FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

- COAL
- CLAYSTONE
- SILTSTONE
- FINE GRAINED SANDSTONE
- MEDIUM GRAINED SANDSTONE
- CONGLOMERATE
- GOUGE
- LIMESTONE

Enclosure 7

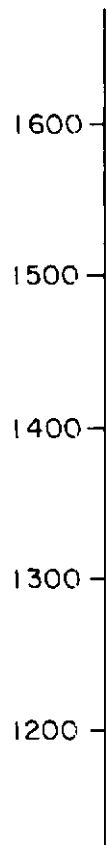
 <b>Crows Nest Resources Limited</b> EXPLORATION			
LILLYBURT S.E.B.C.			
CROSS SECTION 092			
K-SHEL-Lillyburt 62(2*)A *(1)			
AUTHOR: B. MCKINSTRY	SCALE: 1:5000	ENCLOSURE No.	
DATE: 83.01	REVISED:	DRAWING No. HC-106D	
To Accompany			

408⑥

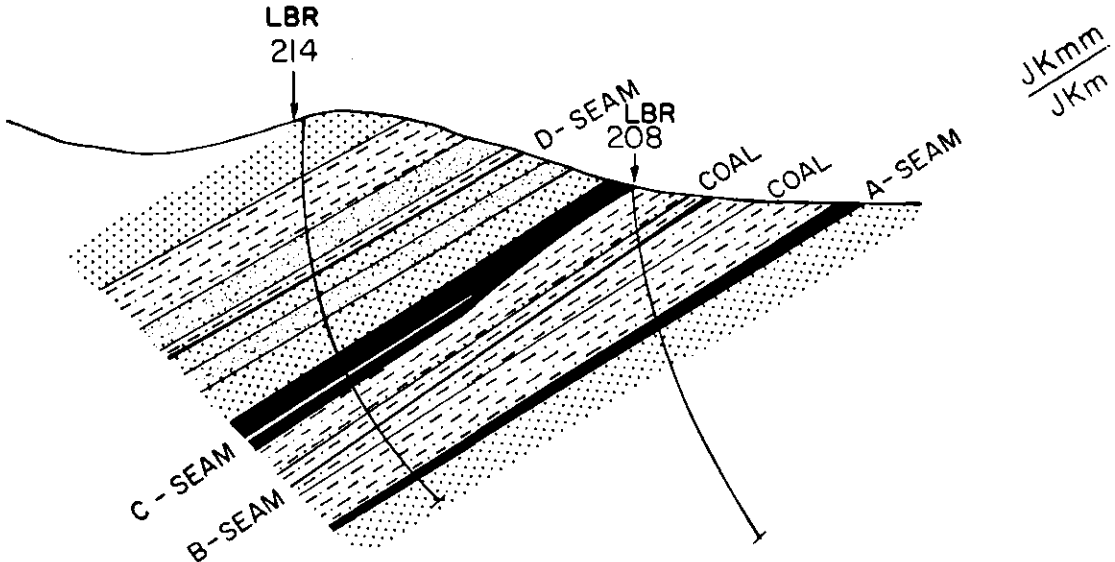
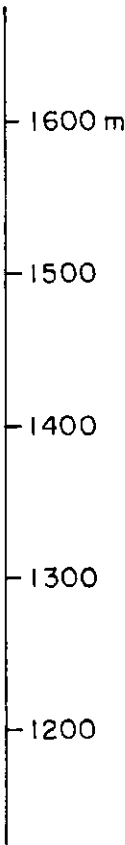


SECTION 013

NORTH



SOUTH



GEOLOGICAL LEGEND

CRETACEOUS

Kbl Blairmore Group

JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation (of Kootenay Group)

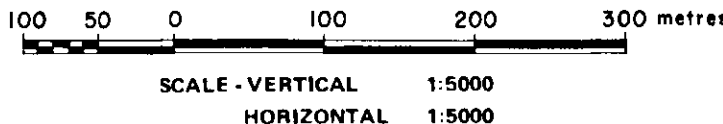
JKm Morrissey Formation (of Kootenay Group)

FAULT


LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

- COAL
- CLAYSTONE
- SILTSTONE
- FINE GRAINED SANDSTONE
- MEDIUM GRAINED SANDSTONE
- CONGLOMERATE
- GOUGE
- LIMESTONE



Enclosure 7

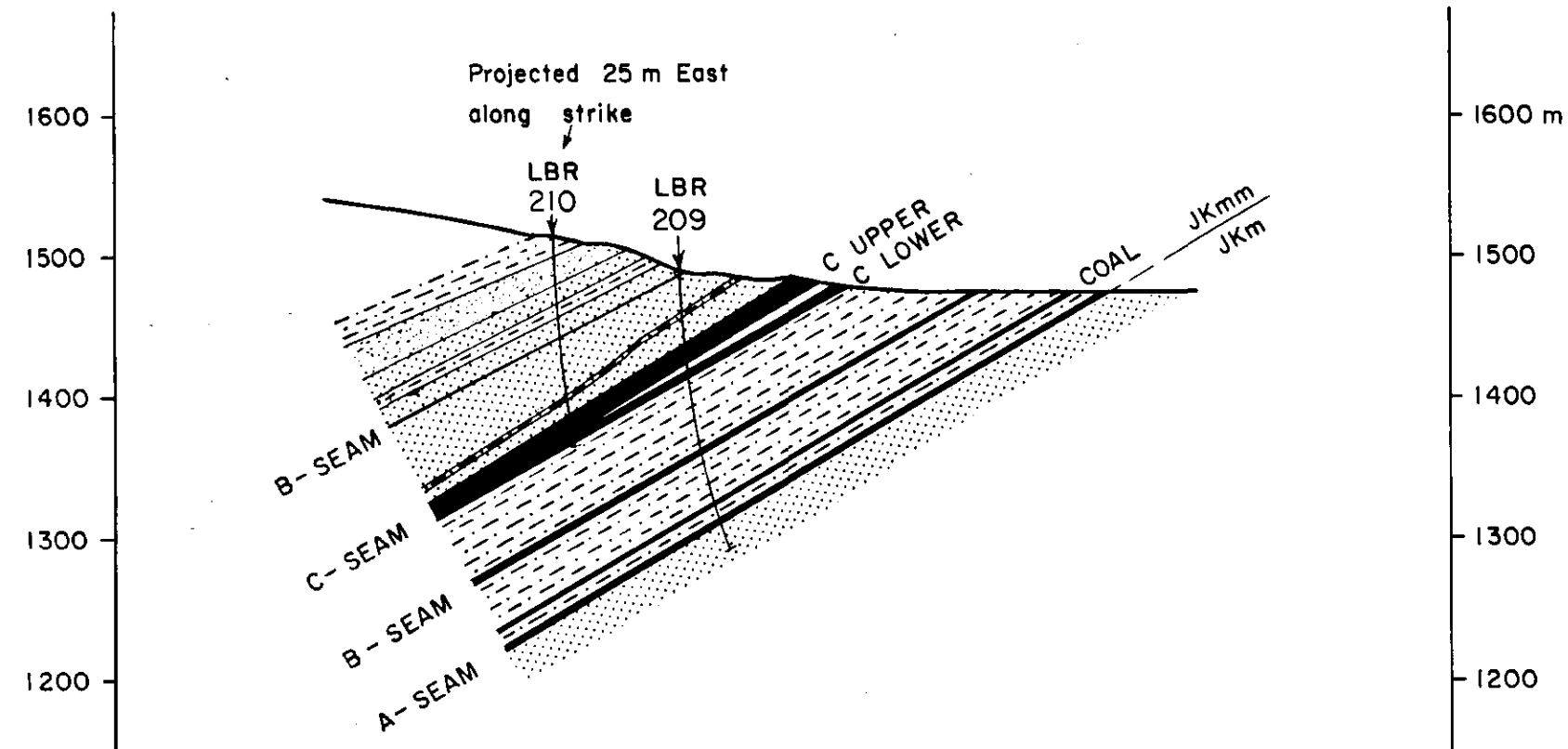
 <b>Crows Nest Resources Limited</b> EXPLORATION			
LILLYBURT S.E.B.C.			
CROSS SECTION 013			
<i>K-SHELL Lillyburt 82 (2*) A * (1)</i>			
AUTHOR: B. McKINSTRY	SCALE: 1:5000	ENCLOSURE No.:	
DATE: 83. 01.	REVISED:	DRAWING No. HC-106E	
To Accompany			

408⑦

# SECTION 360

NORTH

SOUTH



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

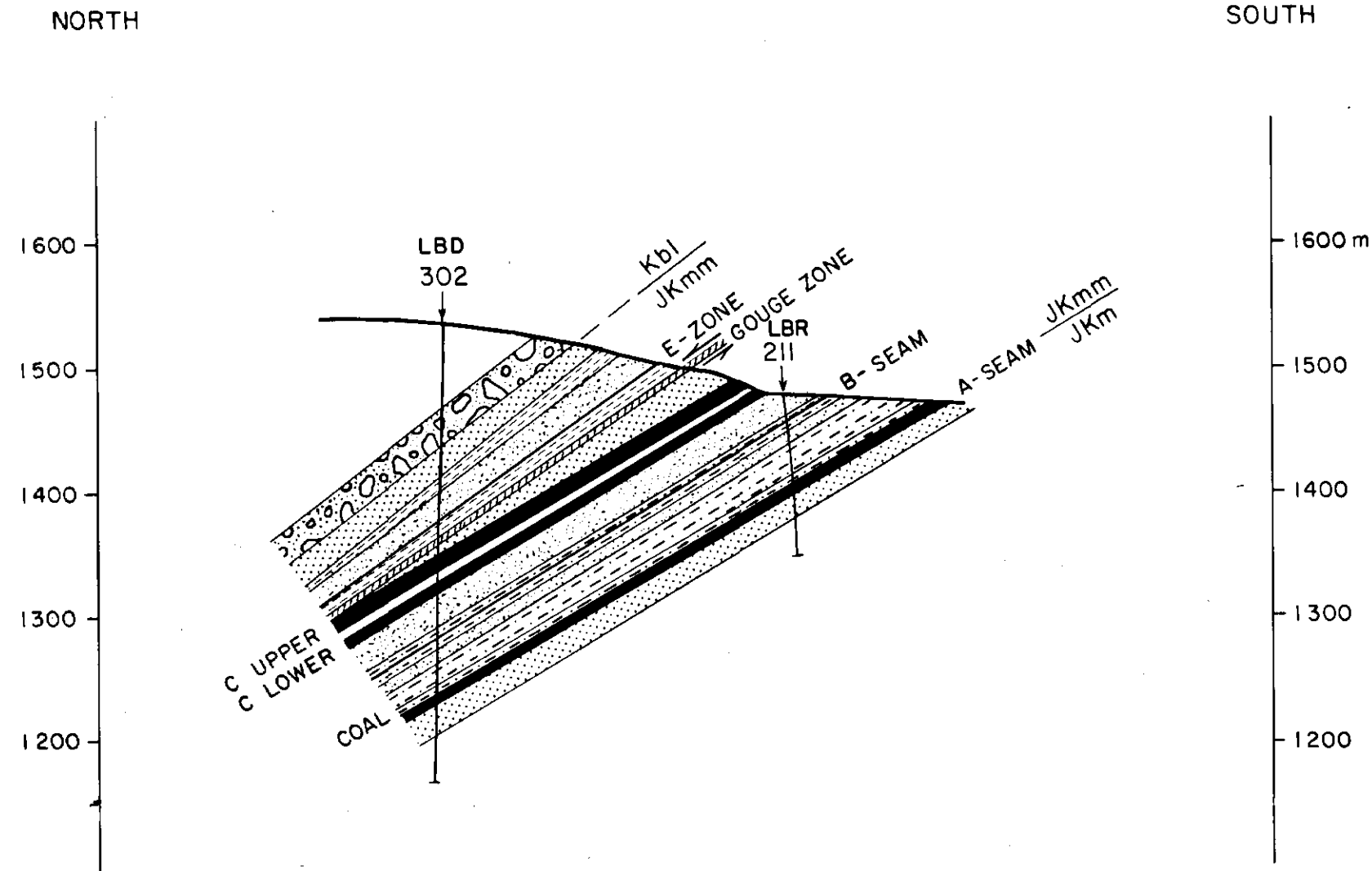
100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

Enclosure 7

<b>Crows Nest Resources Limited</b> EXPLORATION			
LILLYBURT S.E. B.C.			
CROSS SECTION 360			
K-SHELL-Lillyburt 62(3*)A*(1)			
AUTHOR: B. MCKINSTRY	SCALE: 1:5000	ENCLOSURE No.	
DATE: 83.01.	REVISED:	DRAWING No: HC-106F	
To Accompany			

408

# SECTION 359



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

Enclosure 7

**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
S.E.B.C.

CROSS SECTION 359

K-SHELL - Lillyburt 82(2\*) 11 \* (1)

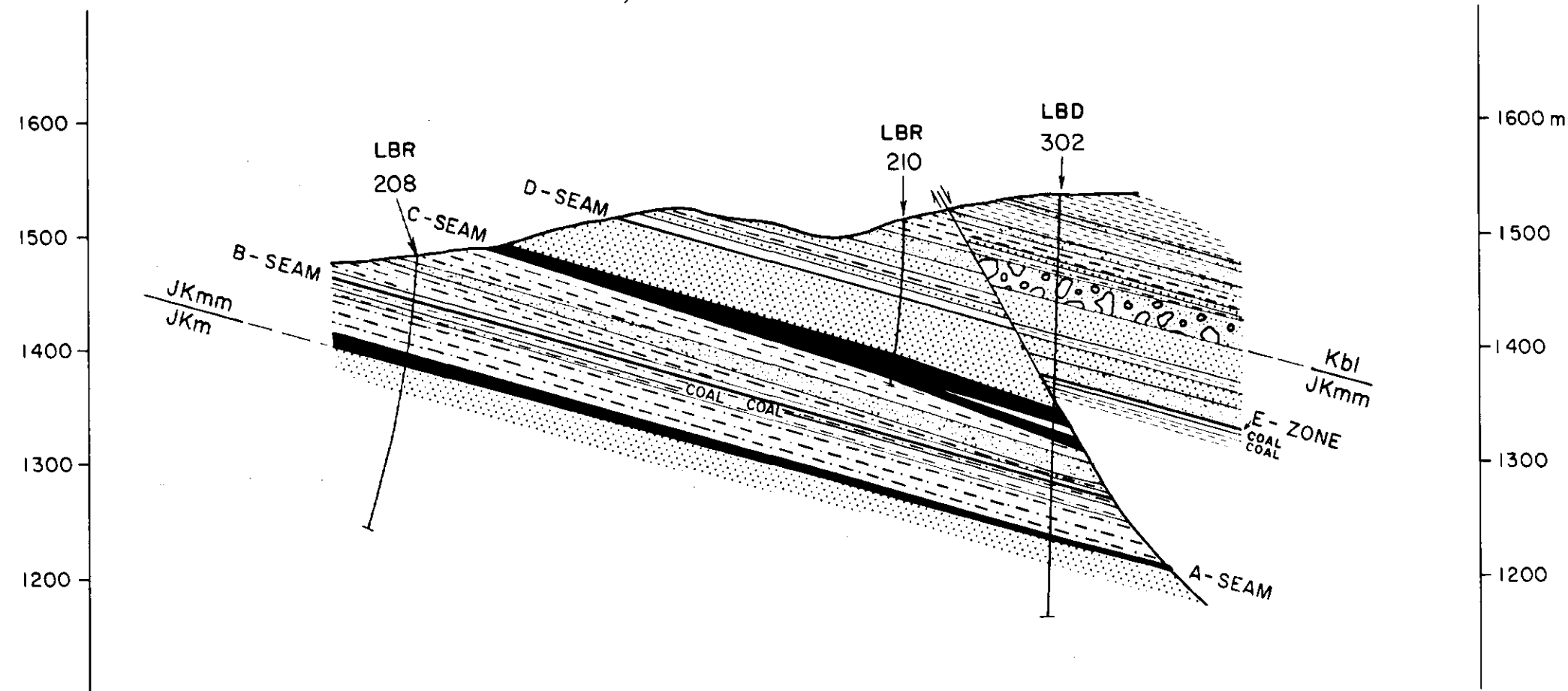
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No.  
DATE: 83.01 REVISED: DRAWING No. HC-106G  
To Accompany

408 9

# SECTION 245

SOUTHWEST

NORTHEAST



100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL  
CLAYSTONE  
SILTSTONE  
FINE GRAINED SANDSTONE  
MEDIUM GRAINED SANDSTONE  
CONGLOMERATE  
GOUGE  
LIMESTONE

Enclosure 7

**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 245

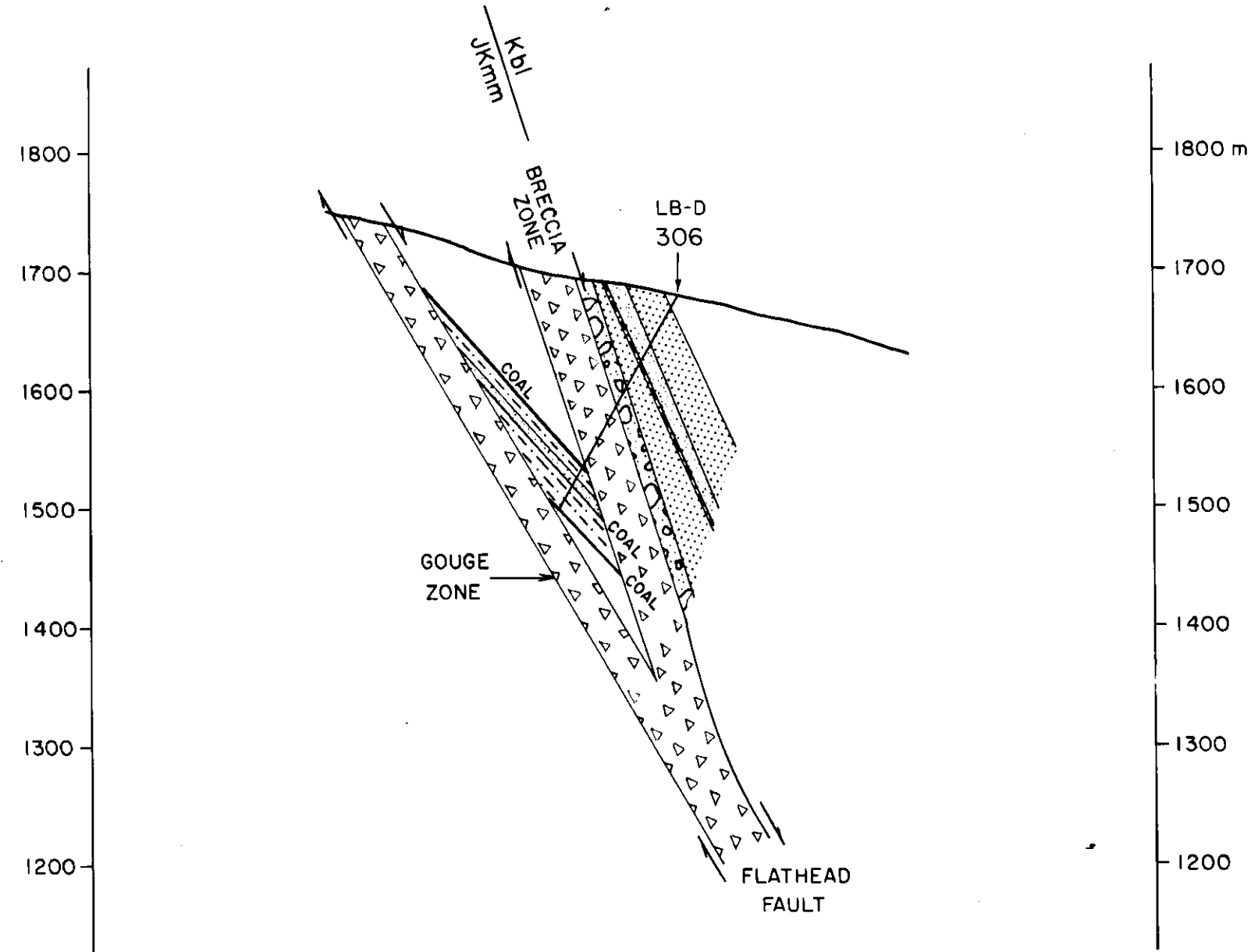
*K-SHELL-Lillyburt 82(3\*)A \*(1)*  
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No:  
DATE: 83 01. REVISED: DRAWING No: HC-106H  
To Accompany

408 (10)

# SECTION 349

NORTH

SOUTH



100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

Enclosure 7

Crows Nest Resources Limited  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 349

K-SHELL - Lillyburt E2(3)A \* (1)  
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No.  
DATE: 83 01 REVISED: DRAWING No. HC-1061  
To Accompany

408

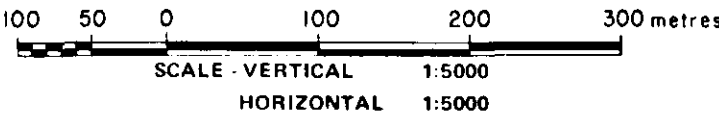
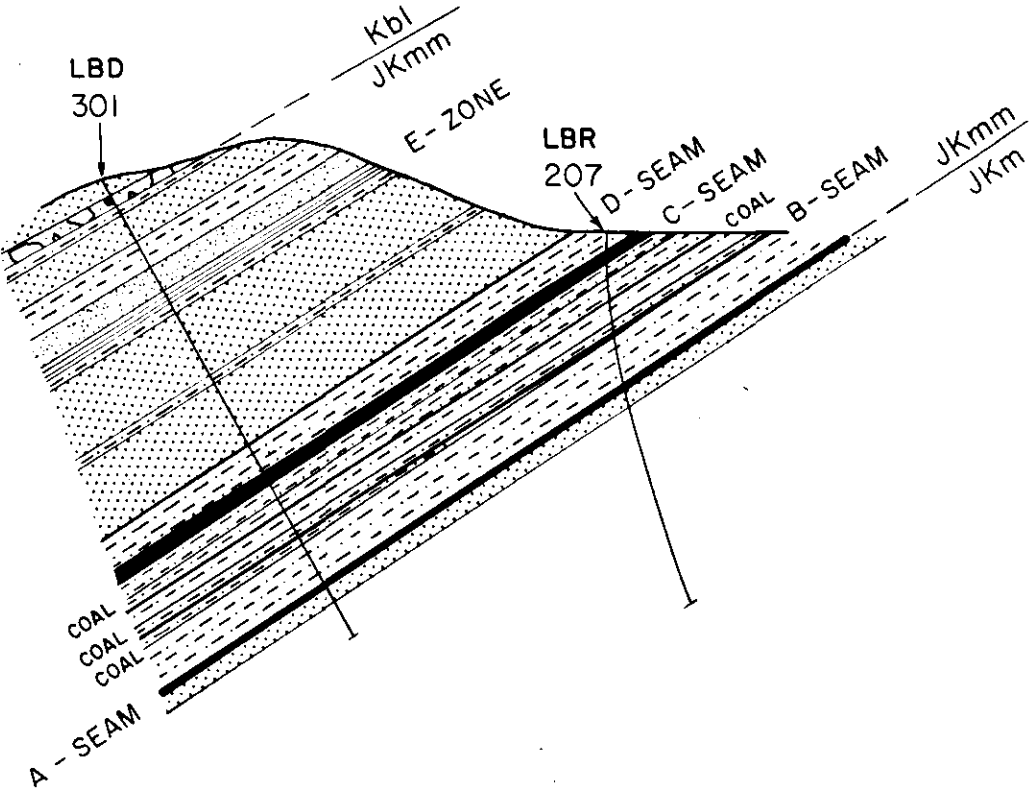
SECTION 045

NORTHEAST

SOUTHWEST

1600  
1500  
1400  
1300  
1200

1600 m  
1500  
1400  
1300  
1200



GEOLOGICAL LEGEND

CRETACEOUS

Kbl Blairmore Group

JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation (of Kootenay Group)

JKm Morrissey Formation (of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

Enclosure 7

Crows Nest Resources Limited  
EXPLORATION

LILLYBURT  
S.E.B.C.

CROSS SECTION 045

K-SHELL - Lillyburt 82(2\*)A\*(1)  
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No:  
DATE: 83.01 REVISED: DRAWING No: HC-106J  
To Accompany

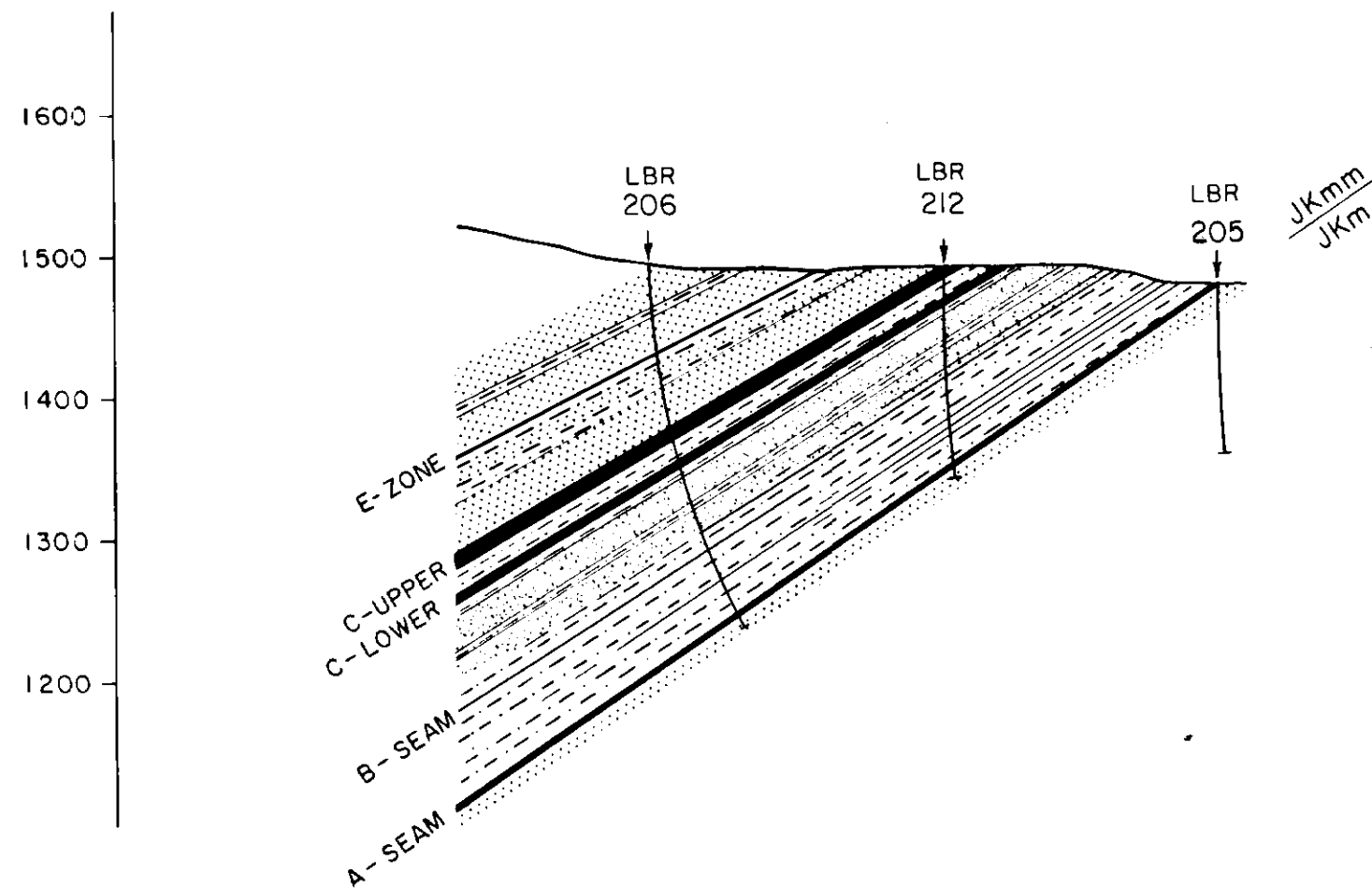
408

12

# SECTION 345

NORTH

SOUTH



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

## Enclosure 7



Crows Nest Resources Limited  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 345

K-SHELL - Lillyburt 82 (2x) A \* (1)

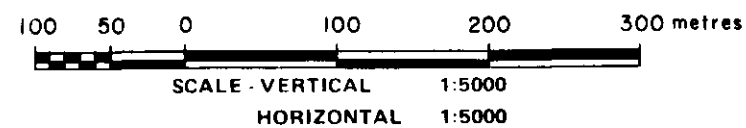
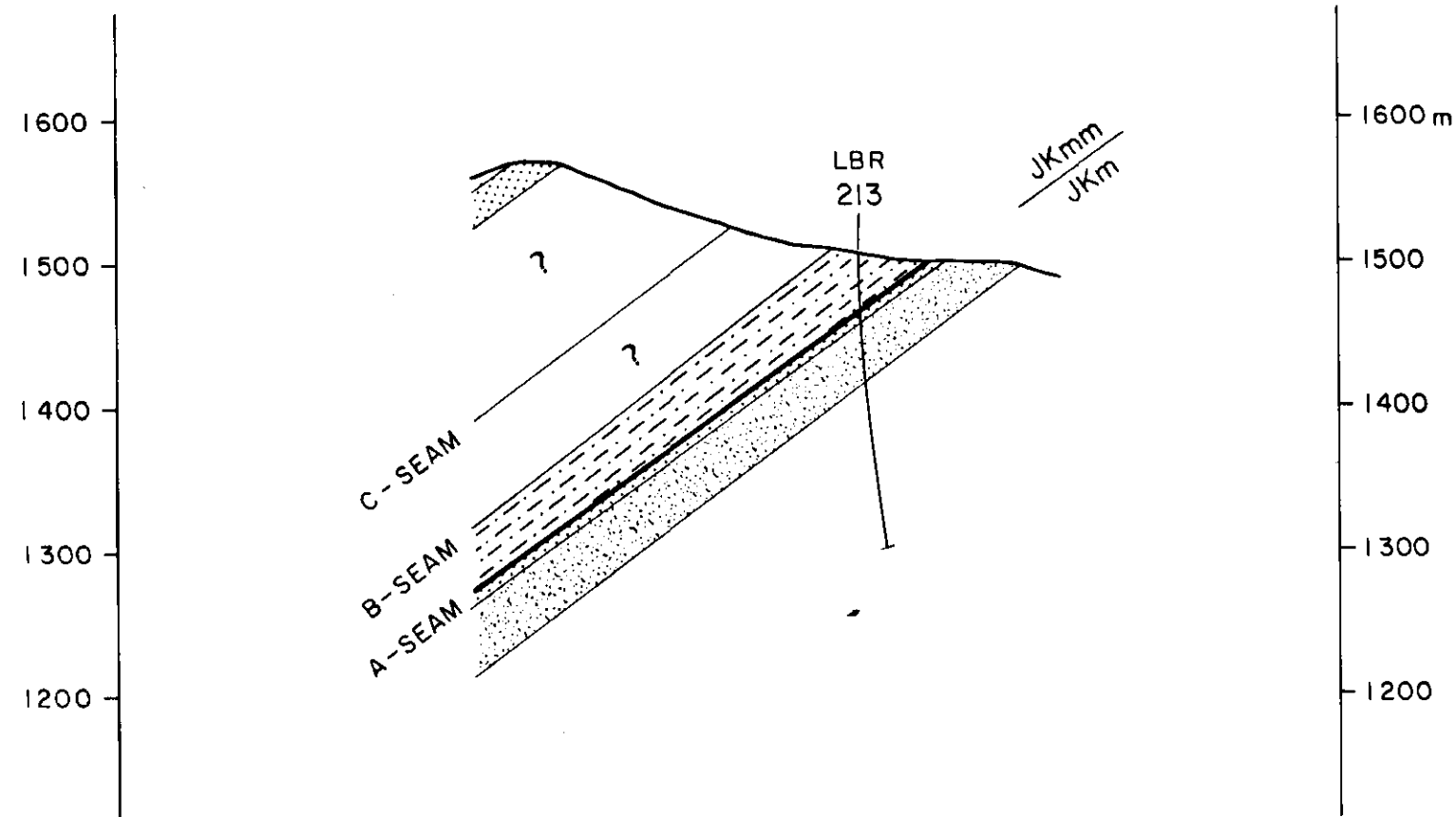
AUTHOR: B. McKinstrey	SCALE: 1:5000	ENCLOSURE No.:
DATE: 83 01	REVISED:	DRAWING No. HC-106K
To Accompany		

408

# SECTION 353

NORTH

SOUTH



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL  
 CLAYSTONE  
 SILTSTONE  
 FINE GRAINED SANDSTONE  
 MEDIUM GRAINED SANDSTONE  
 CONGLOMERATE  
 GOUGE  
 LIMESTONE

Enclosure 7

<b>Crows Nest Resources Limited</b> EXPLORATION		
LILLYBURT S.E. B.C.		
CROSS SECTION 353		
K-SHELL - Lillyburt 63(2*)A *(1)		
AUTHOR: B. MCKINSTRY	SCALE: 1:5000	ENCLOSURE No:
DATE: 83 01	REVISED:	DRAWING No: HC-106L
To Accompany		

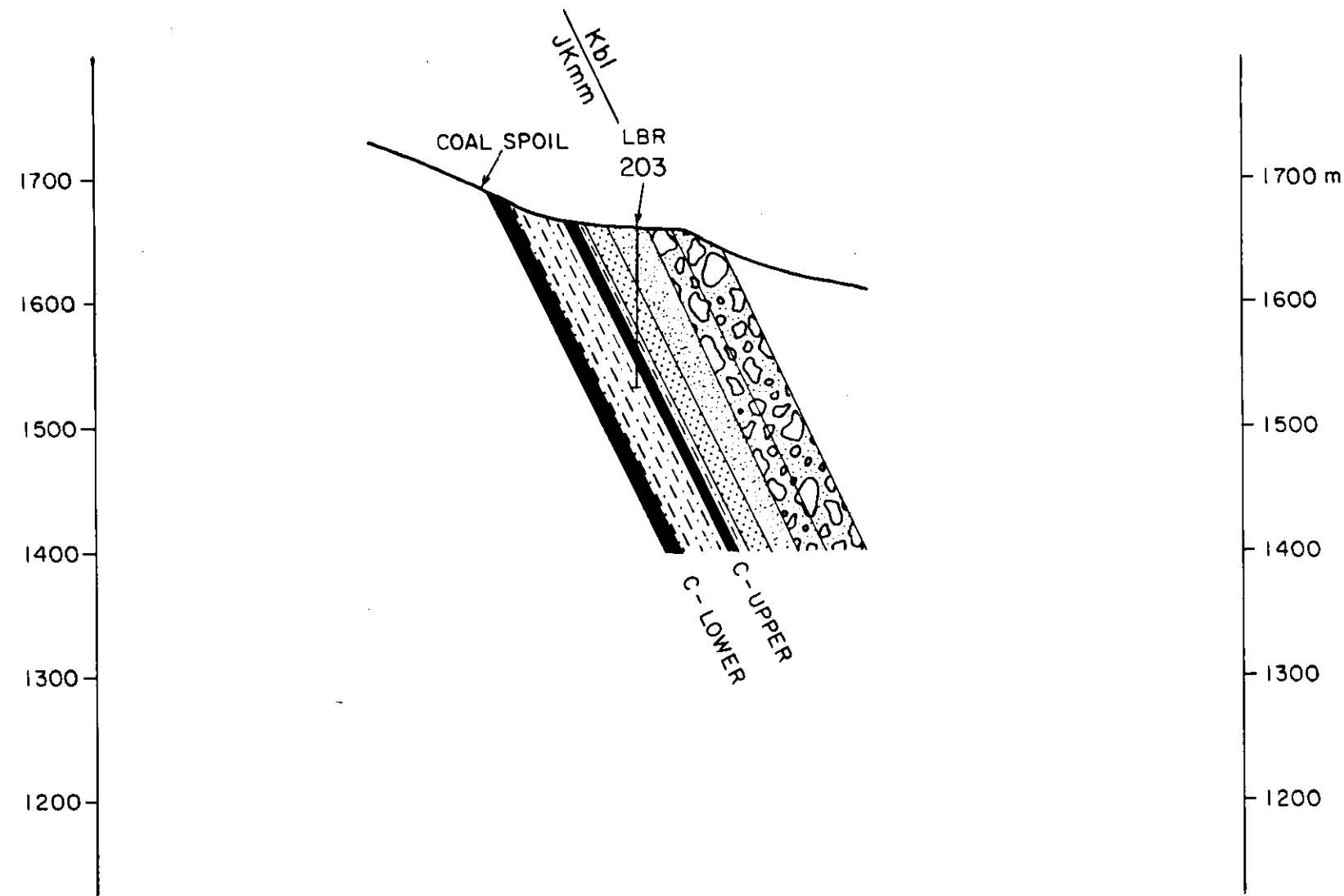
14  
 408



# SECTION 352

NORTH

SOUTH



100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation (of Kootenay Group)

JKm Morrissey Formation (of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

Enclosure 7

Crows Nest Resources Limited  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 352

K-SHELC - Lillyburt 82 (2\*)A \* (1)

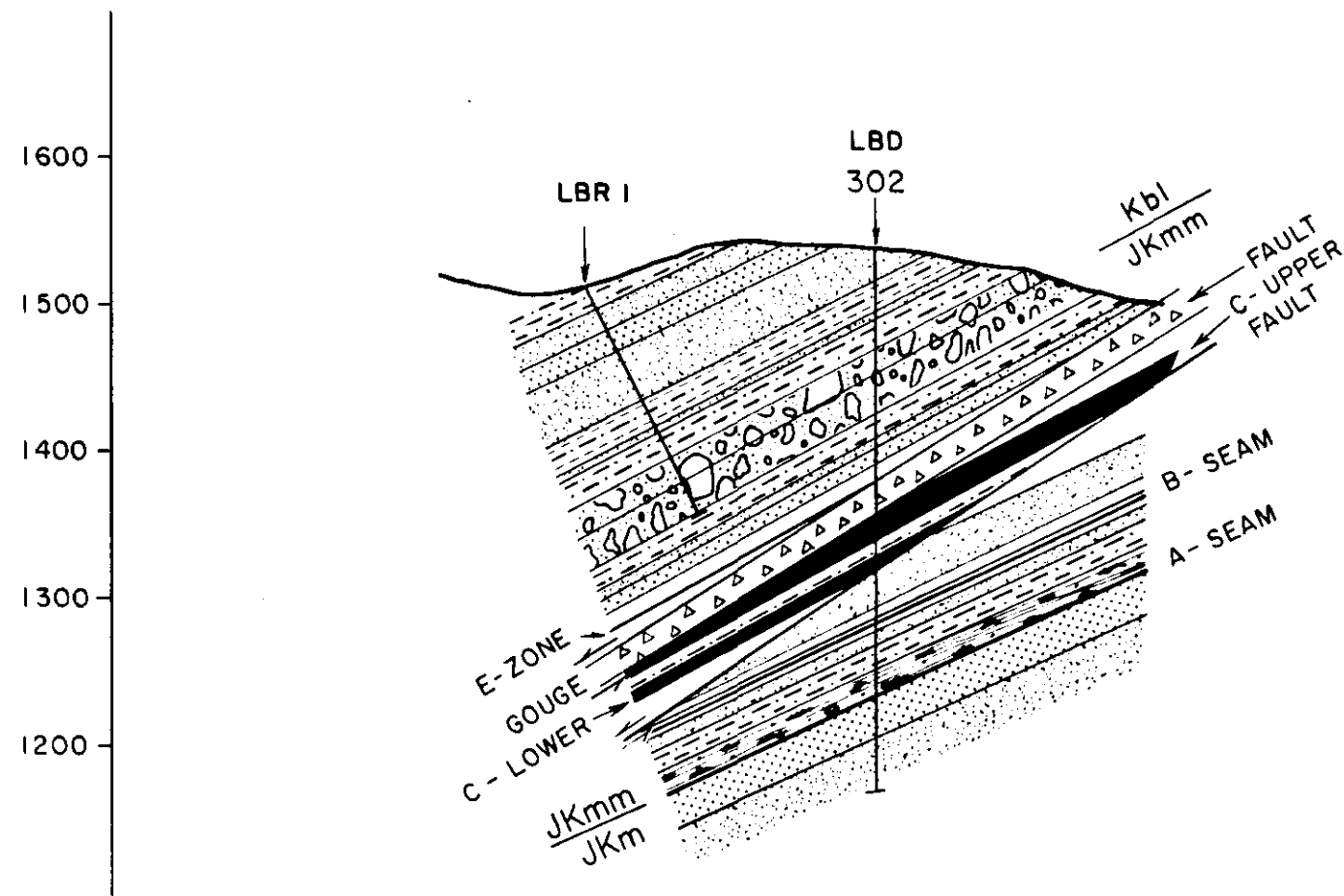
AUTHOR: B. McKINSTRY	SCALE: 1:5000	ENCLOSURE No.:
DATE: 83.01	REVISED:	DRAWING No. HC-106M
To Accompany		

408 (15)

# SECTION 008

NORTH

SOUTH



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

Enclosure 7

**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 008

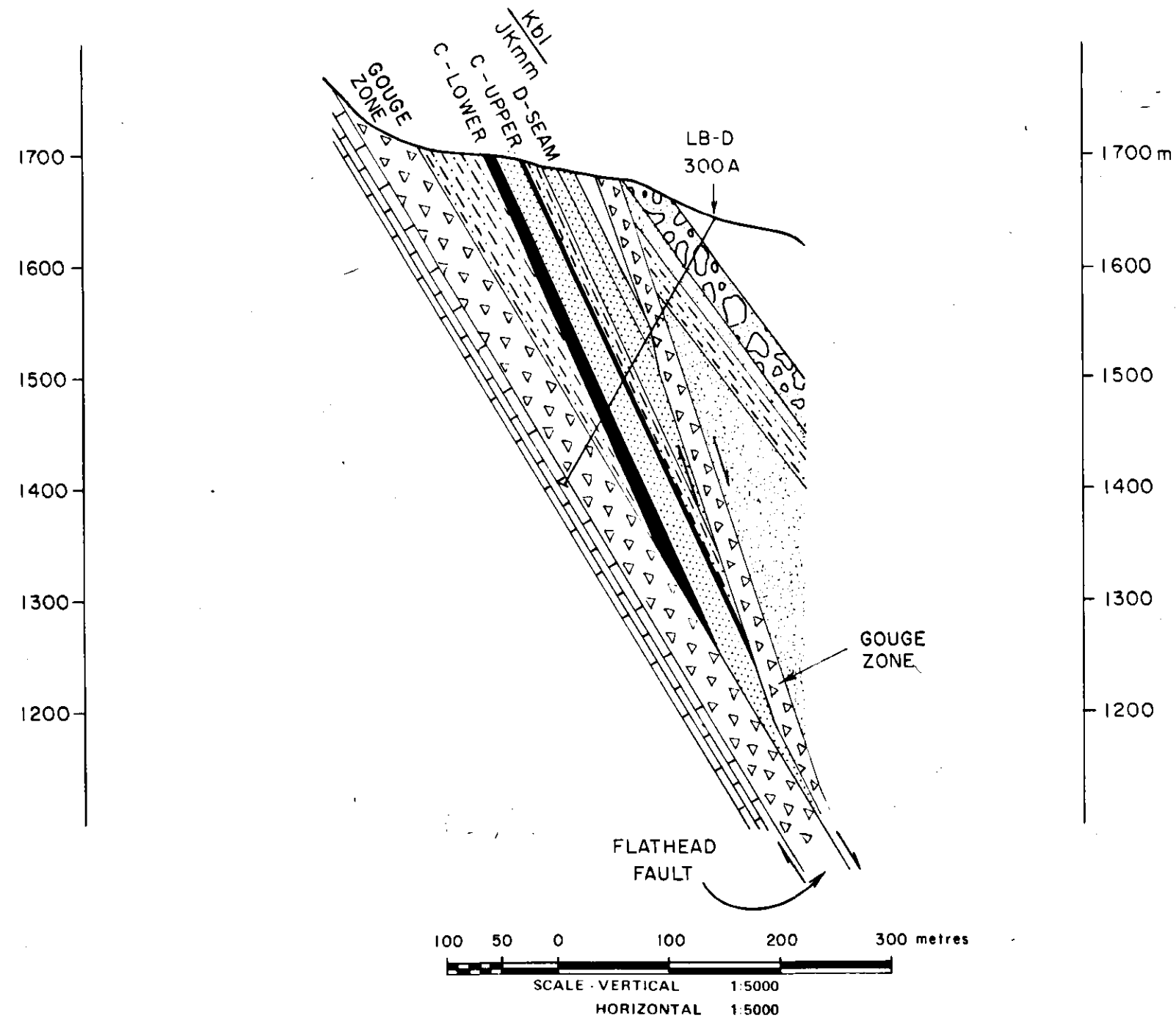
*K-SHELL-Lillyburt 82 (2\*)A \* (1)*  
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No.  
DATE: 83 01 REVISED: DRAWING No. HC-106N  
To: Accompany

408

# SECTION 348

NORTH

SOUTH



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

Enclosure 7



**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 348

K-SHELL Lillyburt 62(3\*)A \* (1)

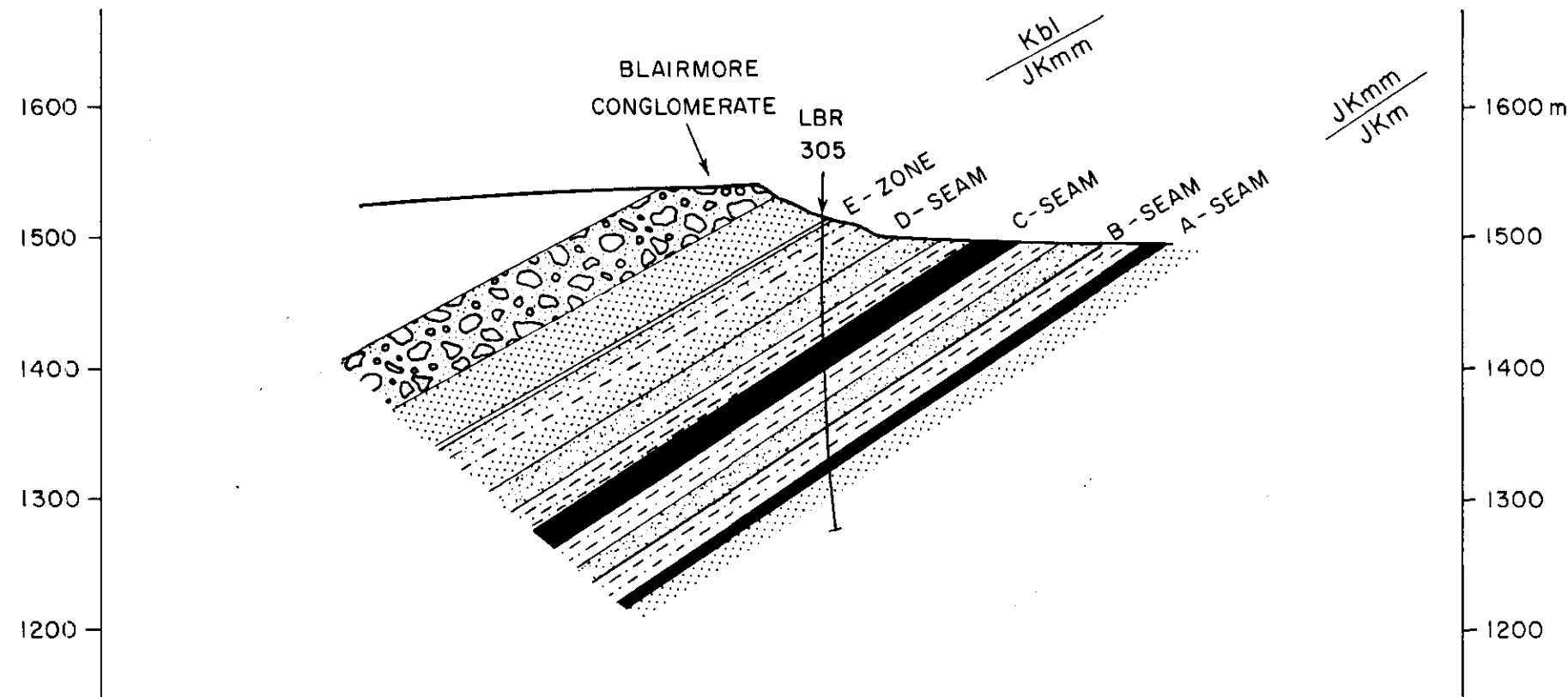
AUTHOR: B. MCINSTRY	SCALE: 5000	ENCLOSURE No.
DATE: 83.01	REVISED:	DRAWING No. HC-1060
To Accompany		

408 (17)

# SECTION 065

SOUTHWEST

NORTHEAST



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

## Enclosure 7

**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 065

K-SHELL - Lillyburt 82(2\*)A\*(1)

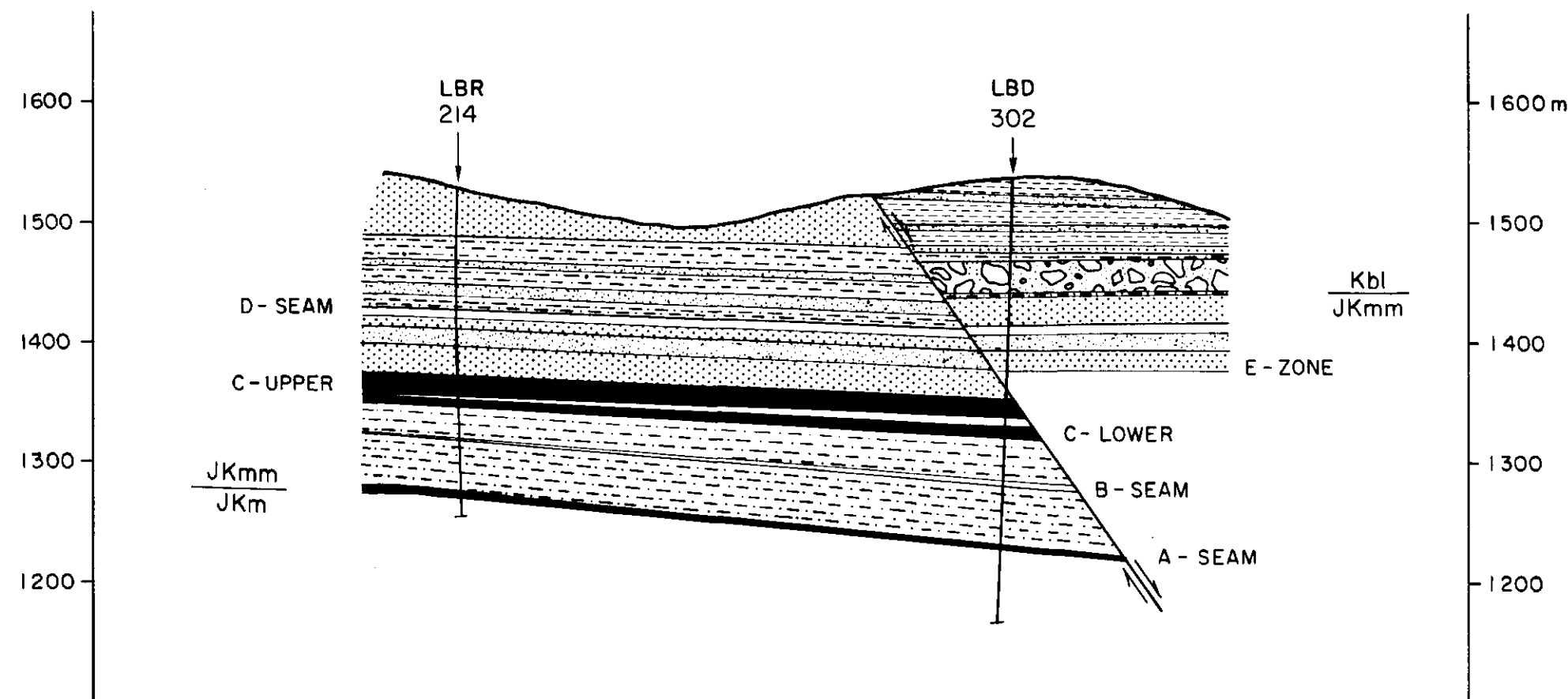
AUTHOR: B. MCKINSTRY SCALE: 1:5000 ENCLOSURE No.  
DATE: 83. 01. REVISED: DRAWING No. HC-106 P

18  
408

# SECTION 269

WEST

EAST



## GEOLOGICAL LEGEND

### CRETACEOUS

**Kbl** Blairmore Group

### JURASSIC - CRETACEOUS

**JKmm** Mist Mountain Formation  
(of Kootenay Group)

**JKm** Morrissey Formation  
(of Kootenay Group)

FAULT

**LB-R 214** ROTARY DRILL HOLE

**LB-D 265** DIAMOND DRILL HOLE

COAL  
 CLAYSTONE  
 SILTSTONE  
 FINE GRAINED SANDSTONE  
 MEDIUM GRAINED SANDSTONE  
 CONGLOMERATE  
 GOUGE  
 LIMESTONE

Enclosure 7

100 50 0 100 200 300 metres  
 SCALE - VERTICAL 1:5000  
 HORIZONTAL 1:5000

**Crows Nest Resources Limited**  
EXPLORATION

LILLYBURT  
S.E. B.C.

CROSS SECTION 269

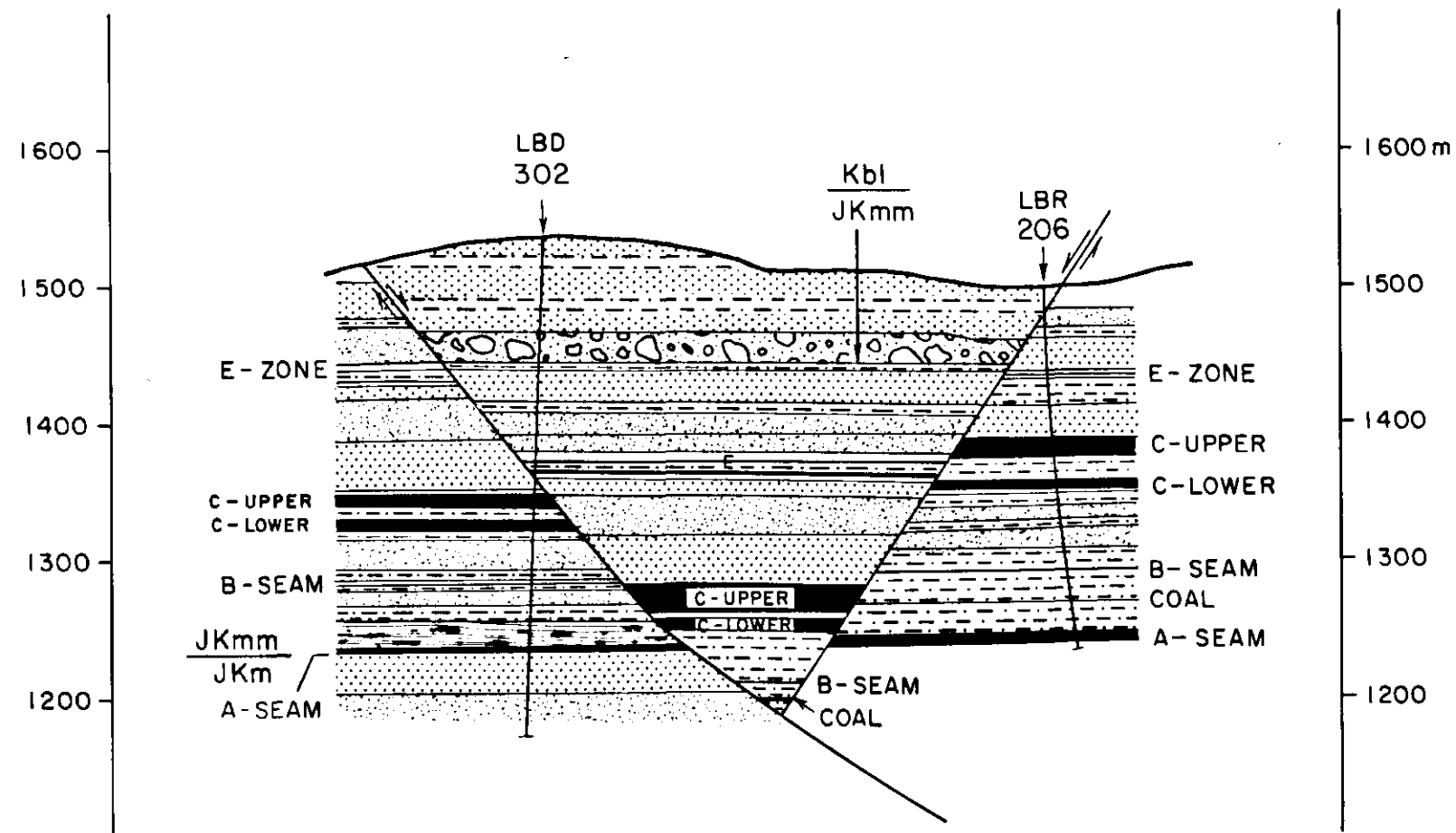
*K-SHELL-Lillyburt 62 (2\*)A \*1/1*  
 AUTHOR: B. McKINSTRY SCALE: 1:5000 ENCLOSURE No:  
 DATE: 83 01 REVISED: DRAWING No: HC-106 Q  
 To Accompany

40819

# SECTION 261

WEST

EAST



100 50 0 100 200 300 metres  
SCALE - VERTICAL 1:5000  
HORIZONTAL 1:5000

## GEOLOGICAL LEGEND

### CRETACEOUS

**Kbl** Blairmore Group

### JURASSIC - CRETACEOUS

**JKmm** Mist Mountain Formation (of Kootenay Group)

**JKm** Morrissey Formation (of Kootenay Group)

**FAULT**

**LB-R 214** ROTARY DRILL HOLE

**LB-D 265** DIAMOND DRILL HOLE

**COAL**  
**CLAYSTONE**  
**SILTSTONE**  
**FINE GRAINED SANDSTONE**  
**MEDIUM GRAINED SANDSTONE**  
**CONGLOMERATE**  
**GOUGE**  
**LIMESTONE**

## Enclosure 7

K-SHELL-Lillyburt 62(2)A \* (1)

20

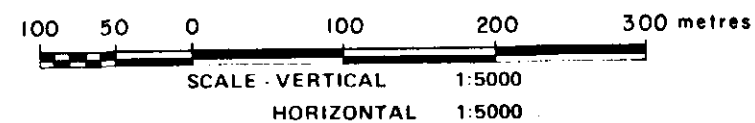
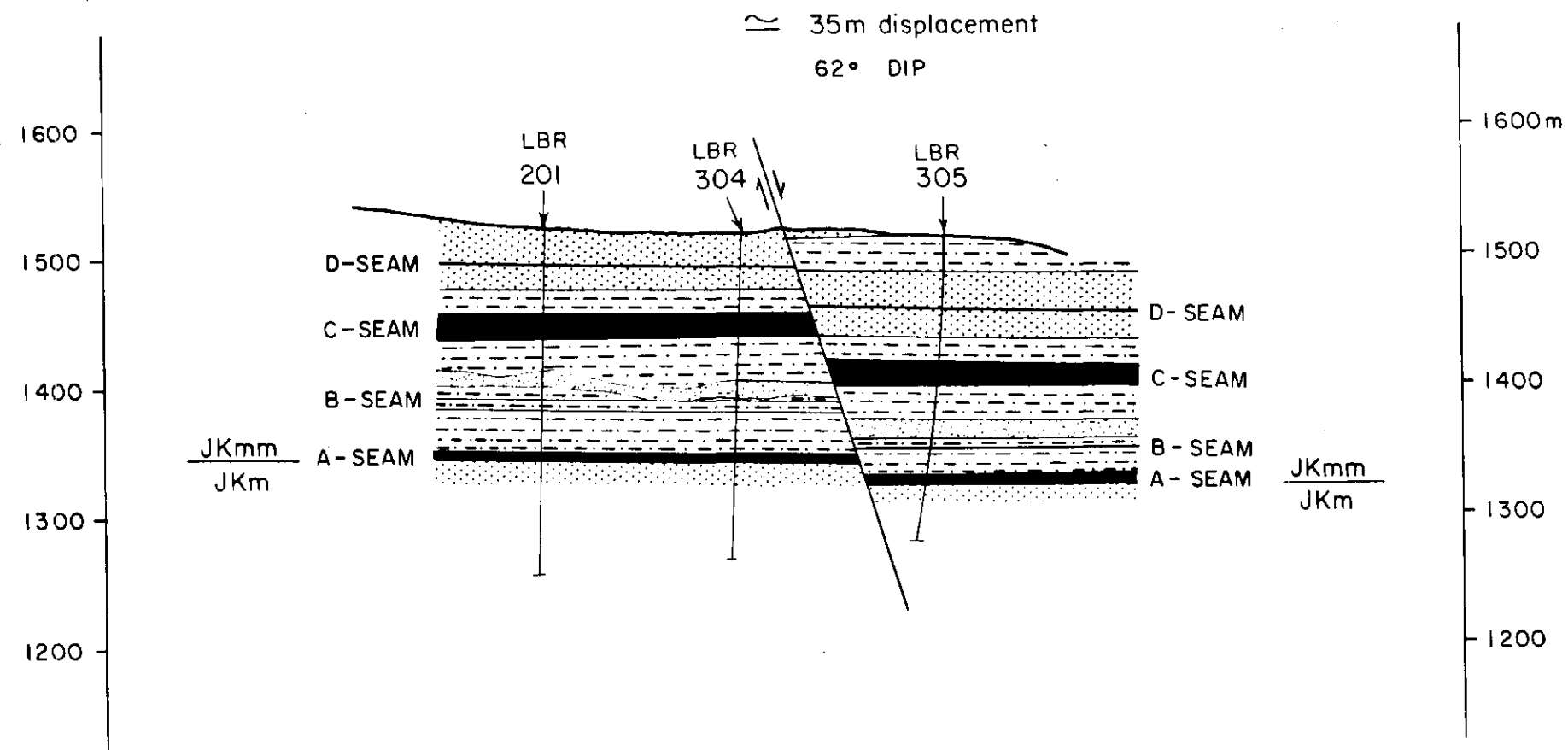
408

<b>Crows Nest Resources Limited</b> EXPLORATION		
LILLYBURT S.E.B.C.		
CROSS SECTION 261		
AUTHOR: B. McKINSTRY	SCALE: 1:5000	ENCLOSURE No.
DATE: 83.01.	REVISED:	DRAWING No. HC-106R
To Accompany		

# SECTION 014

NORTH

SOUTH



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

JKmm Mist Mountain Formation  
(of Kootenay Group)

JKm Morrissey Formation  
(of Kootenay Group)

FAULT

LB-R 214 ROTARY DRILL HOLE

LB-D 265 DIAMOND DRILL HOLE

COAL

CLAYSTONE

SILTSTONE

FINE GRAINED SANDSTONE

MEDIUM GRAINED SANDSTONE

CONGLOMERATE

GOUGE

LIMESTONE

Enclosure 7

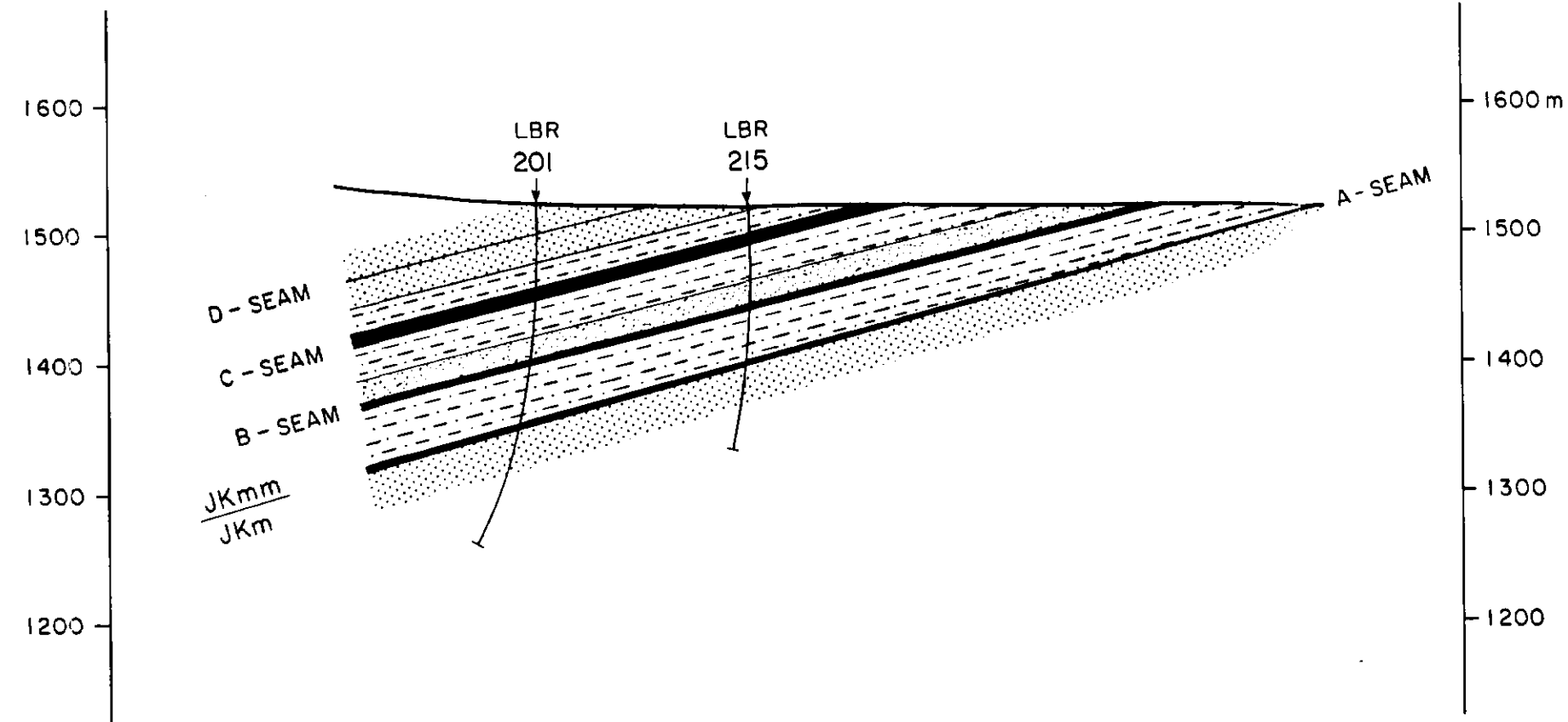
<b>Crows Nest Resources Limited</b> EXPLORATION			
LILLYBURT S.E. B.C.			
CROSS SECTION 014			
K-SHELL - Lillyburt 82 (2*)A * (1)			
AUTHOR: B. McKINSTRY	SCALE: 1:5000	ENCLOSURE No.	
DATE: 93.01.	REVISED:	DRAWING No: HC-106 S	
To: Accompany			

408 (21)

# SECTION 088

EAST

WEST



## GEOLOGICAL LEGEND

### CRETACEOUS

Kbl Blairmore Group

### JURASSIC - CRETACEOUS

- JKmm Mist Mountain Formation (of Kootenay Group)
- JKm Morrissey Formation (of Kootenay Group)
- FAULT
- LB-R 214 ROTARY DRILL HOLE
- LB-D 265 DIAMOND DRILL HOLE
- COAL
- CLAYSTONE
- SILTSTONE
- FINE GRAINED SANDSTONE
- MEDIUM GRAINED SANDSTONE
- CONGLOMERATE
- GOUGE
- LIMESTONE

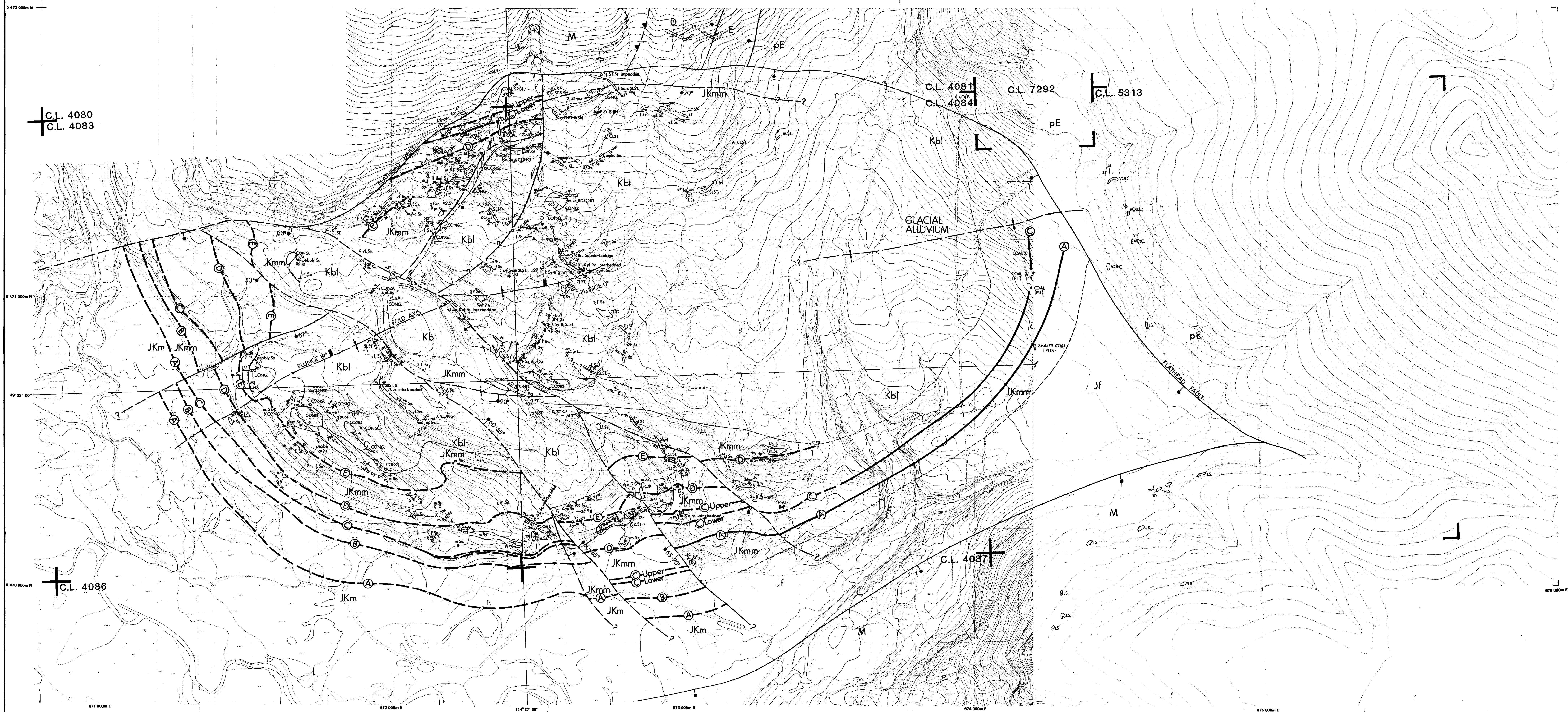
Enclosure 7

100 50 0 100 200 300 metres  
 SCALE - VERTICAL 1:5000  
 HORIZONTAL 1:5000

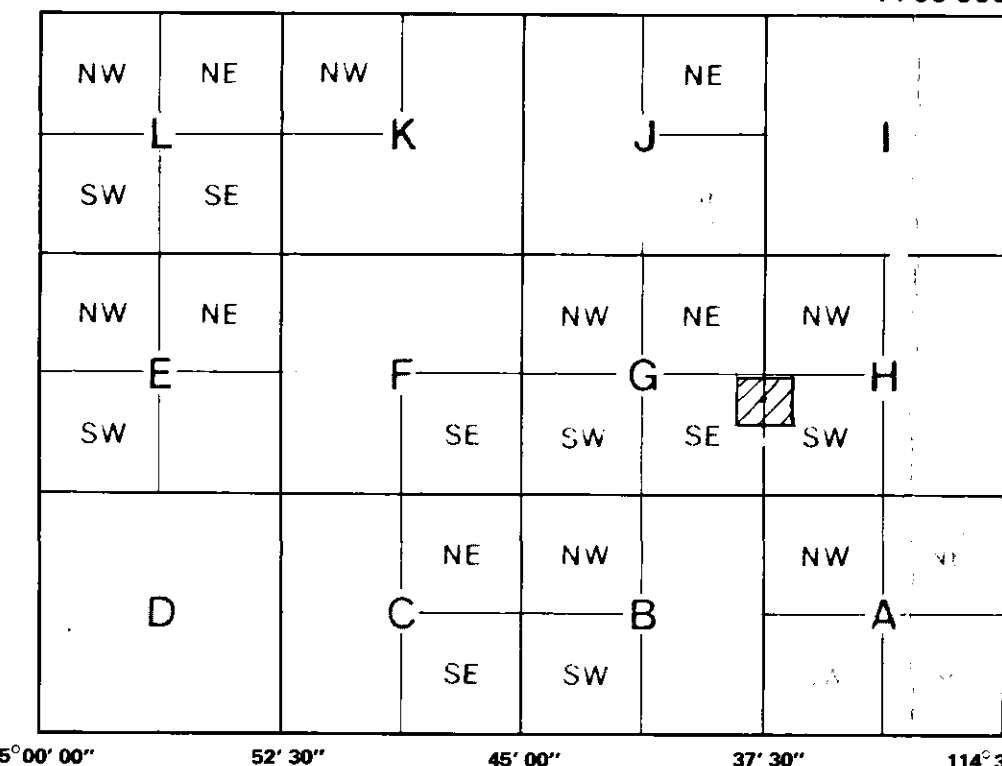
408 22

<b>Crows Nest Resources Limited</b> EXPLORATION			
LILLYBURT S.E. B.C.			
CROSS SECTION 088			
AUTHOR: B. MCKINSTRY		SCALE: 5000	ENCLOSURE No.
DATE: 83. 01.		REVISED:	DRAWING No. HC-106T
To Accompany			



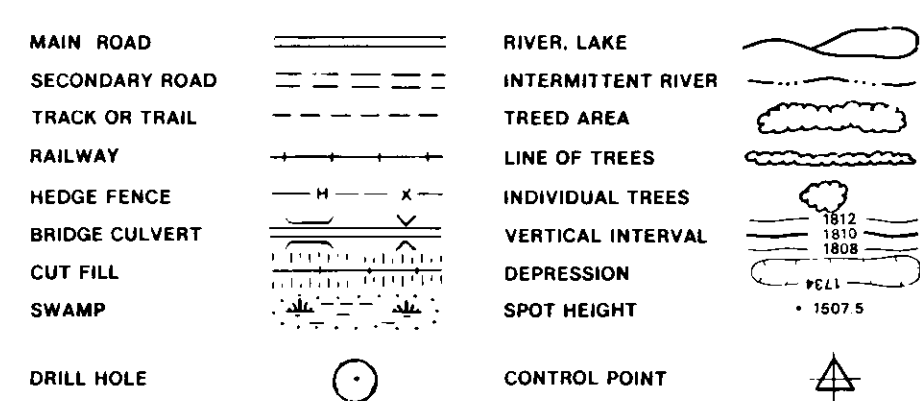


MAP INDEX AND  
AERIAL PHOTO INDEX



82G/7  
1:50 000

REFERENCE



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

PREPARED BY: THE ORTHOSHOPI  
A DIVISION OF ALBERTA SURVEY (ALBERTA) LTD.  
CALGARY, ALBERTA

100 50 0 100 200 300 METRES  
SCALE 1:5 000



GEOLOGICAL LEGEND

ABBREVIATION

ROCK TYPE

CONG.	CONGLOMERATE
c.Ss.	SANDSTONE (coarse grained)
m.Ss.	SANDSTONE (medium grained)
f.Ss.	SANDSTONE (fine grained)
SLST.	SILTSTONE
VOLC.	VOLCANICS
MDST. CLST.	MUDSTONE, CLAYSTONE
COAL	COAL
LS.	LIMESTONE
SH.	SHALE

---	GEOLOGICAL CONTACT (defined, approximate)
---	THRUST FAULT (approximate) TEETH ON UPRIGHT SIDE
---	GRAVITY FAULT (defined, approximate) SOLID CIRCLE ON DOWNTOWN SIDE, ARROWS INDICATE RELATIVE MOVEMENT
---	SYNCLINE (approximate; dip unknown; plunge indicated)
---	COAL SEAM TRACE
o 302	BOREHOLE
x	ROCK OUTCROP, AREAL EXTENT OF OUTCROP
---	TRENCH
---	BEDDING (inclined, vertical)



Crows Nest Resources Limited  
EXPLORATION

LILLYBURT  
S.E. B.C.

GEOLOGY MAP

408  
23

N.T.S. - 82G/7

AUTHOR: B. MCKINSTRY

DATE: 83-03

To: Accompany

SCALE: 1:5000

REVISED:

ENCLOSURE No. 5

DRAWING No. LB2U03

UTM ZONE 11





DOC. NO. 82155


FIG. 3

408 (24)

0 100 200 400 600 800 1000 Metres

SCALE 1:10,000

Grid North

 <b>Crows Nest Resources Limited</b> EXPLORATION		
PROPERTY OF Library & Record Services INFORMATION CENTRE		
1981 GEOPHYSICAL CUT LINES		
NTS 82/G 7		
AUTHOR: C. LANGILL DATE: JULY 1982 To Accompany:	SCALE: 1:10,000 REVISED:	ENCLOSURE No: 1 DRAWING NO: HI-84B



## B.C. COAL LICENCES TENURE STANDING

PROJECT: LILLYBURT

YEAR: 1981 - 1982

DATE: MARCH 1983

[illegible]



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

## APPLICATION TO EXTEND TERM OF LICENCE

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

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

**CALGARY**  
(Address)

**ALBERTA**

**T2P 2M7**

Valid FMC No. **244 642**

hereby apply to the Minister to extend the term of Coal Licence(s) No(s). **4080 to 4089, incl.,**  
**5313 and 7292, TWELVE LICENCES, 2790 HECTARES**  
for a further period of one year.

**LILLYBURT GROUP NO. 243, KOOTENAY LAND DISTRICT**

2. Property name

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 **DECEMBER 31st 1981** to  
**MARCH 31st**, 19 **83**, work to the value of at least \$ **8,619**.

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

### CATEGORY OF WORK

	Licence(s) No(s).	Apportioned Cost
Geological mapping	—	—
Surveys: Geophysical	—	—
Geochemical	—	—
Other	—	—
Road construction	—	—
Surface work	—	—
Underground work	—	—
Drilling	—	—
Logging, sampling, and testing	—	—
Reclamation	—	—
Other work (specify)	—	—
Off-property costs		<b>8,619</b>

5. I wish to apply \$ **8,619** of this value of work on Coal Licence(s) No(s). **5313 & 7292**

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 **Please apply excess credit**  
**on the licences 4080 to 4089, inclusive,**

(Date)

(Signature)

**ASSISTANT LANDMAN**

(Position)

## GEOLOGICAL MAPPING

Yes ☐ No ☒

Area (Hectares)

Scale

Duration

Reconnaissance

Detail: Surface

Underground

Other\* (specify)

Total Cost \$

## GEOPHYSICAL/GEOCHEMICAL SURVEYS

Yes ☐ No ☒

Method

Grid

Topographic

Other\* (specify)

Total Cost \$

## ROAD CONSTRUCTION

Yes ☐ No ☒

Length

Width

On Licence(s) No.(s)

Access to

Total Cost \$

## SURFACE WORK

Yes ☐ No ☒

Length

Width

Depth

Cost

Trenching

Seam Tracing

Crosscutting

Other\* (specify)

Total Cost \$

## 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

Wireline

Rotary: Conventional

Reverse circulation

Other\* (specify)

Contractor

Where is the core stored?

Total Cost \$

## LOGGING, SAMPLING, AND TESTING

Yes ☐ No ☒

Lithology: Drill samples

☐

Core samples

☐

Bulk samples

☐

Logs: Gamma-neutron

☐

Density

☐

Other\* (specify)

Testing: Proximate analysis

☐

FSI

☐

Washability

☐

Carbonization

☐

Petrographic

☐

Plasticity

☐

Other\* (specify)

Total Cost \$

## RECLAMATION

Yes ☐ No ☒

Details

Total Cost \$

## OTHER WORK (Specify details)

Yes ☐ No ☒

Cost

Total Cost \$

## OFF-PROPERTY COSTS

Yes ☒ No ☐

## GEOLOGICAL REPORT, REPRODUCTION, DRAFTING

Details

Total Cost \$ 8,619

8,619

Total Expenditures \$

March 21, 1983

(Date)

L. J. Kinnear

(Signature)

C.N.R.L. - MANAGER, ACCOUNTING

(Position)