

- K-SHELL Chauncy Ridge SO(1)A -

82 G/2

CHAUNLEY RIDGE
C.L.# SHELL CANADA RESOURCES LTD.
266,
265
267 RJ Morris
 April 1981

382

CONFIDENTIAL

CHAUNCEY RIDGE

NORTH BLOCK PROJECT

REPORT ON COAL LICENSES

NOS. 264 to 276 INCLUSIVE

OPERATED BY: CROWS NEST RESOURCES LIMITED

HELD BY: SHELL CANADA 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: April 1981

AUTHOR: R. J. Morris, M.Sc

2/ACa.1

00382

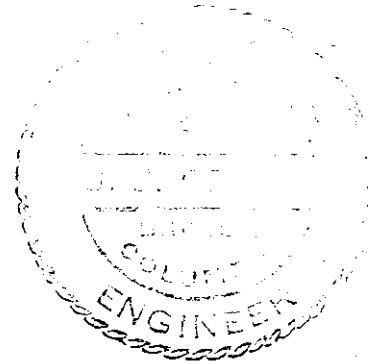
PROFESSIONAL VERIFICATION OF REPORT

ENTITLED: Chauncey Ridge
North Block Project
Report on Coal Licences
No's: 264-276 Inclusive

Mr. Robert J. Morris carried out the 1980 geological field program on the North Block B.C. Coal Licences held by Shell Canada Resources Limited and operated by Crows Nest Resources Limited. He also prepared this report.

Robert J. Morris, M.Sc., received his B.Sc. in geology from the University of British Columbia in 1973, and his M.Sc. in Mineral Exploration from Queen's University in 1978. Since graduation, he has worked for a number of major mining companies. His experience with western Canadian coal exploration includes positions with Kaiser Resources Ltd.

I consider the aforementioned geologist to be well qualified to have undertaken the responsibilities he was assigned for this project. I am satisfied that the attached report dated April 30, 1981, has been competently prepared and justly represents the information obtained from this report.



J. J. Crabb, P.Eng.

April 30, 1981

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LIST OF ENCLOSURES

VOLUME 1 (following text)

<u>NO.</u>		<u>SCALE</u>
1	- Table of Formations	NOT TO SCALE
2	- Coal Quality Summary, West Ridge	NOT TO SCALE
3	- Coal Quality Summary, East Ridge (North) Coal Quality Summary, East Ridge (Central)	NOT TO SCALE
4	- Coal Quality Summary, East Ridge (South)	NOT TO SCALE

<u>NO.</u>	<u>APPENDICES</u>
5	- Cost Statement (copy of Application to Extend Term of Licence)
6	- Report on Location Survey North Block 4051 M Southeast B.C. by Sheltech Canada Ltd. including Traverse Survey Map

NOT TO SCALE

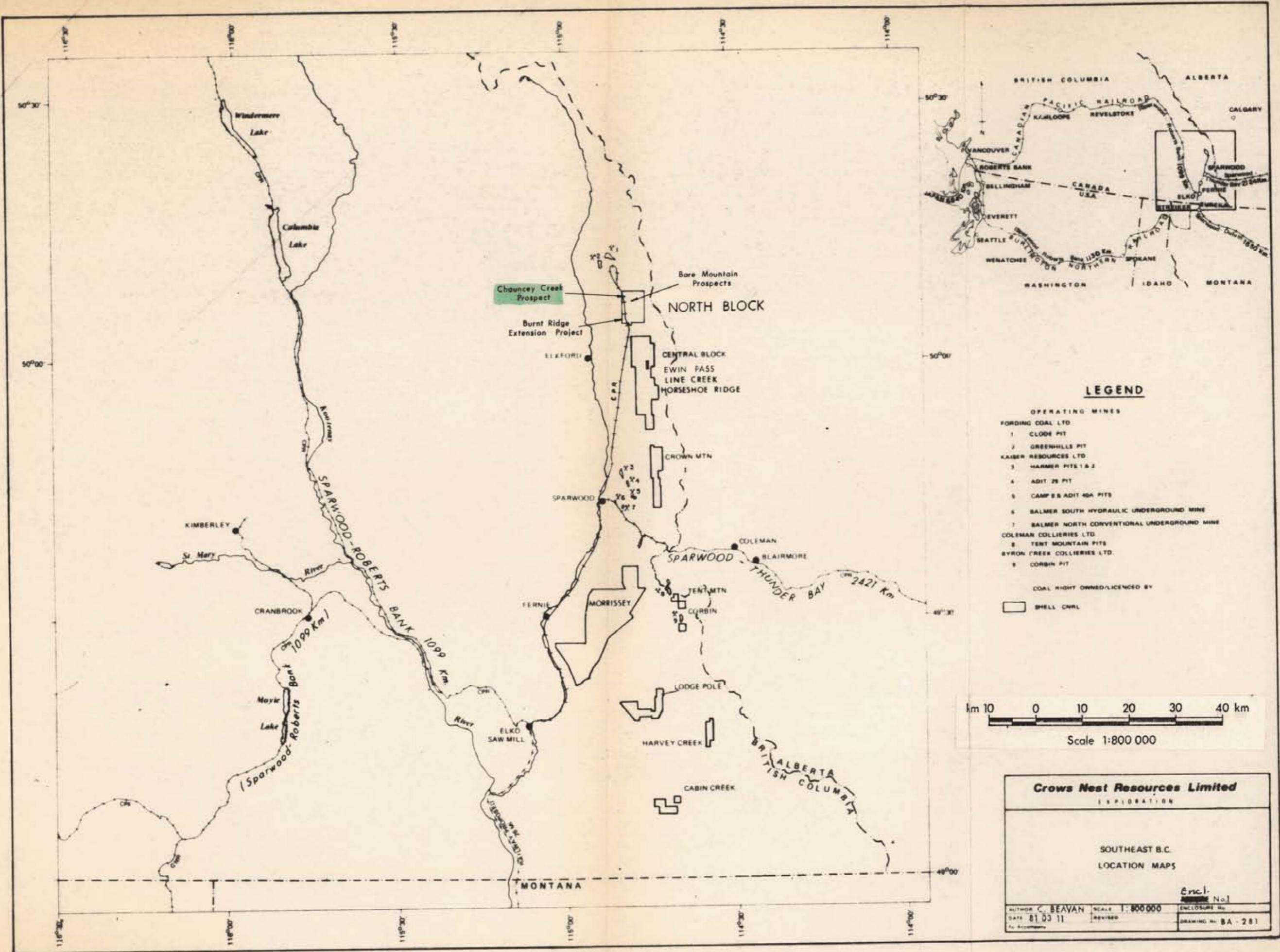
refer K-Shell-Chauncey Ridge
80(2)A

1:5,000

LIST OF ENCLOSURES:

VOLUME 2

<u>NO.</u>	<u>FIGURES</u>	<u>SCALE</u>
1	- ✓ Southeast B. C. Location Map	1:800 000
2	- ✓ Index Map to Coal Licences (Project Subdivision Map)	1:50 000 1:50,000
3	- ✓ Index Map to Coal Licences AA-203 Prospecting Location Map	1:50 000
4	- ✓ B. C. Coal Land Tenure Standing: Group #214 - North Block	not to scale
5	- ✓ General Geological Map	1:50 000
6	- ✓ Information Map (3 sheets)	1:5 000
7	- ✓ Geological Map (4 sheets)	1:5 000
8	- Structural Cross Sections	1:5 000
8-1	- 5 554 000 N ✓	refer to K-Shell-Chances Ridge 80(2)A
8-2	- 5 554 500 N ✓	
8-3	- 5 555 000 N ✓	
8-4	- 5 555 500 N ✓	
8-5	- 5 556 000 N ✓	
8-6	- 5 556 500 N ✓	
9	- Stratigraphic Sections (20)✓ (Reference to locations on Information Map)	1:20



SUMMARY:

The North Block, comprised of coal licenses No. 264 to 276, has an areal extent of 3173 hectares. The license block is located in the Fording River Valley, 3 km south of Fording Coal Ltd.'s mine.

The North Block has been divided into three separate projects: Bare Mountain, Burnt Ridge Extension, and Chauncey Ridge. Chauncey Ridge will be dealt with in this report.

During the summer of 1980, 100% of the area underlain by coal-bearing Kootenay Formation was examined and 50% was mapped in detail.

In total \$172,422.98 was spent on the North Block Project representing \$53.34 per hectare.

Compilation of exploration data for Chauncey Ridge has led to the following summary:

- a total of 7 seams up to 39.4 m cumulative thickness
- thicknesses from 1.0 m to 16.0 m

- there has not been enough exploration done to completely assess mineability though no areas amenable to open pit mining were located. The only potential may be an underground project (against gravity transportation) in a thick seam on the west side of Chauncey Ridge.

It is recommended that in 1981 work be concentrated on the west slopes of Chauncey Ridge. A large coal exposure along the existing B.C. Coal road should be measured and mapping should be completed in the area to assess mineability.

INTRODUCTION:

Coal Land Tenure: Enclosure 3, Volume 2: Index Map to Coal Licences.
Enclosure 4, Volume 2: B. C. Coal Land Tenure Standing, North Block, Group #214.

The North Block or Group #214 is comprised of thirteen B. C. Coal Licences (Nos. 264-276 inclusive) covering 3173 hectares held by Shell Canada Resources Ltd., operated by its wholly owned subsidiary Crows Nest Resources Limited.

This report accounts for work done during the last term of licence on the Chauncey Ridge Project which is part of North Block.

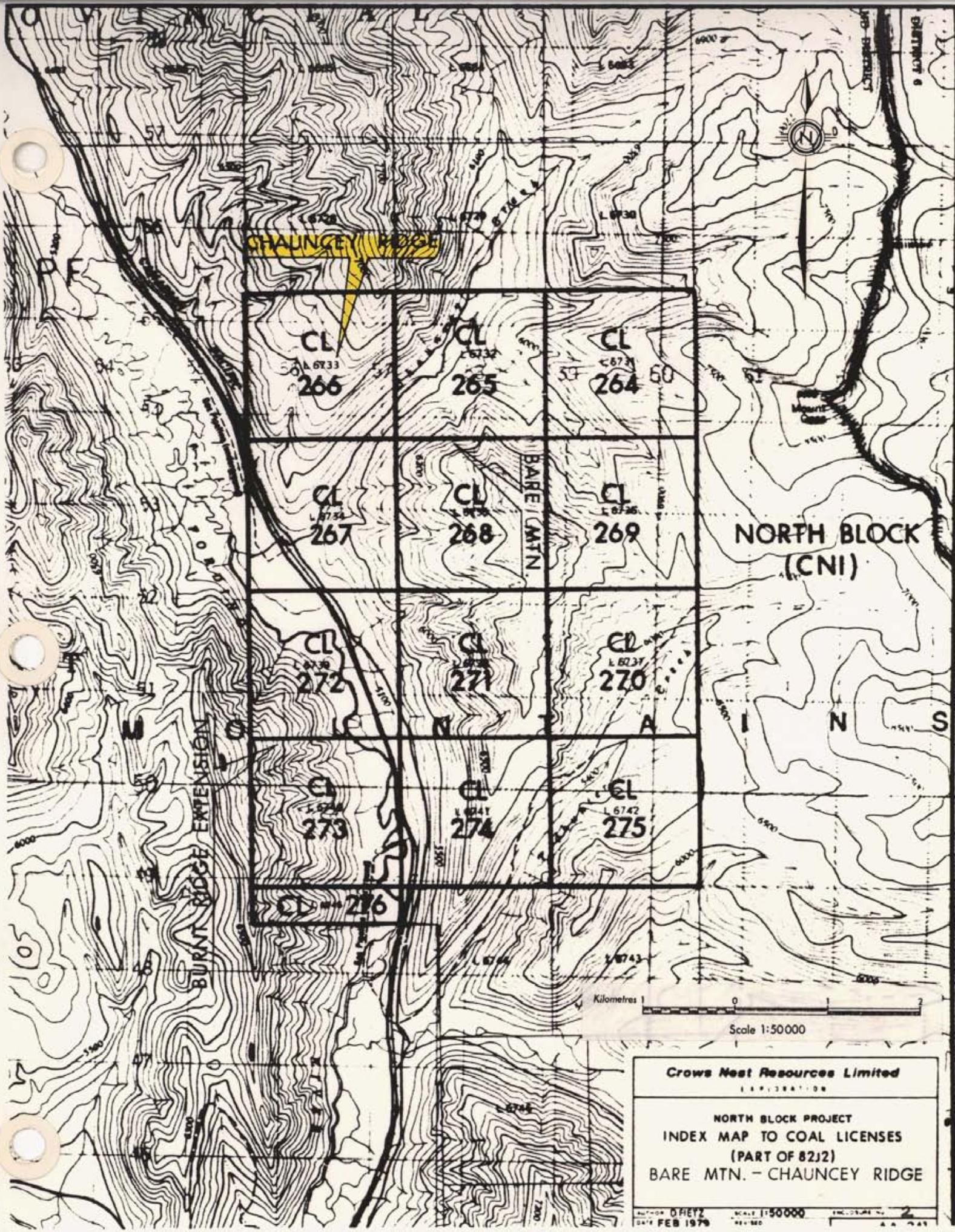
Location, Physiography: Enclosure 2, Volume 2: Index Map to Coal Licences: (Project Subdivision Map).

The property is located in the Rocky Mountains of southeastern British Columbia. The Chauncey Ridge Project is located on the east side of the Fording River, nine air-kilometres northeast of Elkford and three kilometres south of the Fording Coal operations.

The area of interest comprises a ridge with a steep east-dipping flank to Chauncey Creek and a shallow west slope to the Fording River. Erosional features are present on the east flank as prominent gullies with only seasonal stream flow, while on the west slope several main

Access: Enclosure 2, Volume 2: Index Map to Coal Licences (Project Subdivision Map)

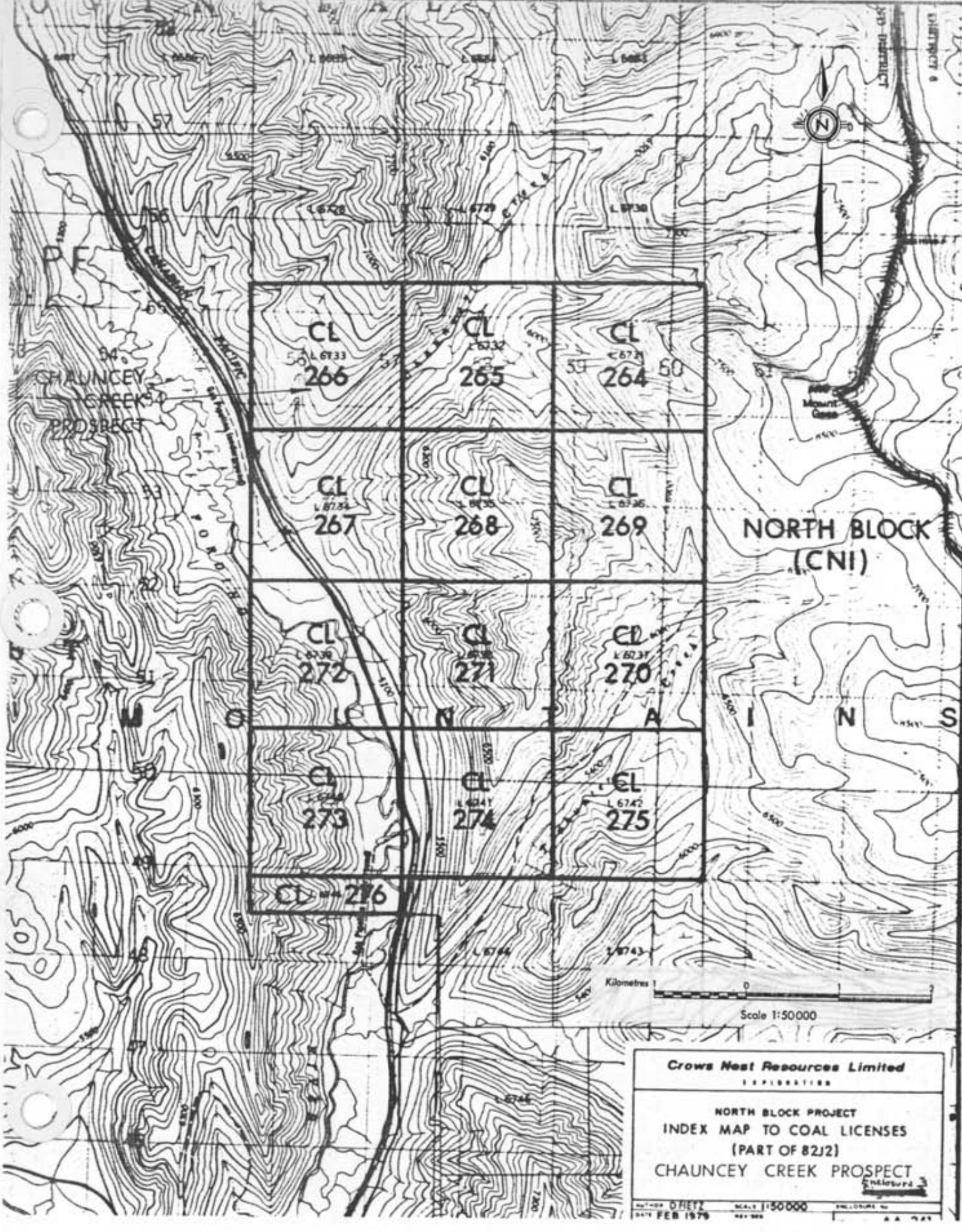
The Fording River Valley has a paved road, owned by Fording Coal Ltd. which originates in Elkford 22 km to the southwest, and a C.P.R. spur line at the base of the west slope. Access to the west ridge is on a B. C. Coal exploration north of the turnoff to the CNI logging road between Chauncey Creek and Ewin Creek. The east ridge is accessible by four-wheel drive road along Chauncey Creek.



Crows Nest Resources Limited
149-13841-08

NORTH BLOCK PROJECT
INDEX MAP TO COAL LICENSES
(PART OF 82J2)
BARE MTN. - CHAUNCEY RIDGE

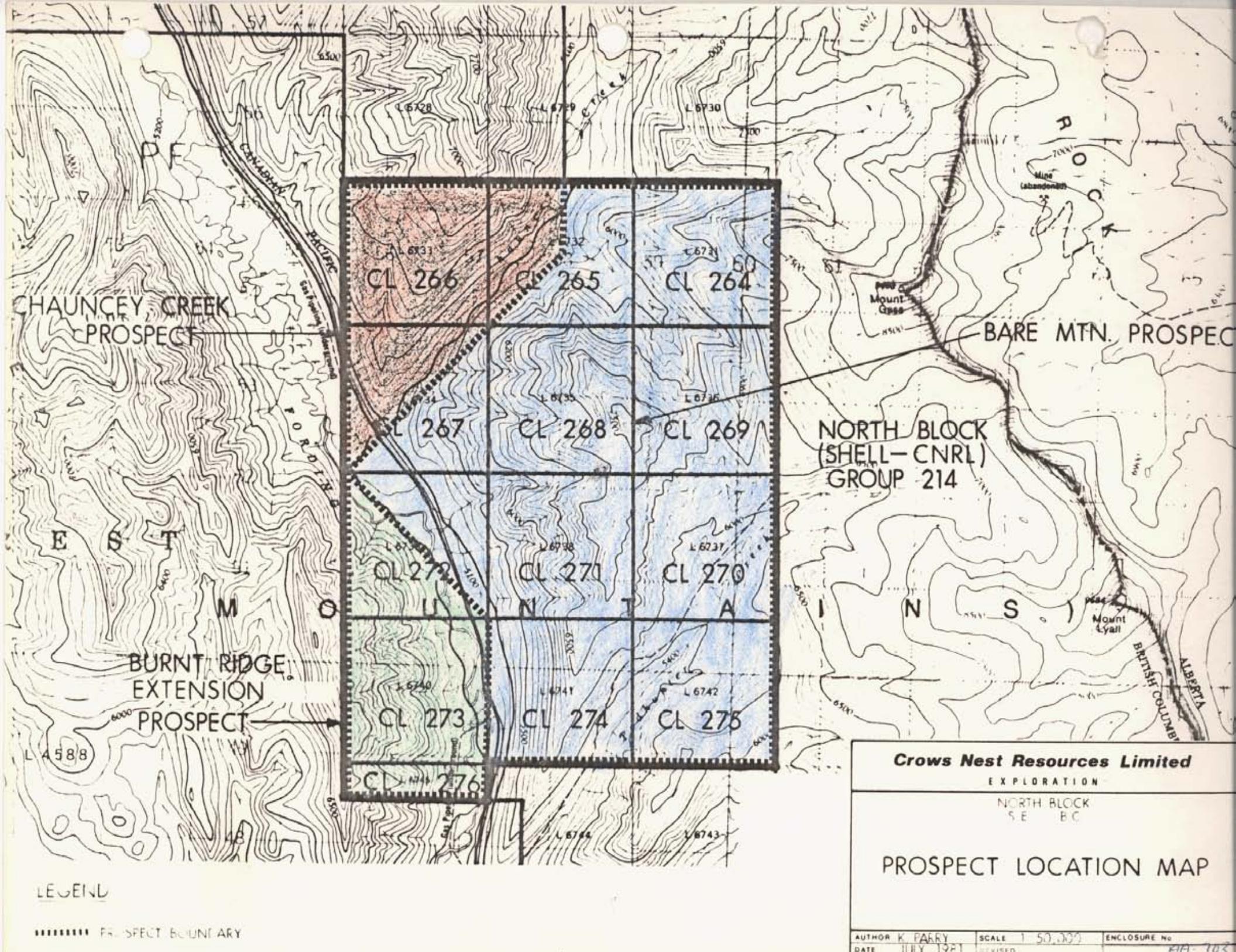
Author: D. REITZ Date: FEB 1979 Scale: 1:50000 Rev: 000 Inclosure No: 2



Crows Nest Resources Limited
EXPLORATION

NORTH BLOCK PROJECT
INDEX MAP TO COAL LICENSES
(PART OF 82J2)
CHAUNCEY CREEK PROSPECT

REF ID: D94752
SCALE 1:50000
DATE FEB 1979
KEY 300
ENCLOSURE NO. 3
A.A. 1979



Crows Nest Resources Limited

EXPLORATION

NORTH BLOCK
SE BC

PROSPECT LOCATION MAP

WORK DONE:

Summary of Previous Work

The most recent work was in 1978 by Crows Nest Resources Limited under the supervision of J. Horachek. A comprehensive report and preliminary geological maps (1:10 000) were produced.

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

Scope and Objectives of 1980 Exploration

The objectives of the 1980 program were:

- produce detailed geological maps of areas of mining potential
- establish detailed stratigraphic sections and attempt to correlate seams.
- provide preliminary indication of coal quality by analysis of trench samples.

Work Done in 1980

- Orientation mapping
- Reconnaissance at a scale of 1:5 000.
- Hand-Trenching; 22 on ridges for 108.4 m, 8 road exposures opened-up for 290 m.
- Sampling; 19 samples procured, analysis including, moisture, ash, and F.S.I.
- Location surveys: roads, geological control points and sample locations.

GEOLOGY:

Regional Geology: Enclosure 1, Volume 1: Table of Formations
 Enclosure 5, Volume 2: General Geological Map

Chauncey Ridge is within the Elk Valley Coal Field, centered on the Fording Syncline. The lower east and west slopes of the property include the lower Fernie Formation.

Stratigraphy

The Late Jurassic - early Cretaceous Kootenay Formation consists of the Moose Mountain, Coal Bearing and Elk Members in ascending order.

The Moose Mountain Member is a prominent cliff-forming horizon which crops out on the lower eastern slopes, and in one location on the west slope. The sandstone is coarse-grained with occasional conglomerate bands up to 0.5 m. It is thickly bedded and displays large scale cross-beds. The Moose Mountain Member is an easily mappable horizon and all work in 1980 was performed in the Coal-Bearing Member stratigraphy above it.

On Chauncey Ridge the Coal-Bearing Member is up to 560 m thick. The section includes sandstones, siltstones, and shales and at least 7 coal seams.

The Elk Member is the uppermost member of the Kootenay Formation and consists of prominent sandstone with interbedded siltstones, shales and minor coal horizons. It is not conglomeratic on the project area. The base of the first prominent sandstone unit above the uppermost major coal seam was mapped as the Coal Bearing Member-Elk Member contact.

Geological Structure

Chauncey Ridge is a portion of the Fording Syncline. The ridge and upper slopes are formed by the resistant Elk Member. The lower slopes encompass the complete Coal Bearing Member and the Moose Mountain Member. The east slope displays several large scale thrust-fault repeats, one repeating the Moose Mountain Member and the other repeating the Elk Member. No major faults are noted on the west slopes.

Coal Geology

Work on the east ridges of Chauncey Ridge indicate from 17 m to 21 m of coal in a total section varying from 450 m to 560 m. The thickest seam encountered was 6.0 m. On two of the five ridges mapped in detail, exposure was greater than 75% and one of these was checked with pot-holing (holes roughly 0.3 m wide dug down to bed-rock) every 2 m to test for buried coal. This ridge (CENTRAL, Enclosure 3, Volume 1) includes 21.3 m of measured coal leaving a possible error factor of one 5 m seam (?).

On the west side of Chauncey Ridge, B.C. Coal constructed an exploration access road in 1979. The road goes up section from just above the Moose Mountain Member to within 100 m stratigraphically of the Elk Member. A total of seven seams were exposed on the road for a cumulative thickness of 39.4 m. One more exposure was noted in a railroad cut approximately 60 m up from the Moose Mountain sandstone. The coal zone is up to 11 m with at least three seams totaling + 6 m of coal.

MINEABILITY, COAL RESERVES AND QUALITY

There has not been enough exploration done to assess mineability. The only potential may be an underground project (against gravity transportation) on the west side of Chauncey Ridge.

Nineteen hand trench samples were procured. Their analyses are not yet completed though medium volatile bituminous coal is expected (Enclosures 2-4, Volume 1: Coal Quality Summary).

RECOMMENDATIONS FOR FURTHER WORK

Chauncey Ridge is a medium to long range project. More exploration on foot is needed to determine the reason for the small amount of coal on the east slopes, and to measure the one thick seam on the west side. Mapping should be concentrated on the west side in order to predict the geometry of this seam and to assess mineability.

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-Cretaceous Kootney Formation, Crownest Pass Area, Southwestern Alberta and Southeastern British Columbia : Bull Can. Petroleum Geology, v. 25, No. 4, p. 767 - 791.

Horachek, J. and Fietz, D., 1979. Report on Coal Licences 264 - 276 inclusive : C.N.R.L. unpublished report.

TABLE OF FORMATIONS

	PERIOD OR EPOCH	FORMATION	LITHOLOGY	THICKNESS (m)
ERA	Lower Cretaceous	Cadomin Fm.	non-marine: sandstone, conglomerate and shale	360 - 1980
MESOZOIC	LOWER CRETACEOUS AND JURASSIC	Pocaterra Creek Member	non-marine: sandstones, conglomerate siltstone & shale	
		ELK MEMBER	non-marine: interbedded medium to coarse grain sandstone, chert-pebble conglomerate with minor siltstone, shale and coal	30 - 670
		COAL BEARING MEMBER	non-marine & brackish: interbedded coal, siltstones, shales and sandstones	70 - 610
		BASAL SANDSTONE UNIT OR MOOSE MOUNTAIN MEMBER (MMM)	non-marine: massive, cliff-forming sandstone	20 - 60
	JURASSIC	FERNIE FM.	marine: shale, siltstone, sandstone & limestone	180 - 380

CHAUNCEY RIDGE

COAL QUALITY SUMMARY

WEST RIDGE

SAMPLE NO.	m ABOVE MOOSE MOUNTAIN	TRUE THICKNESS (m)	(RAW A.D.B.)		
			% MOIST	% ASH	FSI
COB 11 S	-	3.59	4.34	16.15	0
COB 12 S	-	7.25 ?	No sample	No sample	No sample
COB 13 S	-	3.02	7.10	19.81	0
COB 14 S	-	1.49	4.50	30.35	0
COB 15 S	-	2.19	3.84	36.49	0
COB 16 S	-	6.42	3.32	4.96	0
COB 17 S	295	16.0 ?			
TOTAL		39.36			

CHAUNCEY RIDGE
COAL QUALITY SUMMARY

EAST RIDGE (NORTH)

SAMPLE NO.	m ABOVE MOOSE MOUNTAIN	TRUE THICKNESS (m)	(RAW A.D.B.)		
			% MOIST	% ASH	FSI
COB 3 S	585	0.97	2.32	21.12	0
COB 4 S	425	5.35	3.69	16.57	0
COB 5 S	375	4.36	3.30	18.06	0
COB 6 S	360	4.36	3.32	21.00	0
COB 7 S	320	2.20	3.30	24.95	0
TOTAL		17.51			

EAST RIDGE (CENTRAL)

SAMPLE NO.	m ABOVE MOOSE MOUNTAIN	TRUE THICKNESS (m)	(RAW A.D.B.)		
			% MOIST	% ASH	FSI
COB 1,2 S	580	6.0	2.87	11.06	0
COB 1 S	470	1.5	3.18	12.94	0
COB 2 S	440	2.37	2.15	28.43	0
COB 3 S	360	3.69	3.51	10.48	0
COB 4 S	220	4.77	2.62	23.72	0
COB 5 S	10	2.99	3.95	15.48	0
TOTAL		21.32			

CHAUNCEY RIDGE

COAL QUALITY SUMMARY

EAST RIDGE (SOUTH)

SAMPLE NO.	m ABOVE MOOSE MOUNTAIN	TRUE THICKNESS (m)	(RAW A.D.B.)		
			% MOIST	% ASH	FSI
COB 10 S		2.95	3.34	9.45	0

CROWS NEST RESOURCES LIMITED
EXPLORATION

B. C. COAL LICENCES
TENURE STANDING

BLOCK: NORTH BLOCK
GROUP: 015

PROJECT: NORTH BLOCK **YEAR:** 1980-1981
KOOTENAY LAND DISTRICT **DATE:** APRIL 1981

GENERAL REMARKS: FILL NECESSARY LINES AND COLUMNS ONLY; COAL DEVELOPMENT POTENTIAL IS "Y" (PRIME) UNLESS OTHERWISE STATED; LICENCES HELD BY SHELL CANADA RESOURCES LTD.- CNRL
BY THE OPERATOR.

End. 4



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

APPLICATION TO EXTEND TERM OF LICENCE

I, ... Bolton Agnew agent for

..... *Bolton Agnew* *Shell Canada Resources limited*
 (Name) (Name)
 P.O. Box 100 (Address) (Address)
 *P.O. Box 100* *Calgary, Alberta, T2P 2B7*
 (Address) (Address)

Valid FMC No. 207568

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

.... 13 B.C. Crown Coal Licences; 3173 Hectares.

for a further period of one year.

2. Property name: North Block, Group No. 214, Kootenay Land District

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 January 30, 1980

..... January 31, 1981, work to the value of at least \$ 172,422.98

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

CATEGORY OF WORK

	Licence(s) No(s).	Apportioned Cost
Geological mapping	265 - 276 Incl.	\$102,962.07
Surveys: Geophysical	.....	.....
Geochemical	.....	.....
Other - Geodetic	265 - 273, 276	18,900.00
Road construction	.....	.....
Surface work - Trench	272, 273	32,085.93
Underground work	.....	.....
Drilling	.....	.....
Logging, sampling, and testing	265 - 273, 276	4,950.00
Reclamation	272, 273	Included in Surface Work
Other work (specify)	.....	.....
Off-property costs	.....	13,524.98

5. I wish to apply \$ 172,422.98, of this value of work on Coal Licence(s) No(s). 264 to 276 Incl.

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 North Block Geological Reports '80 will be submitted in ninety days.

1981.01.28

(Date)



Land Supervisor
(Position)

(FORMS AND REPORT TO BE SUBMITTED IN DUPLICATE)

Enclosure 5

CATEGORY OF WORK

GEOLOGICAL MAPPING

Yes No

	Area (Hectares)	Scale	Duration
Reconnaissance	1425	1:10,000	
Detail: Surface	1750	1:5,000	256 Man-Days
Underground			
*Other (specify)			
			Total Cost \$ 102,962.07

GEOPHYSICAL/GEOCHEMICAL SURVEYS

Yes No

Method			
Grid			
Topographic			
*Other (specify)			
			Total Cost \$ 18,900.00

ROAD CONSTRUCTION

Yes No

Length		Width	
On Licence(s) Nos(s).			
Access to			
			Total Cost \$

SURFACE WORK

Yes No

	Length	Width	Depth	Cost
Trenching (Backhoe)	65.0	1.0	1.0	
Seam Tracing				
Crosscutting				
*Other (specify)				
Trenching (by Hand)	1,270.0	1.0	1.0	
				Total Cost \$ 32,085.93

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	<input type="checkbox"/>	Core samples	<input type="checkbox"/>	Bulk samples	<input type="checkbox"/>
Log: Gamma-neutron	<input type="checkbox"/>	Density	<input type="checkbox"/>		
*Other (specify)					
Testing: Proximate analysis	<input checked="" type="checkbox"/>	FSI	<input checked="" type="checkbox"/>	Washability	<input checked="" type="checkbox"/>
Carbonization	<input type="checkbox"/>	Petrographic	<input type="checkbox"/>	Plasticity	<input type="checkbox"/>
*Other (specify)					

To Date Total Cost \$ 4,950.00

OTHER WORK (specify details)

Cost

Total Cost \$	
On-property costs \$ 158,898.00	
To Date Off-property costs 13,524.98	
To Date Total Expenditures \$ 172,422.98	

1981.01.28

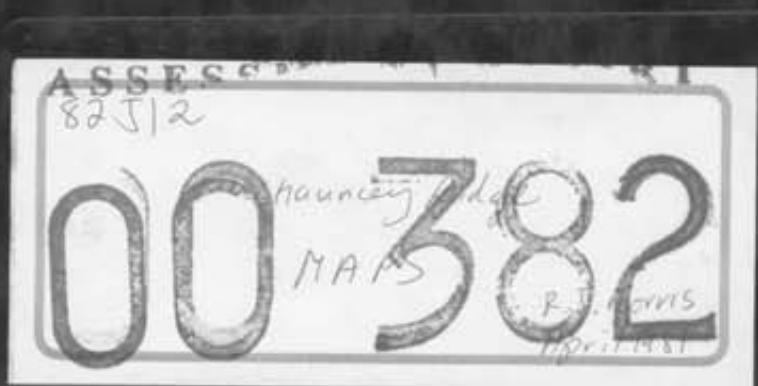
(Date)

W.L.Karwowski
(Signature)

Manager - Accounting, CNRL
(Position)

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

-K-Shell Chauncy Ridge 80621A-



382

Date: MARCH 1, 1980

To: CROWSNEST RESOURCES LIMITED (CRRL)
From: SHELTECH CANADA
Subject: NORTH BLOCK 4051M S.E. BRITISH COLUMBIA
Topo and Location Survey

All survey work done in the North Block area was based on the Crowsnest Control Network established in spring of 1980 and using July 14, 1980 coordinates 'North' and 'Little' were the two stations mostly used, however three minor control stations from Banner (80-BAN #2, 80-BAN #3, 80-BAN #4) were also used and these were also established from the above mentioned Crowsnest Control Network. Good precision was obtained.

From these control points, 42 geological control points, and 124 traverse stations were established from which 9.4 km of old road was surveyed. Also 10 outcrops were picked up.

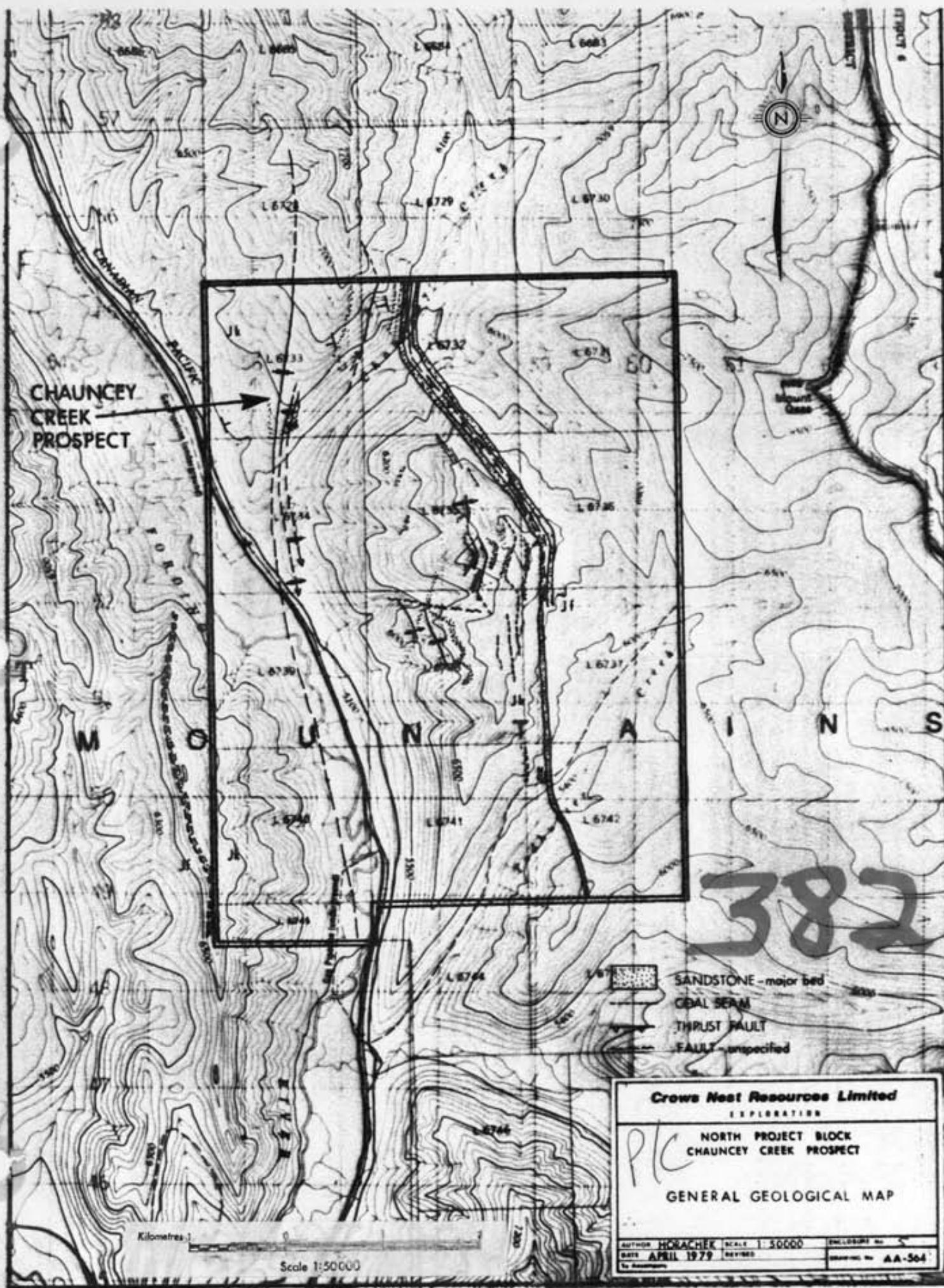
Conventional survey methods using both a 1" and a 20" theodolite and electronic distance measuring equipment were used to obtain survey data. Calculations were done using the TI system with distances reduced to plane and bearings referenced to 117° W. The results were given to CRRL personnel in both tabular and plan form.

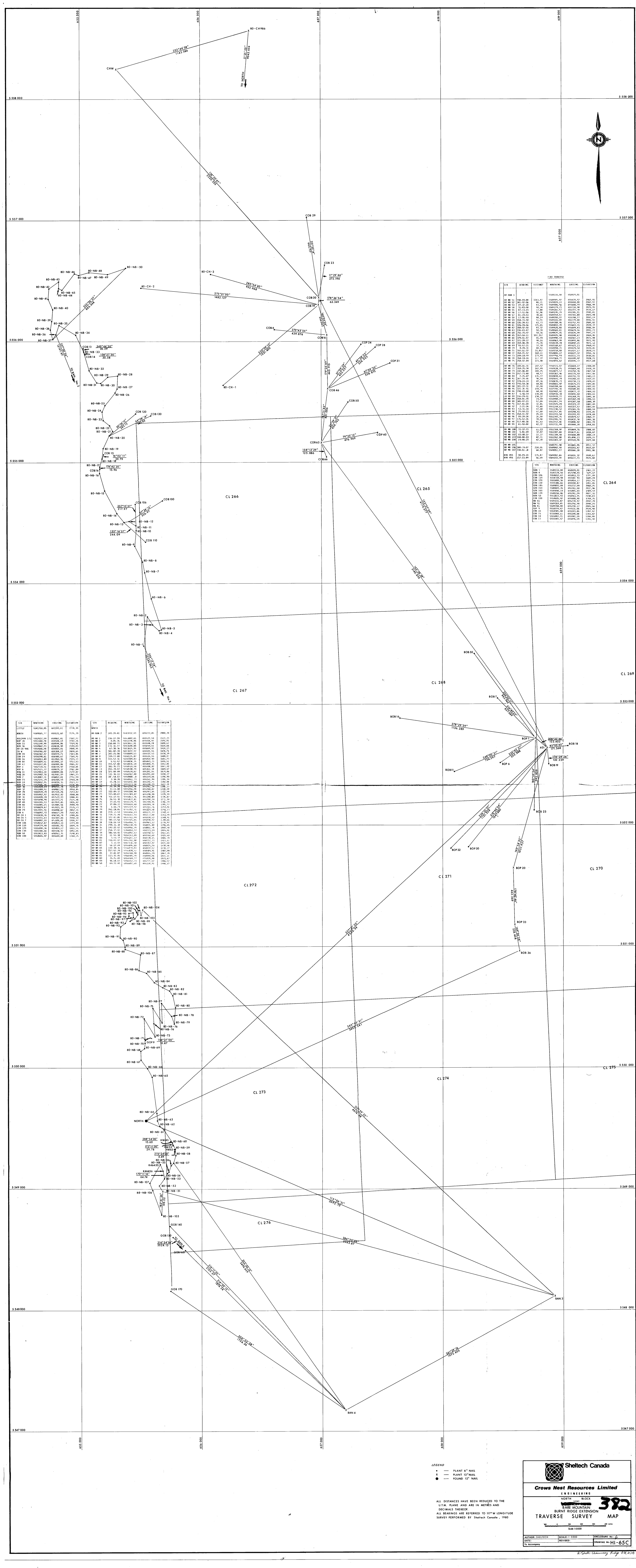
The survey cost attributed to the North Block area was approximately \$17,800.

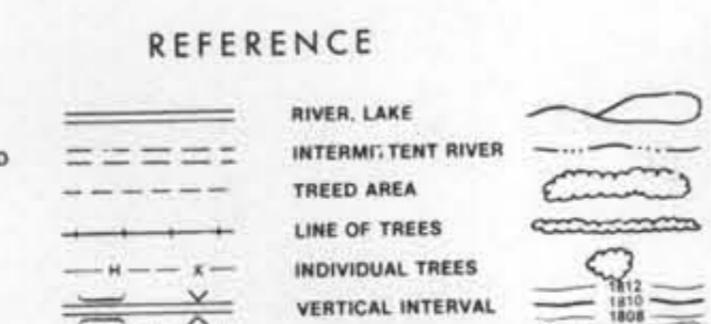
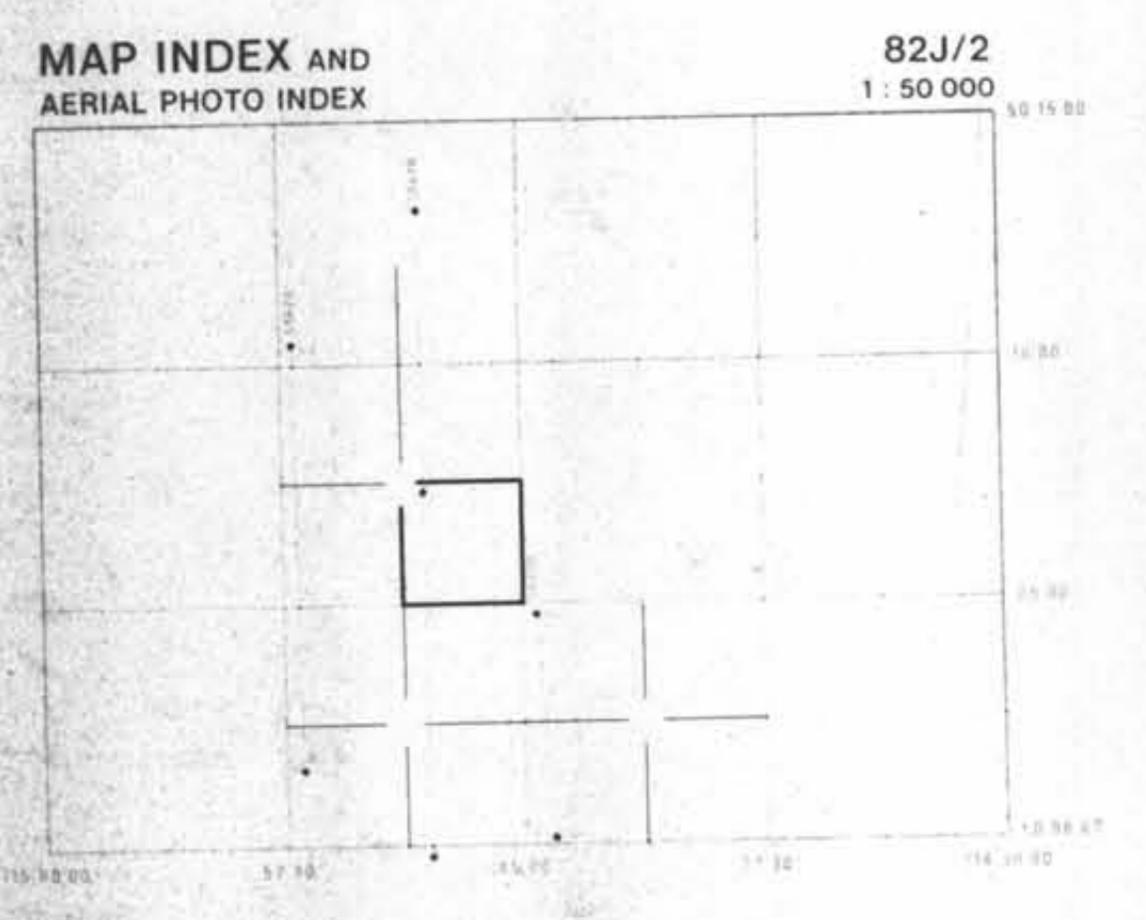



D. Poulson

BK:sm







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

PREPARED BY:
NORTH WEST SURVEY CORPORATION (YUKON) LTD.

LEGEND

- x SURVEY POINTS
- TRENCH & NUMBER []
- TRENCH & SAMPLE (S)

METRES 100 50 0 100 200 300 400 500 METRES


SCALE 1 : 5 000
CONTOUR INTERVAL : 5 METRES
DATE OF PHOTOGRAPHY: JUNE/JULY, 1978

Crows Nest Resources Limited		
EXPLORATION		
CHAUNCEY RIDGE S.E. B.C. BARE MOUNTAIN		
(MAPS 3 of 3)		
GENERAL INFORMATION BASE MAP		
382		
AUTHOR: B. MORRIS	SCALE: 1 : 5 000	ENCLOSURE No: 6
DATE: APRIL, 1981	REVISED:	DRAWING No: HD - 37B
To Accompany		

K-Shell-Chauncy Ridge 82J/2

HD - 73B

HK-23B



**MAP INDEX AND
AERIAL PHOTO INDEX** **82J/2**
1 : 50 000

82J/2
1 : 50 000

50-15.00

REFERENCES

RIVER
INTER

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	+ 1507 5

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

LEGEND

X SURVEY STATIONS
◎ ROAD SURVEY
COB 11 S SAMPLE SITE
COB 1 T TRENCH SITE

CROWS NEST RESOURCES LIMITED

**CHAUNCEY RIDGE (MAP 1 of 3)
SOUTH EAST BRITISH COLUMBIA
GENERAL INFORMATION BASE MAP**

A scale bar at the bottom of the page, consisting of a horizontal line with tick marks and numerical labels. The labels are 'METRES 100', '50', '0', '100', '200', '300', '400', and '500 METRES'. Below the line, there are two rows of tick marks: a shorter row starting at '0' and a longer row starting at '100'. The text 'SCALE 1:5,000' is centered below the scale bar.

SCALE 1 : 5 000

DATE OF PHOTOGRAPHY : JUNE/JULY, 1978

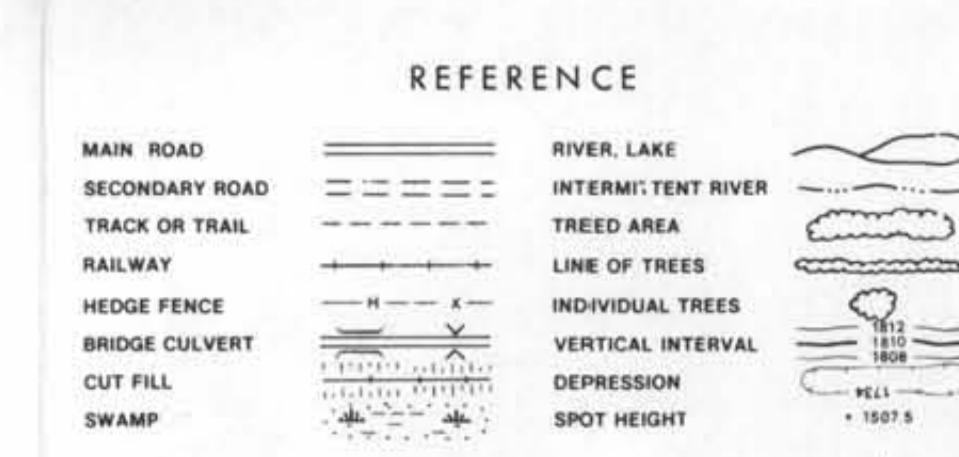
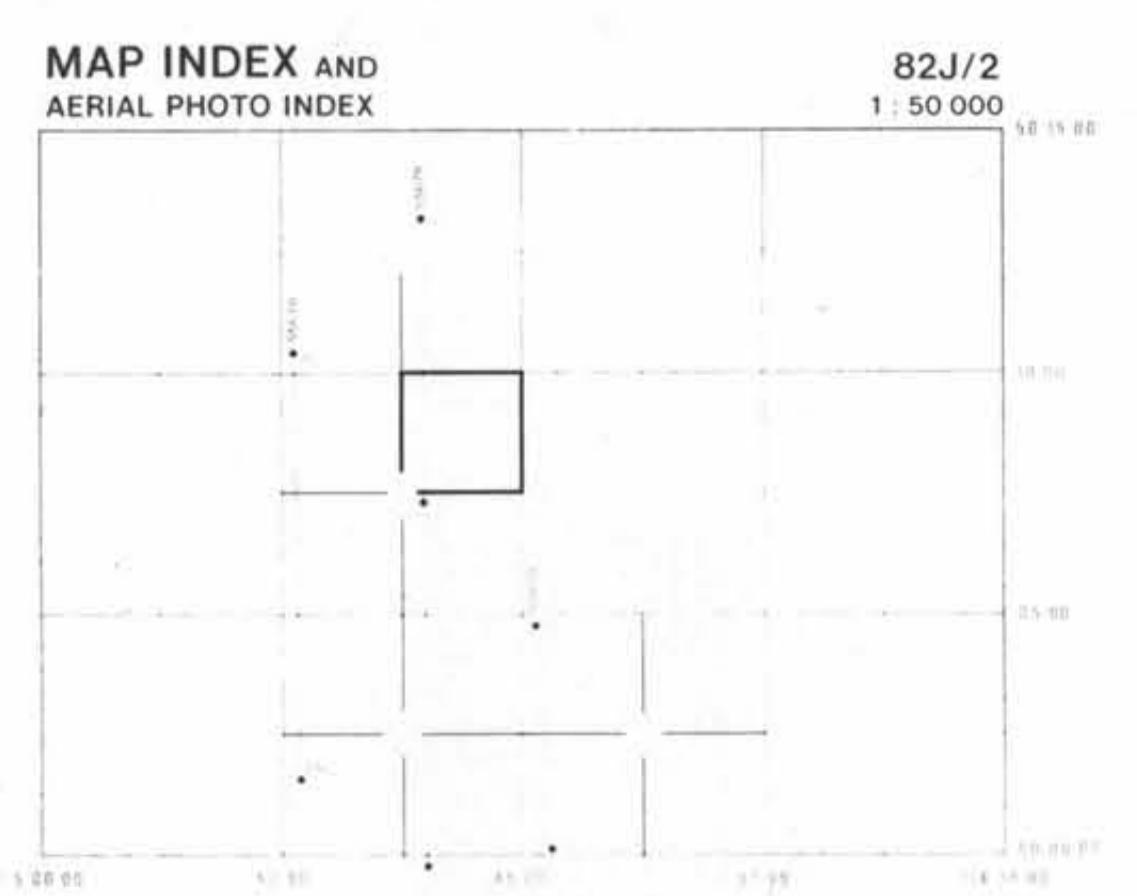

DATE OF PHOTOGRAPHY: JUNE/JULY, 1978

THOR: B.MORRIS DATE: APRIL, 1981

82 J 2 NORTH WES

52 J 2 NORTH WEST

382

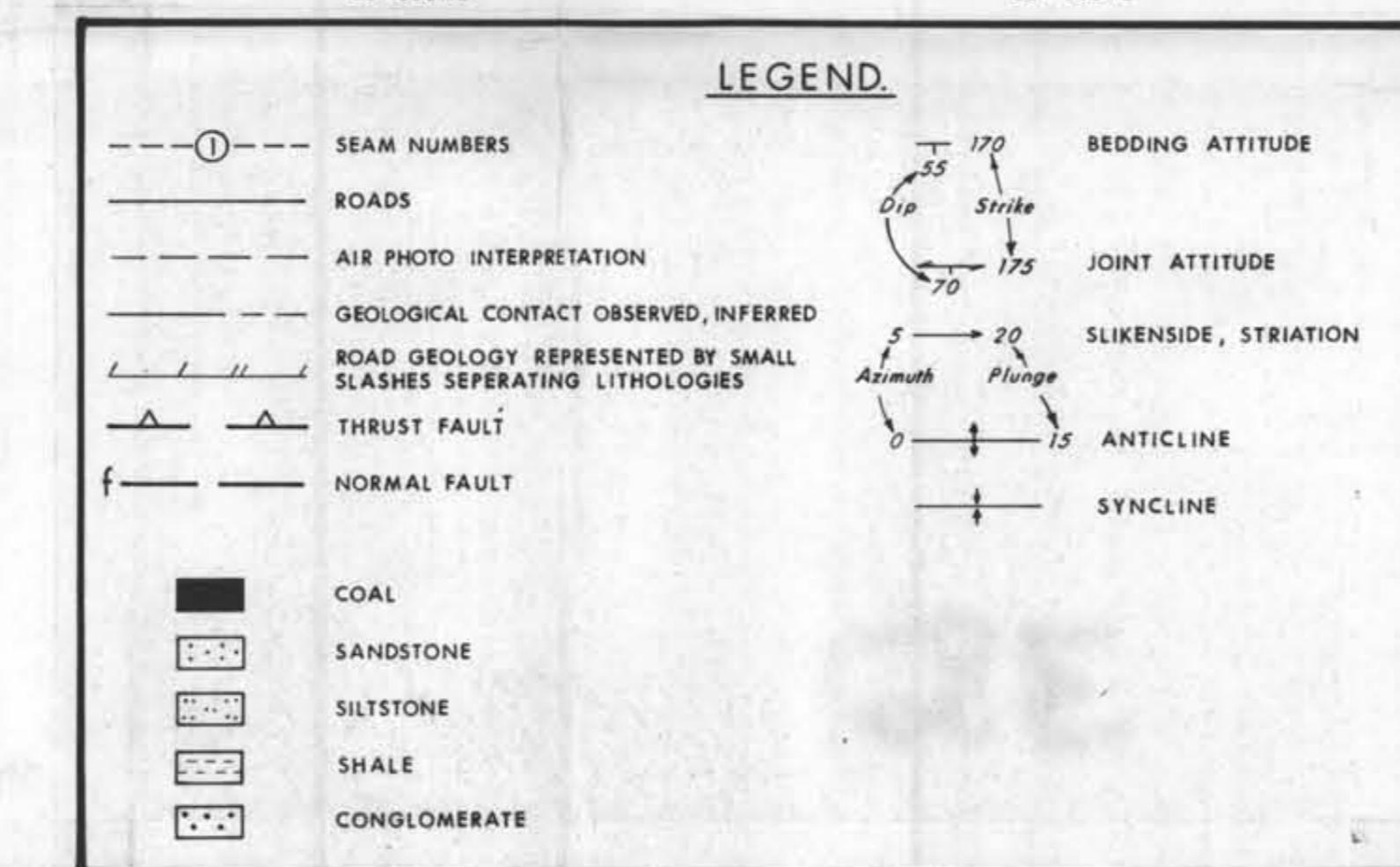
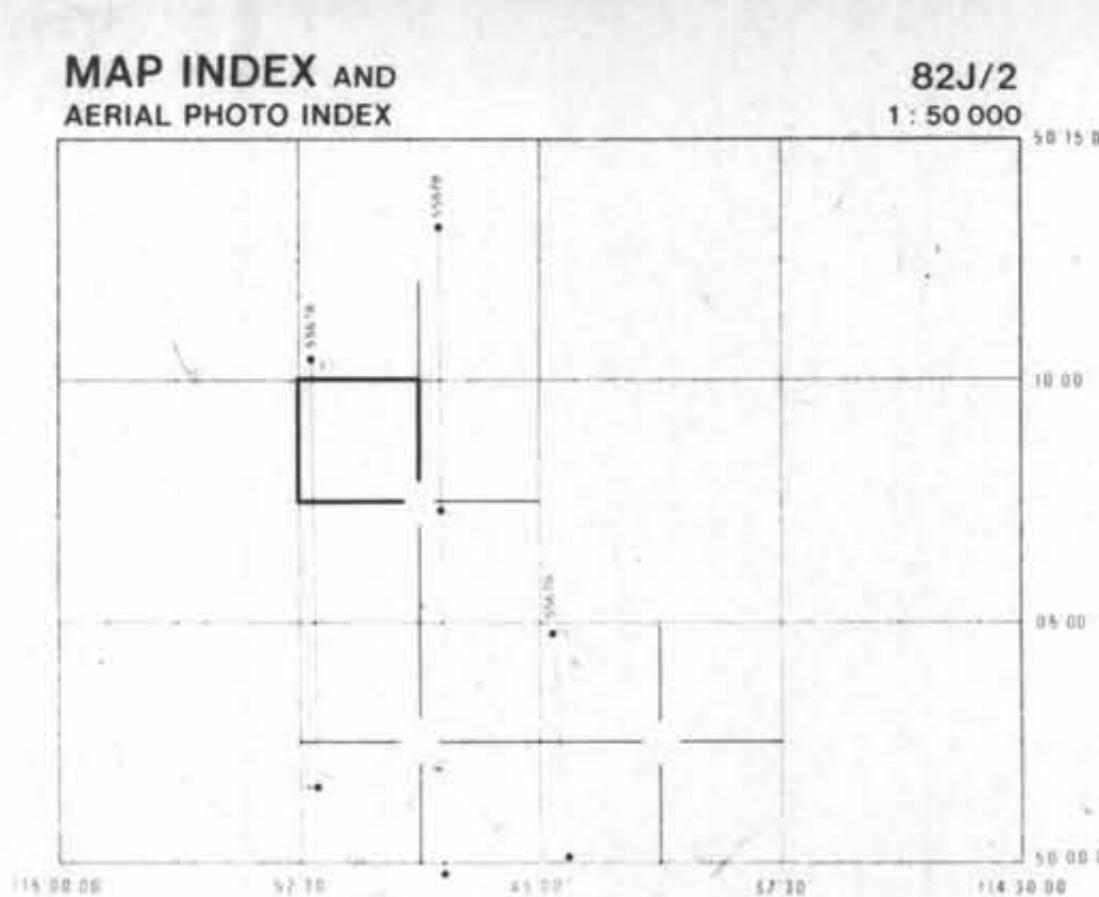



CROWS NEST RESOURCES LIMITED
CHAUNCEY RIDGE (MAP 2 of 3)
SOUTH EAST BRITISH COLUMBIA
GENERAL INFORMATION BASE MAP

SCALE 1:5 000
CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: JUNE/JULY, 1978

382
82 J 2 NORTH EAST ZONE F
DRAWING NO. HK-23D

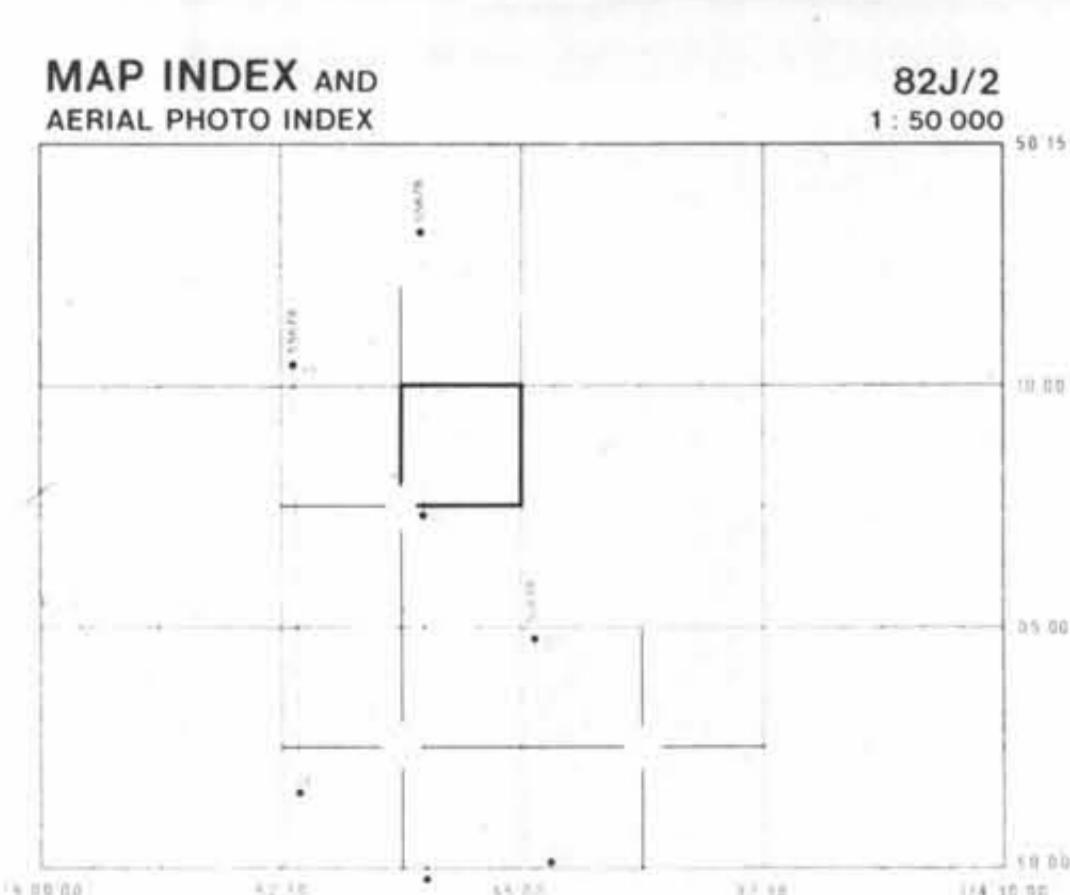

L-Shell-Chauncey Ridge 82J2A
HK-23D



CROWS NEST RESOURCES LIMITED
CHAUNCEY RIDGE (MAP 1 of 4)
SOUTH EAST BRITISH COLUMBIA
GEOLOGY BASE

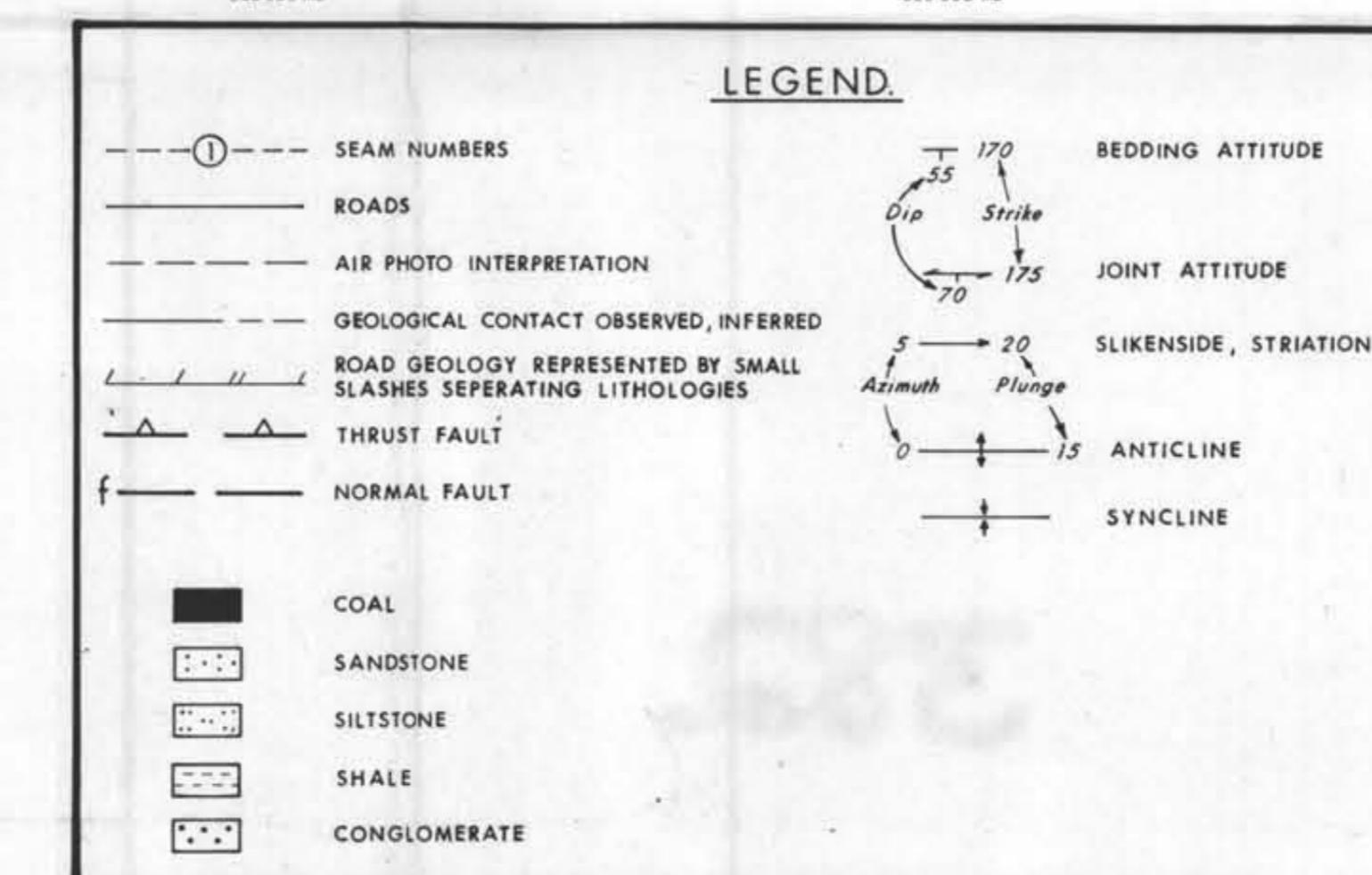
SCALE 1:5000
CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: JUNE/JULY, 1978

382
82 J 2 NORTH WEST ZONE F End.1
DRAWING NO. HK-23C
H-K-23C



RIVER LAKE
INTERMITTENT RIVER
TREE AREA
LINE OF TREES
INDIVIDUAL TREES
VERTICAL INTERVAL
DEPRESSION
SPOT HEIGHT
ROADS
AIR PHOTO INTERPRETATION
GEOLOGICAL CONTACT OBSERVED, INFERRED
ROAD GEOLOGY REPRESENTED BY SMALL SLASHES SEPARATING LITHOLOGIES
THRUST FAULT
NORMAL FAULT

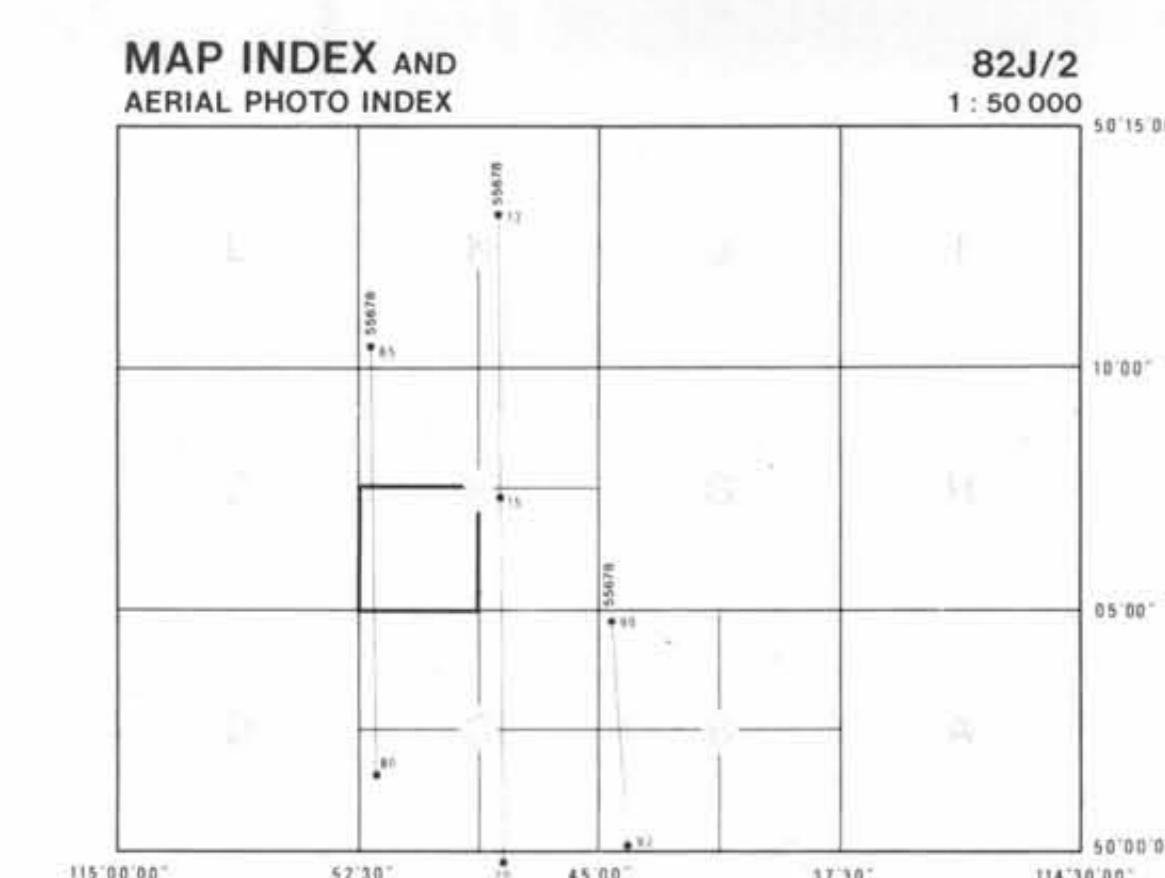

COAL
SANDSTONE
SILTSTONE
SHALE
CONGLOMERATE



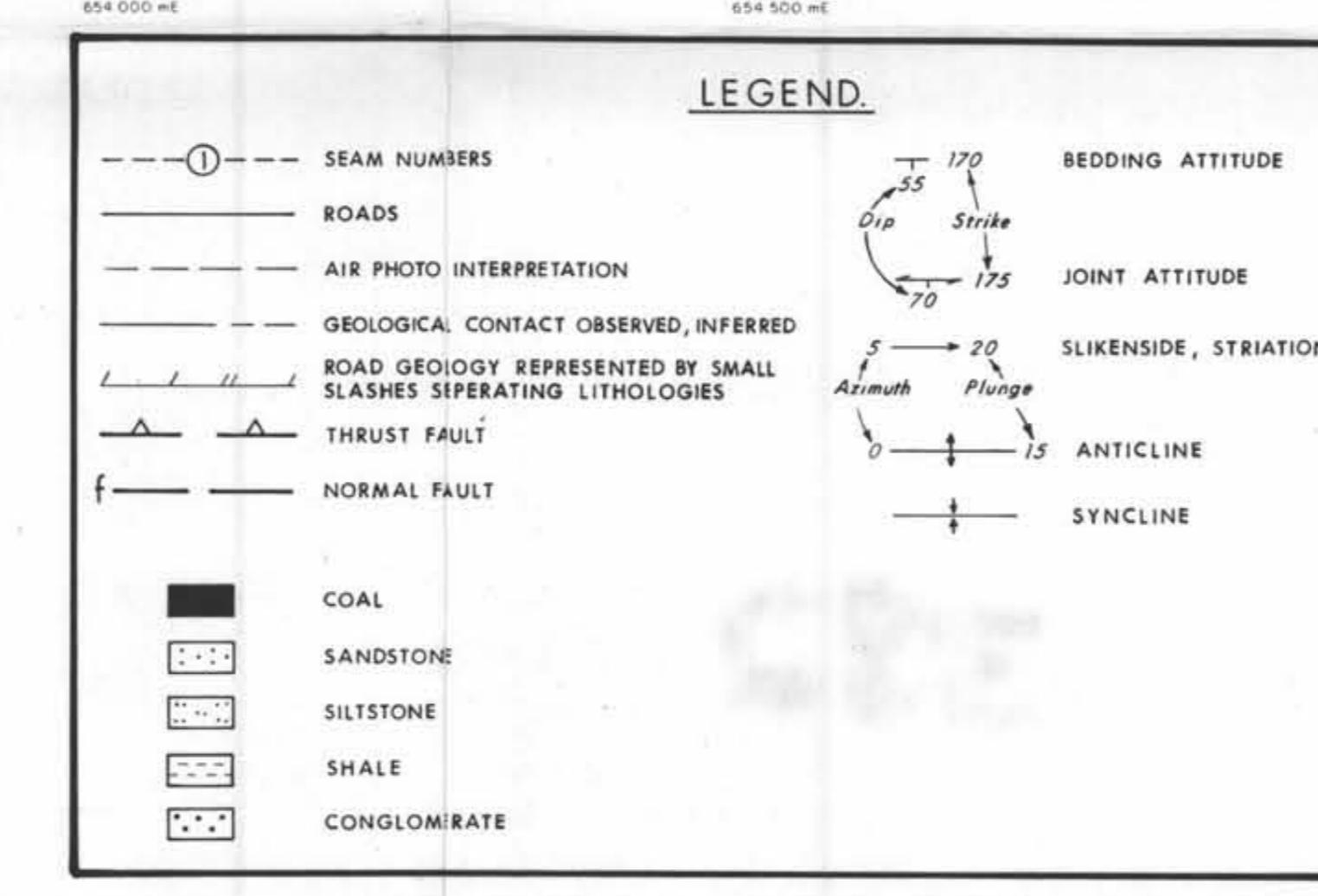
CROWS NEST RESOURCES LIMITED
CHAUNCEY RIDGE (MAP 2 of 4)
SOUTH EAST BRITISH COLUMBIA
GEOLOGY BASE

SCALE 1 : 5 000
CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: JUNE/JULY, 1978

382
82 J 2 NORTH EAST ZONE F
DRAWING NO. HK-23D Eel7
HK-23D



REFERENCE		
MAIN ROAD	=====	RIVER, LAKE
SECONDARY ROAD	— — — — —	INTERMITTENT RIVER
TRACK OR TRAIL	- - - - -	TREED AREA
RAILWAY	— + + + + —	LINE OF TREES
HEDGE FENCE	— H — X —	INDIVIDUAL TREES
BRIDGE CULVERT	— V —	VERTICAL INTERVAL
CUT FILL	— + + + + —	DEPRESSION
SWAMP	— + + + + —	SPOT HEIGHT
DRILL HOLE	▲	CONTROL POINT
		1812 1810 1808 • 1507
		PELI
		• 1507
MAP PROJECTION : UNIVERSAL TRANSVERSE MERCATOR CENTRAL MERIDIAN REFERENCE 117° W.		
PREPARED BY :		
 NORTH WEST SURVEY CORPORATION (YUK)		



CROWS NEST RESOURCES LIMITED
CHAUNCEY RIDGE (MAP 3 of 4)
SOUTH EAST BRITISH COLUMBIA
GEOLOGY BASE


METRES 100 50 0 100 200 300 400

SCALE 1 : 5 000
CONTOUR INTERVAL : 5 METRES
DATE OF PHOTOGRAPHY : JUNE / JULY 1970

AUTHOR: B.MORRIS DATE: APRIL 1981 DRAWING NO. HI-23 A

82 J 2 SOUTH WEST ZONE F

41-234



MAP INDEX AND
AERIAL PHOTO INDEX

82J/2

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
- MIL
- ADITS
- CL
- CL 266
- CL 265
- CL 264
- CL 267
- CL 268
- CL 269
- CL 270
- CL 271
- CL 272
- CL 273
- CL 274
- Fording
- River

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

PREPARED BY : NORTH WEST SURVEY CORPORATION (YUKON) LTD

LEGEND	
①	SEAM NUMBERS
—	ROADS
—	AIR PHOTO INTERPRETATION
—	GEOLOGICAL CONTACT OBSERVED, INFERRED
—	ROAD GEOLOGY REPRESENTED BY SMALL SLASHES SEPARATING LITHOLOGIES
—	THRUST FAULT
—	NORMAL FAULT
—	BEDDING ATTITUDE
—	JOINT ATTITUDE
—	SLIKENSEIDE, STRIATION
—	ANTICLINE
—	SYNCLINE
[Coal]	COAL
[Sandstone]	SANDSTONE
[Siltstone]	SILTSTONE
[Shale]	SHALE
[Conglomerate]	CONGLOMERATE

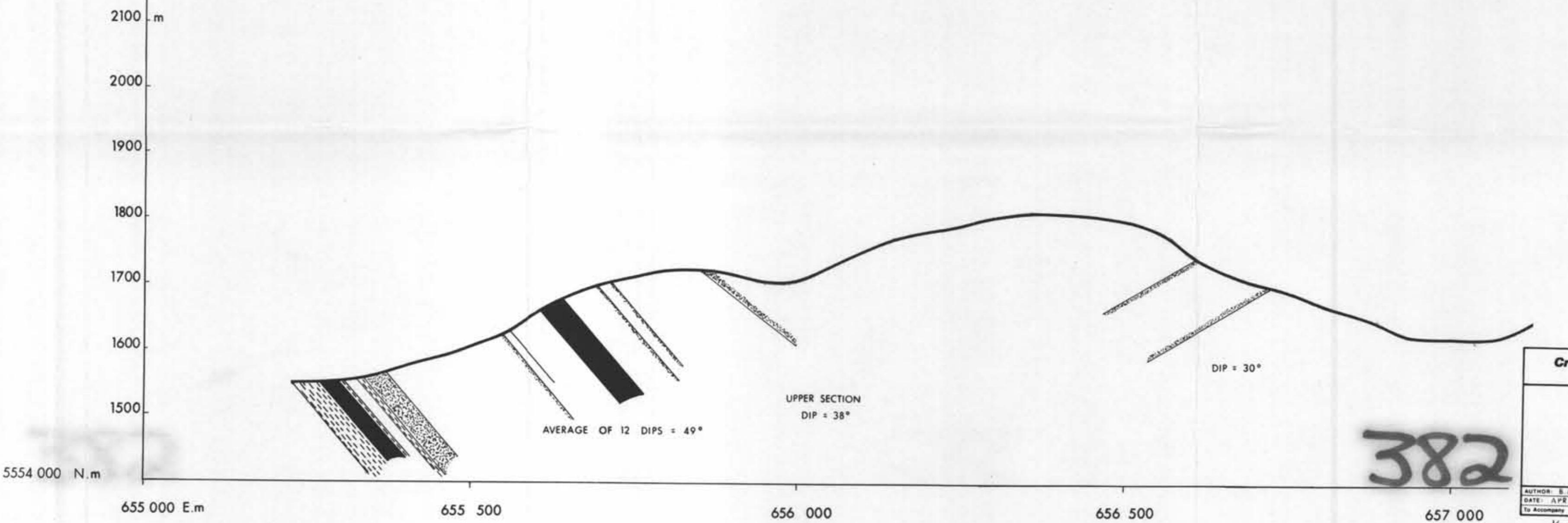
SCALE 1:5 000
CONTOUR INTERVAL: 5 METRES
DATE OF PHOTOGRAPHY: JUNE/JULY, 1978

Crows Nest Resources Limited		
EXPLORATION		
CHAUNCEY RIDGE S.E. B.C. BARE MOUNTAIN		
(MAP 1 of 4)		
GEOLOGY BASE		
382		
AUTHOR: B. MORRIS	SCALE: 1:5 000	ENCLOSURE No.: 7
DATE: APRIL 1981	REVISED:	
To Accompany		DRAWING NO: HD-73

HK-23B

Kashuk Chauncey Ridge SO

X - SECTION 5 554 000 N. CHAUNCEY RIDGE

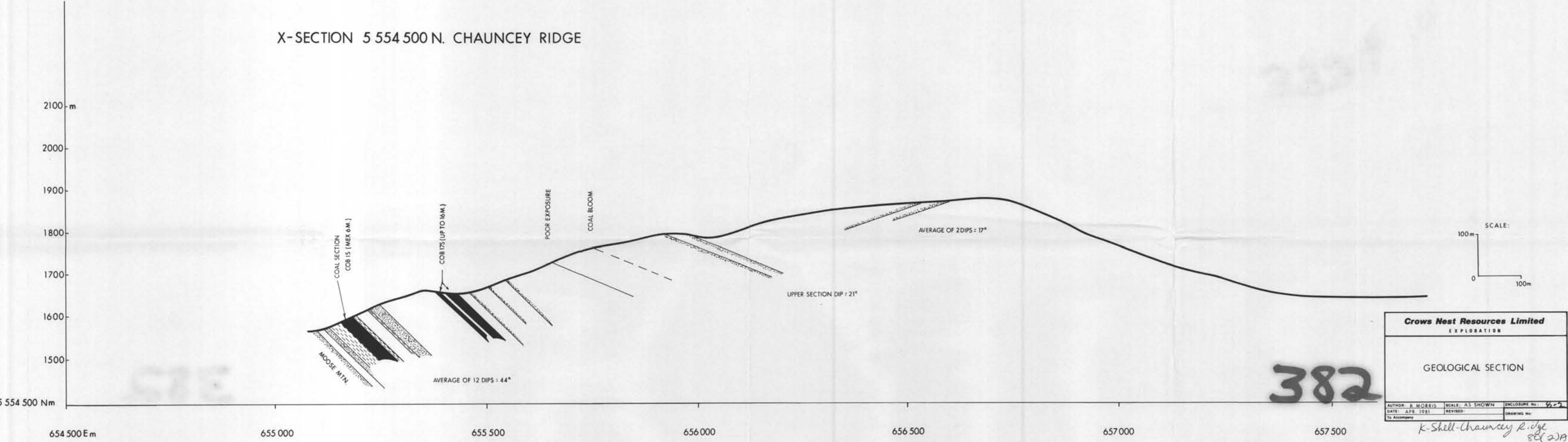


SCALE:
100m
0
100m

Crows Nest Resources Limited		
EXPLORATION		
GEOLOGICAL SECTION		
AUTHOR: B. MORRIS	SCALE: AS SHOWN	ENCLOSURE NO: 8-1
DATE: APR. 1981	REVISED:	
To Accompany		DRAWING NO:

K-Shell-Chauncey Ridge 8D(2)A

X-SECTION 5 554 500 N. CHAUNCEY RIDGE

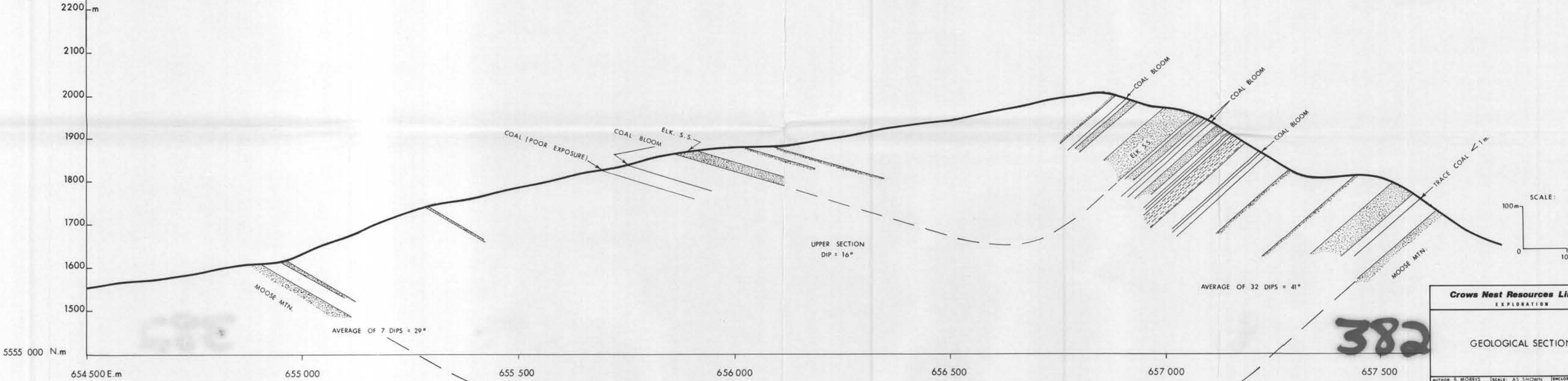


382

Crows Nest Resources Limited EXPLORATION		
GEOLOGICAL SECTION		
AUTHOR: B. MORRIS	SCALE: AS SHOWN	ENCLOSURE No.: 5-2
DATE: APR 1981	REVISED:	DRAWING No.: 80(2)A
To Accompany		

K-Shell-Chauncey Ridge
80(2)A

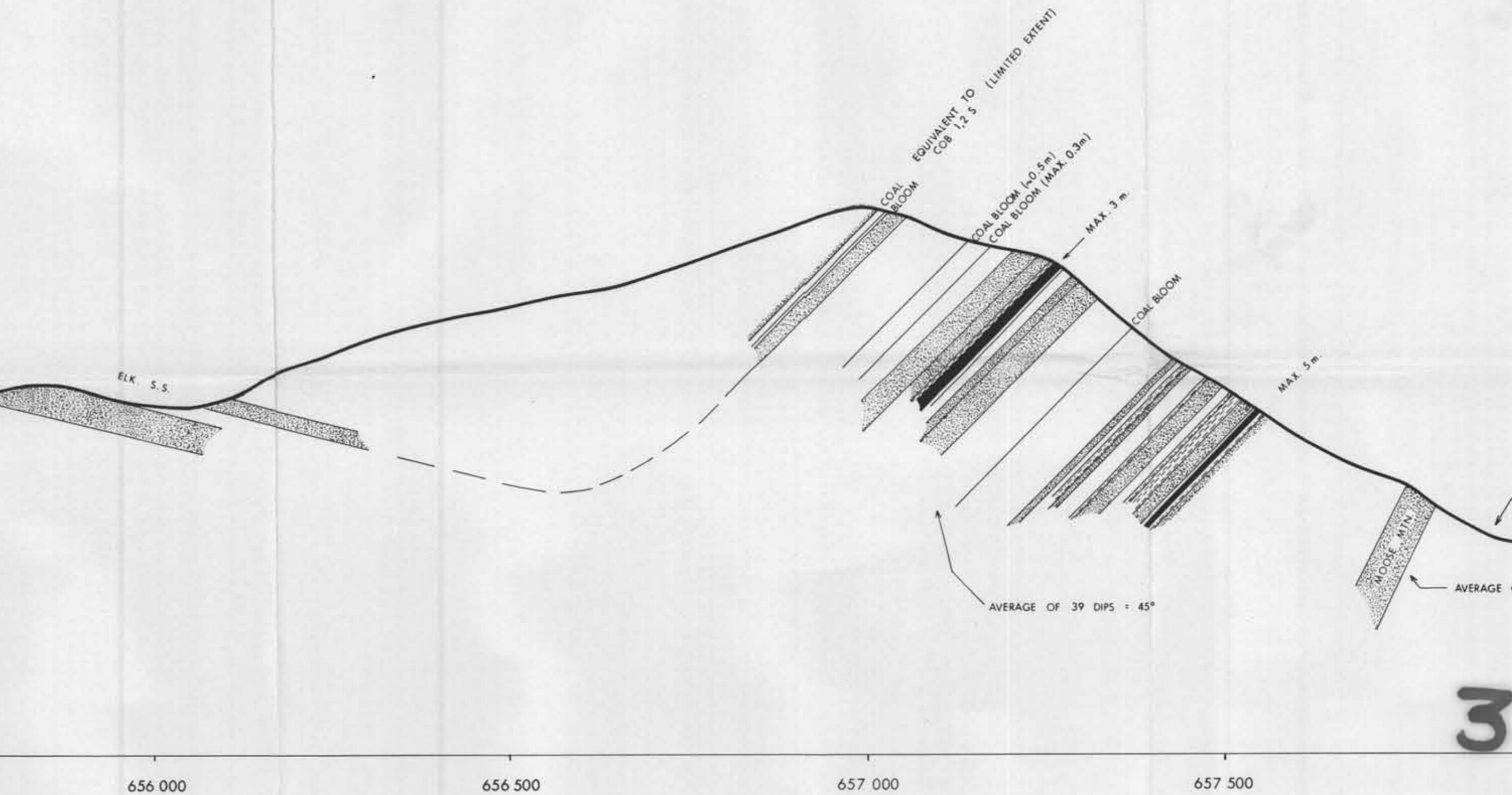
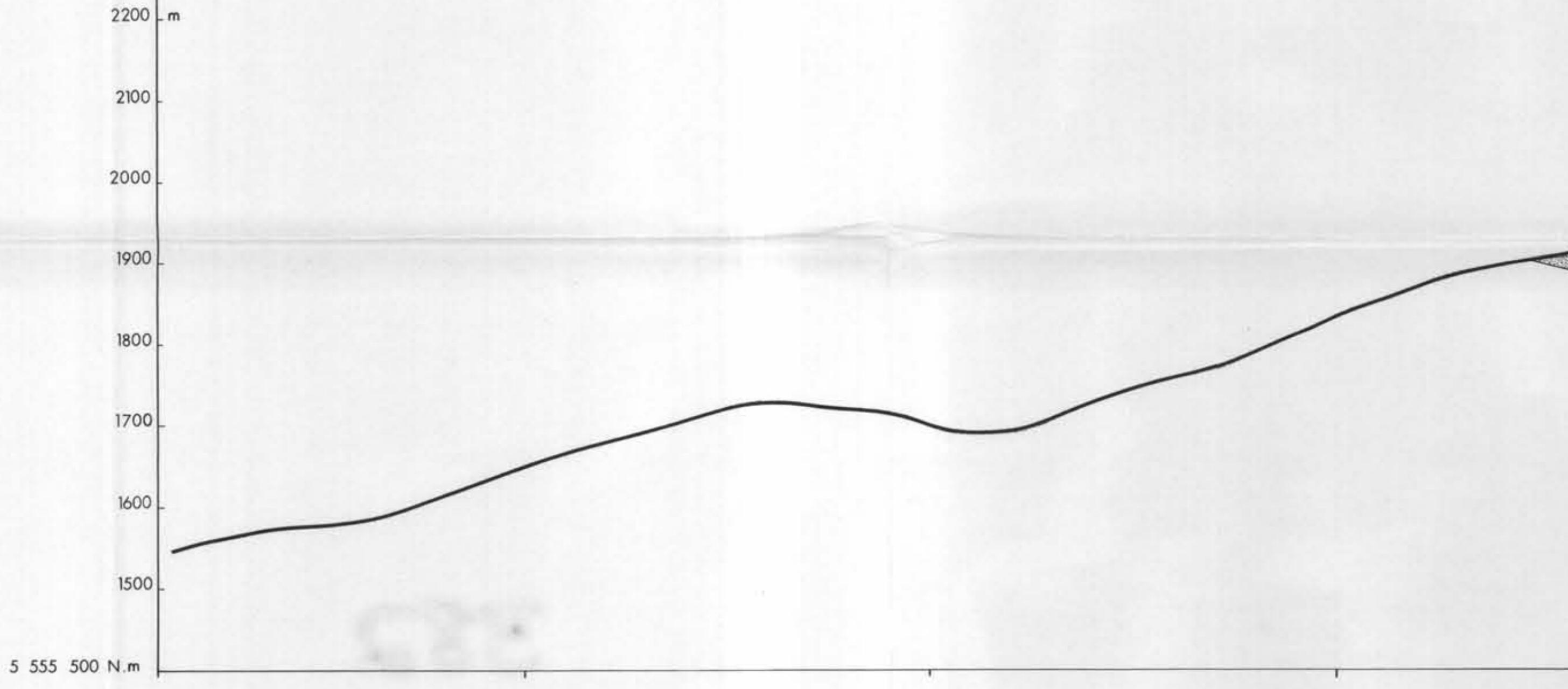
X-SECTION 5 555 000 N. CHAUNCEY RIDGE



Crows Nest Resources Limited		
EXPLORATION		
GEOLOGICAL SECTION		
AUTHOR: B. MORRIS	SCALE: AS SHOWN	ENCLOSURE NO: B-3
DATE: APR 1981	REVISED:	
To Accompany		

K-Shell - Chauncey Ridge
SD(2)A

X - SECTION 5 555 500 N. CHAUNCEY RIDGE



Crows Nest Resources Limited
EXPLORATION

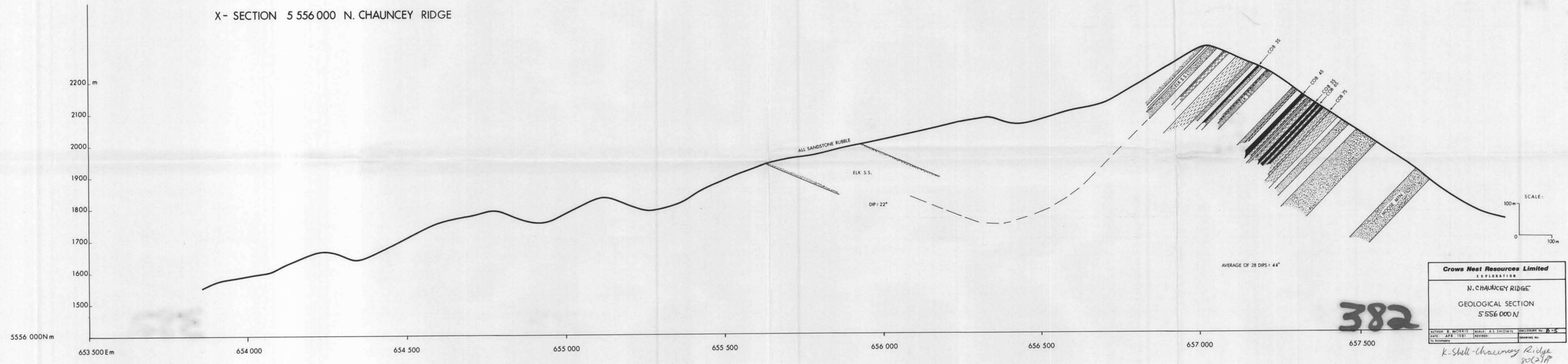
GEOLOGICAL SECTION

AUTHOR: B. MORRIS SCALE: AS SHOWN ENCLOSURE NO: B-4
DATE: APR. 1981 REVISED: DRAWING NO:
To Accompany

K-Shell-Chauncey Ridge
SDL 2/19

382

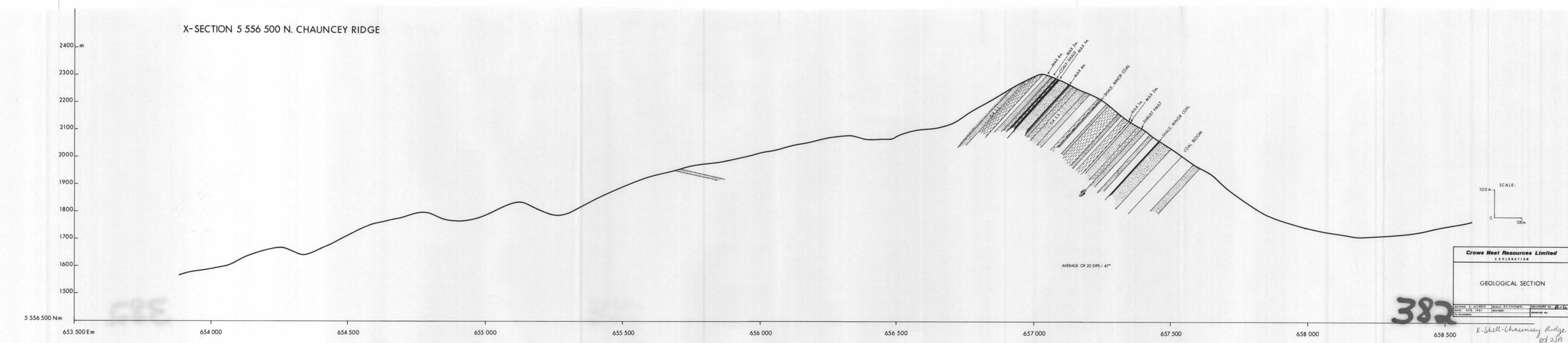
X- SECTION 5 556 000 N. CHAUNCEY RIDGE



Crows Nest Resources Limited
EXPLORATION
N. CHAUNCEY RIDGE
GEOLOGICAL SECTION
5 556 000 N

AUTHOR: B. MORRIS DATE: APR 1981 REVISED:
To Accompany DRAWING NO: 5-5

K-Shell-Chauncey Ridge
80(2)A



382

STRATIGRAPHIC SECTION

DESIGNATION:

PART _____ OF _____

PROJECT: NORTH BLOCK

AUTHOR: R.J. MORRIS

DATE: 1980-07-26

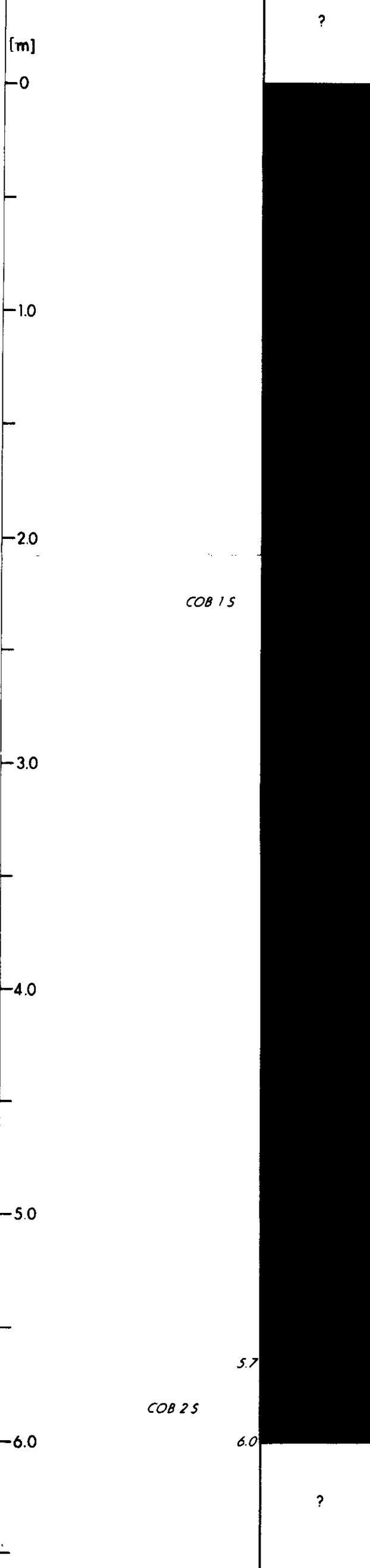
AREA: CHAUNCEY RIDGE

SOURCE OF DATA:

LOCATION: PETE'S RIDGE (ELK COAL)

BOOK RJM 80-3 P.98

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION		SAMPLE RAW ASH
					MAIN	AMPLIFIED	



COB 1&2S

Poor fw. exposure

COB 1S

Coal, med bright

5.7

Coal, hard, dull

COB 2S

6.0

Poor fw. exposure

SCALE 1:20

382

STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: NORTH BLOCK

PART _____ OF _____

AREA: CHAUNCEY RIDGE

AUTHOR: R.J. MORRIS

DATE: 1980-07-26

LOCATION: PETE'S RIDGE

SOURCE OF DATA:

BOOK RJM 80-3 P-99

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION		SAMPLE RAW ASH
					MAIN	AMPLIFIED	

COB 3 S

[m]

1

-0

32
35

Shale, block

-1.0

87
99

Coal, bright

Shale

Coal, bright, hard

-2.0

185

Shale, rusty

Coal, bright, hard

SCALE 1:20

1

2

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STRATIGRAPHIC SECTION

PROJECT: NORTH BLOCK

AREA: CHAUNCEY RIDGE

INTERVAL

DESIGNATION:		PART _____ OF _____
AUTHOR:	R. J. MORRIS	DATE: 1980 07 26
SOURCE OF DATA:	BOOK: RJM 80-3 P.100	
DESCRIPTION		

382

STRATIGRAPHIC SECTION

DESIGNATION:

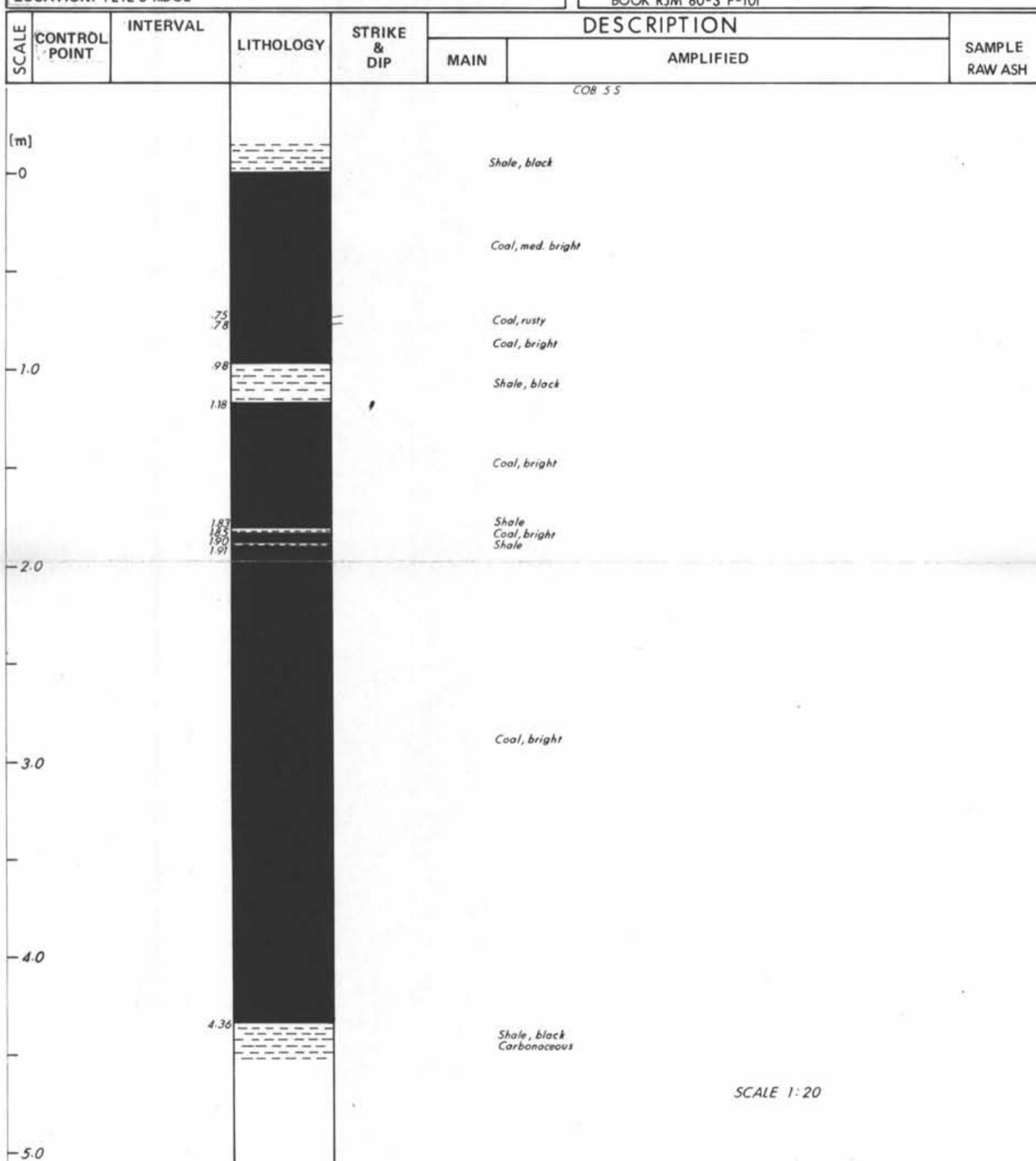
PART _____ OF _____

AUTHOR: R.J. MORRIS

DATE: 1980 07 26

SOURCE OF DATA:

BOOK RJM 80-3 P-101



382

STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: NORTH BLOCK

PART _____ OF _____

AREA: CHAUNCEY RIDGE

AUTHOR: R.J. MORRIS

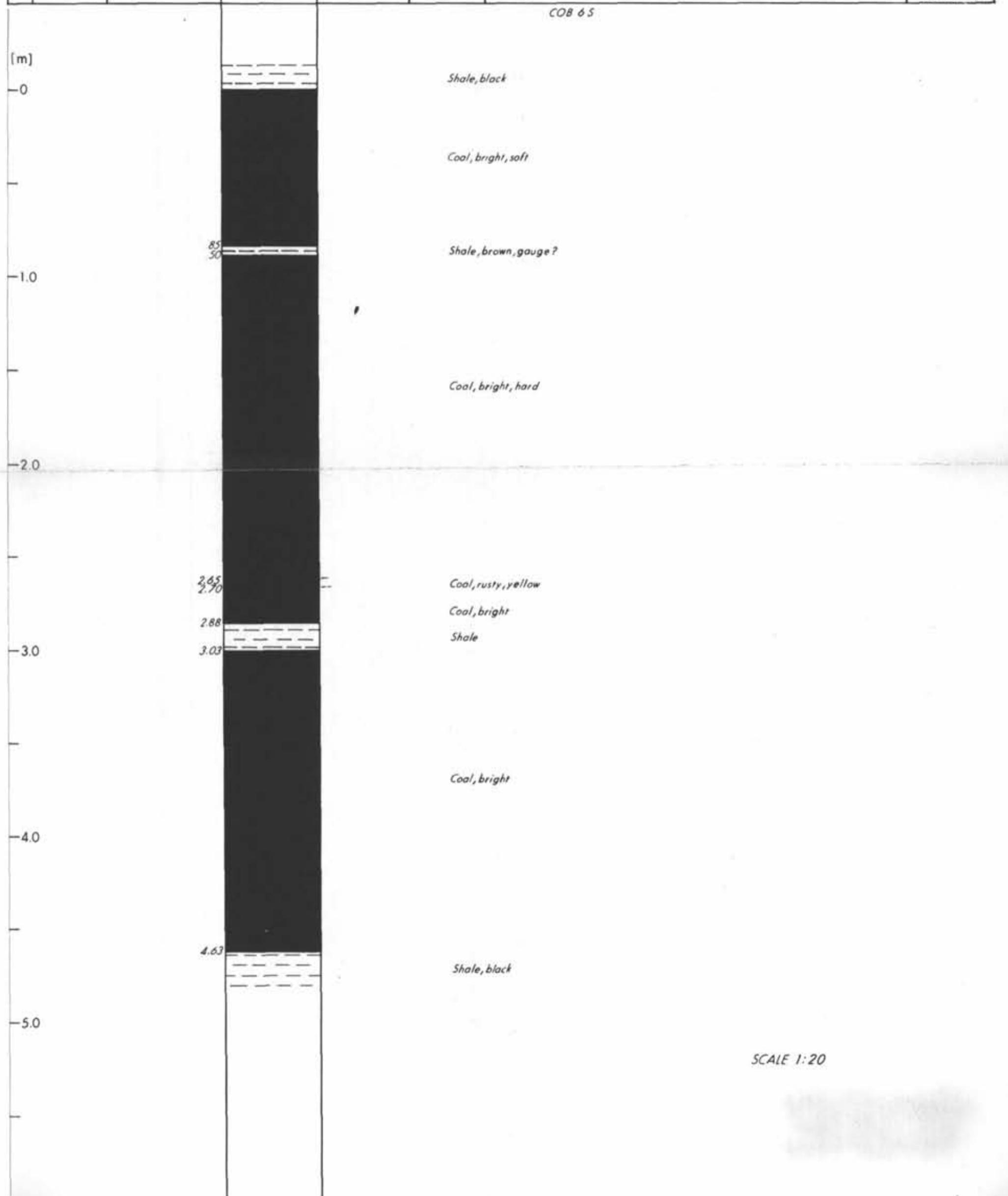
DATE: 1980-07-26

LOCATION: PETE'S RIDGE

SOURCE OF DATA:

BOOK RJM 80-3 P.103

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION		SAMPLE RAW ASH
					MAIN	AMPLIFIED	



K-Shell-Chauncey Ridge

Encl 9-1

80(3)A * 2

382

STRATIGRAPHIC SECTION

DESIGNATION:

PART _____ **OF** _____

PROJECT: NORTH BLOCK

AUTHOR: R. J. MORRIS

DATE: 1980 - 07 - 26

AREA: CHAUNCEY RIDGE

SOURCE OF DATA:

LOCATION: PETE'S RIDGE

BOOK : RJM 80-3 P.103

K Shell-Chauncey Ridge
SD(3)A #2

Encl 9-1

382

STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: NORTH BLOCK

PART _____ OF _____

AREA: CHAUNCEY RIDGE

AUTHOR: R.J. MORRIS

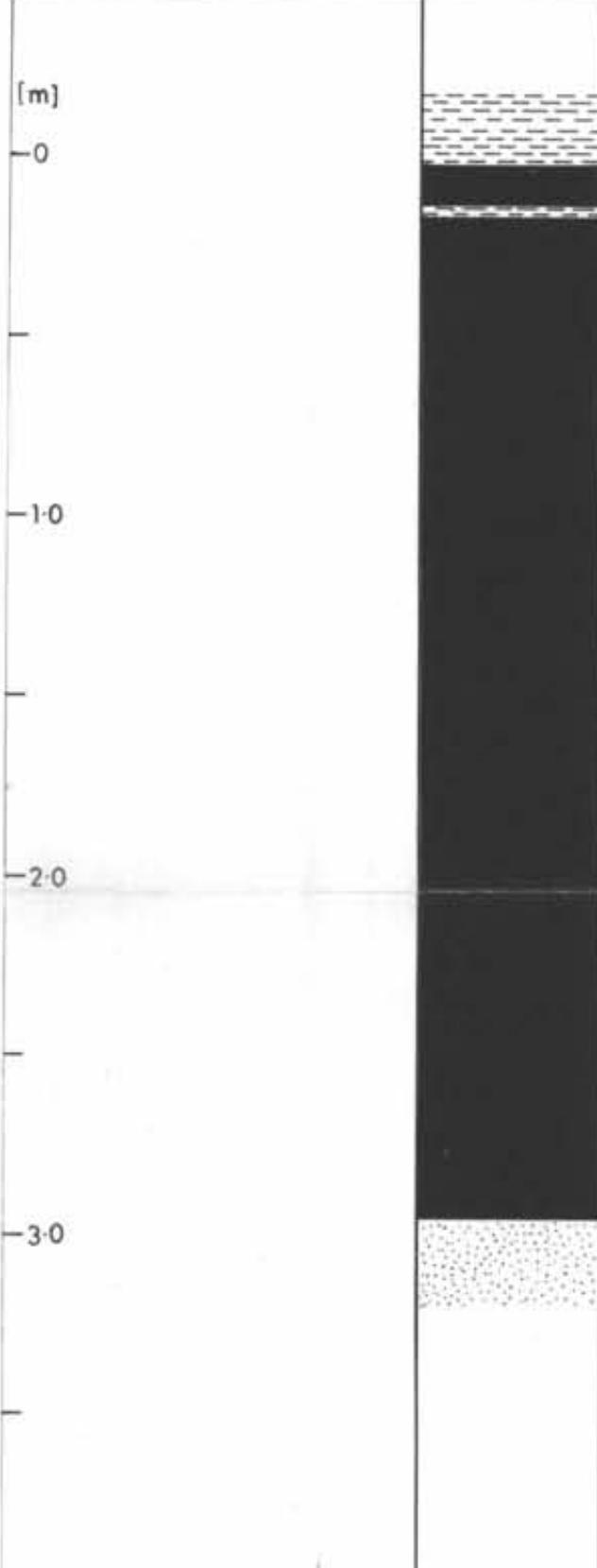
DATE: 1980-07-26

LOCATION: PETE'S RIDGE

SOURCE OF DATA:

BOOK RJM 80-4 P-15

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



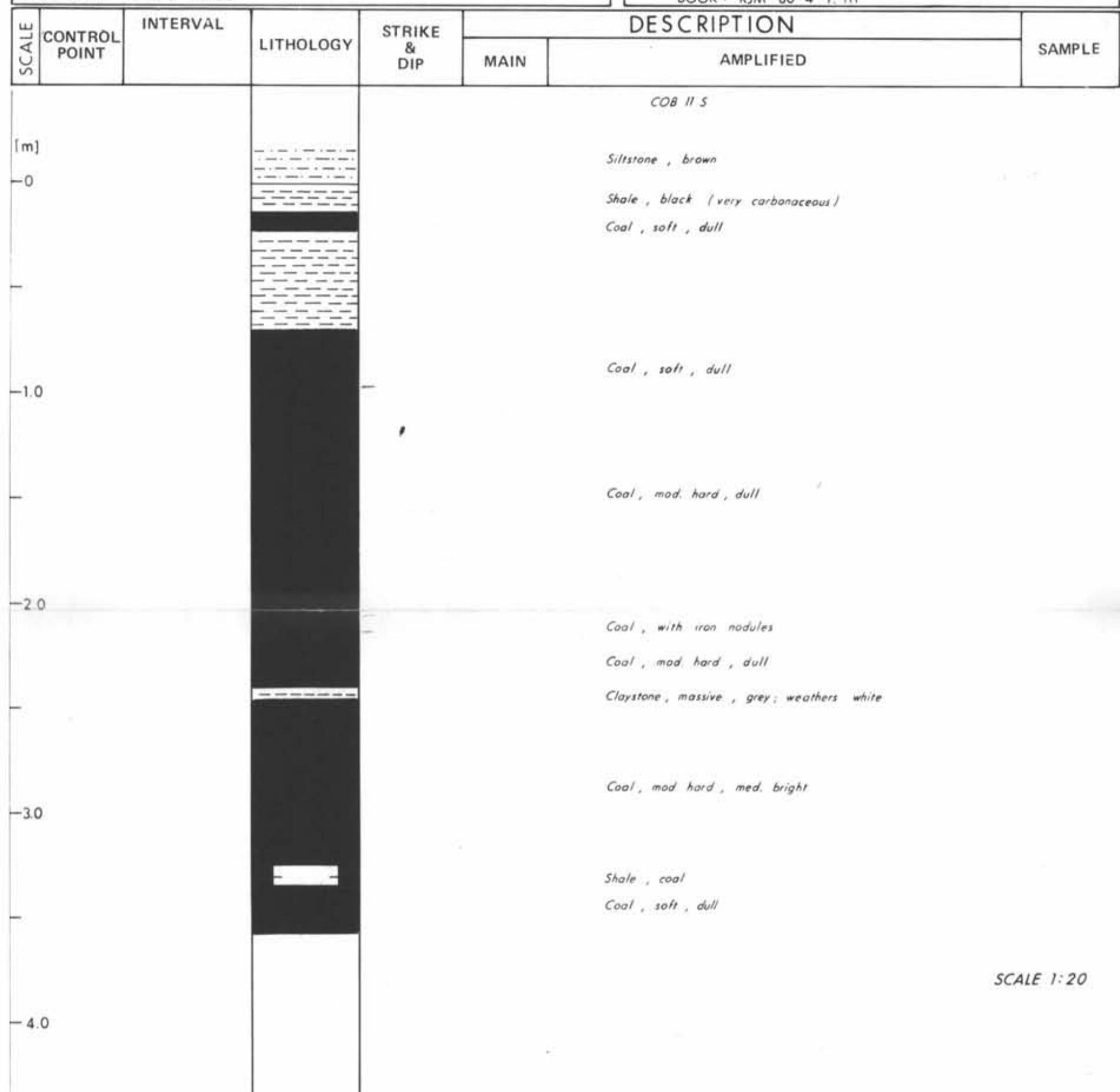
382

STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: NORTH BLOCK
 AREA: CHAUNCEY RIDGE
 LOCATION: PETE'S RIDGE

	PART _____ OF _____
AUTHOR: R.J. MORRIS	DATE: 1980-07-26
SOURCE OF DATA:	
BOOK: RJM 80-4 P. 111	

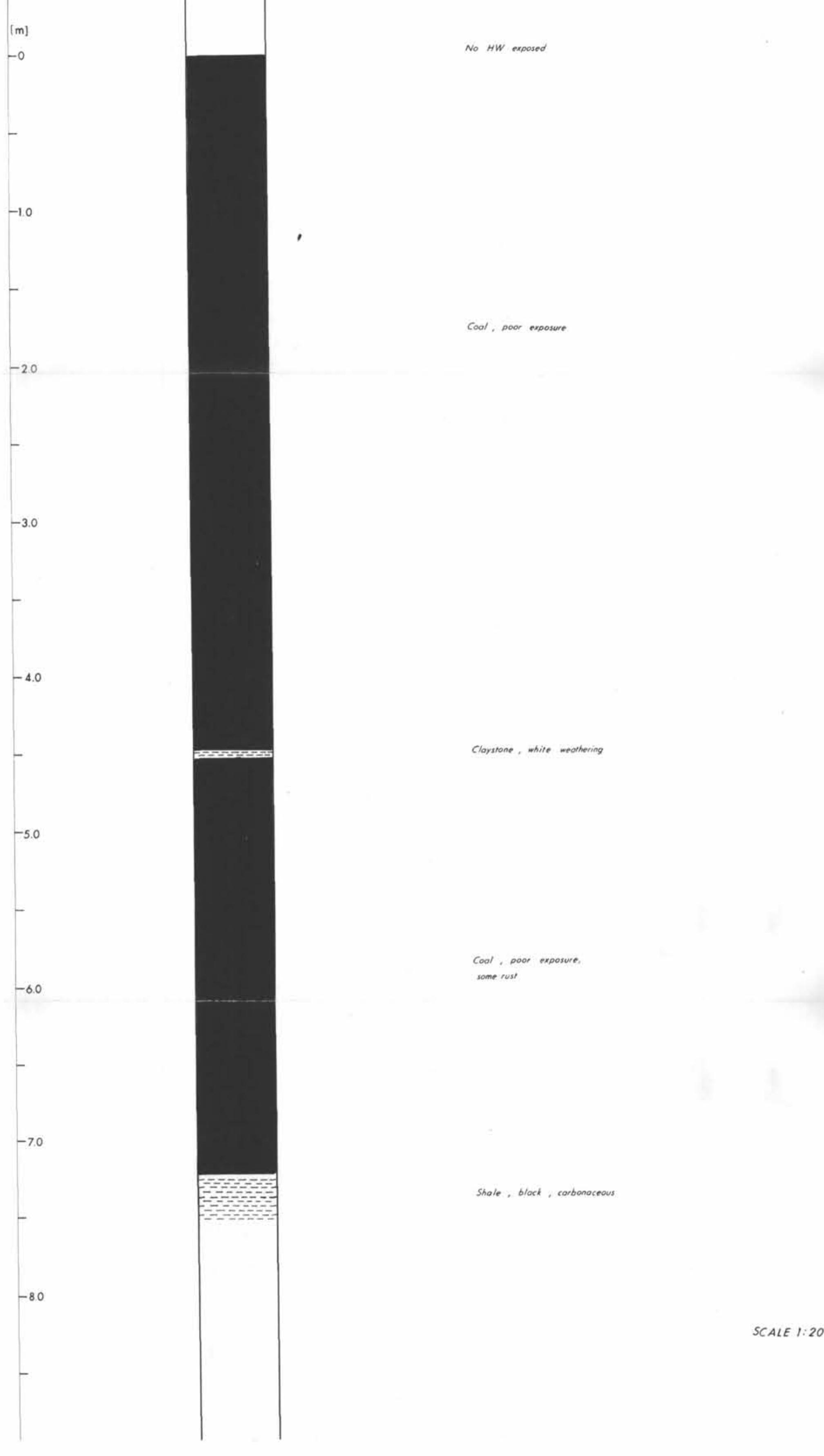


382

STRATIGRAPHIC SECTION

DESIGNATION:	PART _____ OF _____
AUTHOR: R.J. MORRIS	DATE: 1980-07-26
SOURCE OF DATA: BOOK: RJM 80-4 P. 111-112	

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION		SAMPLE
					MAIN	AMPLIFIED	
					COB 12 S		



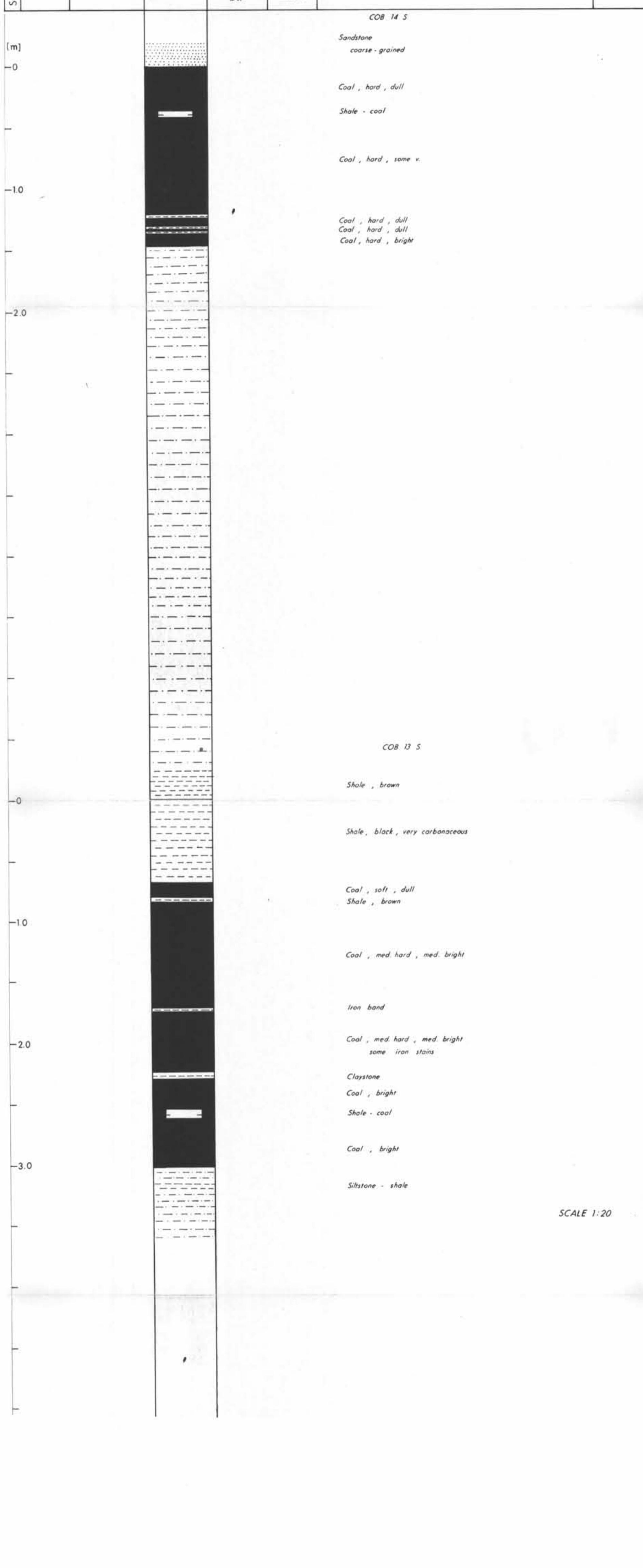
K-Shell-Chaumey Ridge 80(3)A #2 End 9-2

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PROJECT: NORTH BLOCK

AREA: CHAUNCEY RIDGE		LOCATION: PETE'S RIDGE			
SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	
					MAIN

AUTHOR: R.J. MORRIS	DATE: 1980-07-26				
SOURCE OF DATA:					
BOOK : RJM 80-4 P. 116-117					
<table border="1"> <tr> <th>DESCRIPTION</th> <th>SAMPLE</th> </tr> <tr> <td>MAIN</td> <td>AMPLIFIED</td> </tr> </table>		DESCRIPTION	SAMPLE	MAIN	AMPLIFIED
DESCRIPTION	SAMPLE				
MAIN	AMPLIFIED				



K-Shell-Chauncey Ridge

Encl 9-2

80(3)A

#2

382

STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: NORTH BLOCK

PART _____ OF _____

AREA: CHAUNCEY RIDGE

AUTHOR: R. J. MORRIS

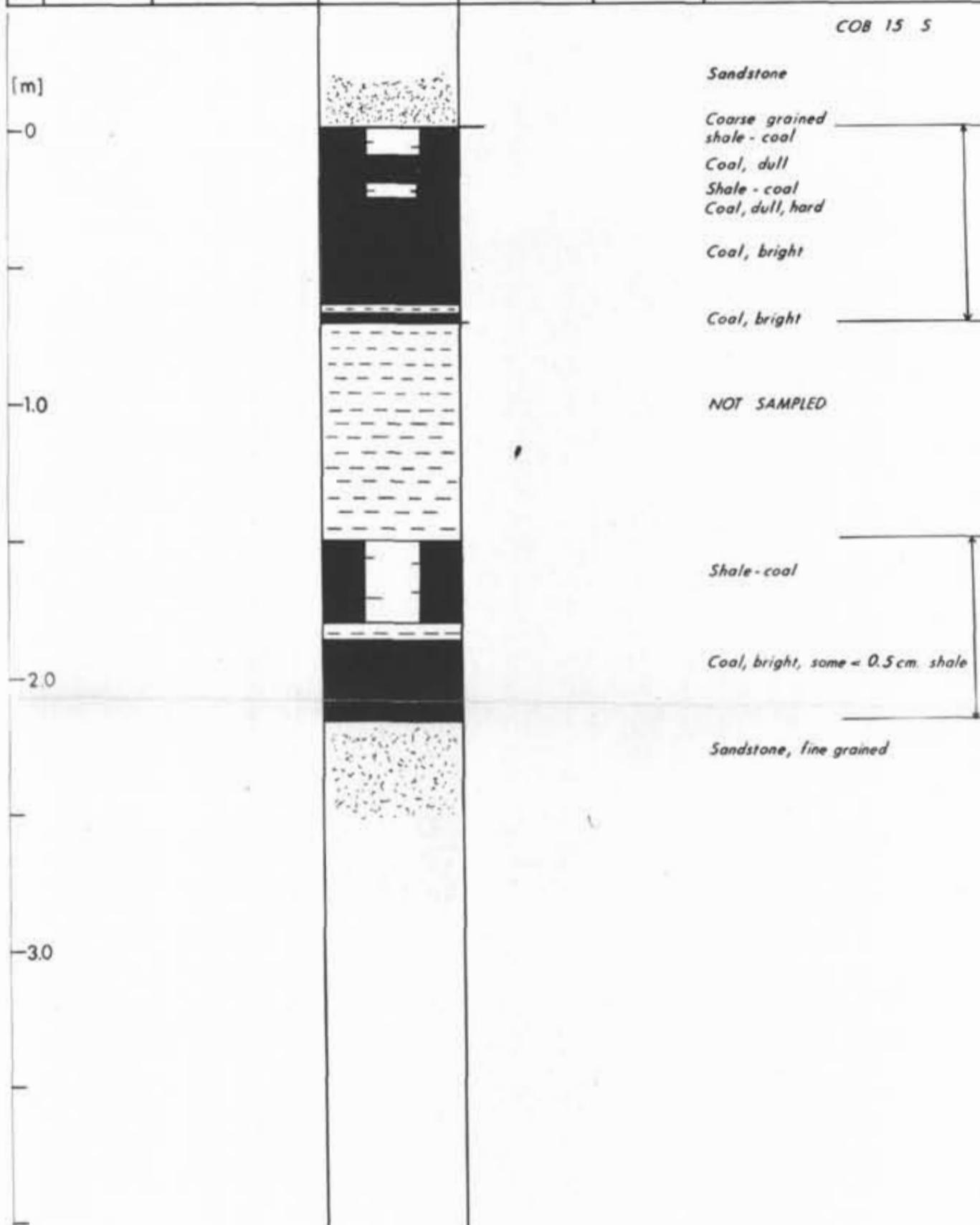
DATE: 1980-07-26

LOCATION: PETE'S RIDGE

SOURCE OF DATA:

BOOK: RJM 80-4 P. 121

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



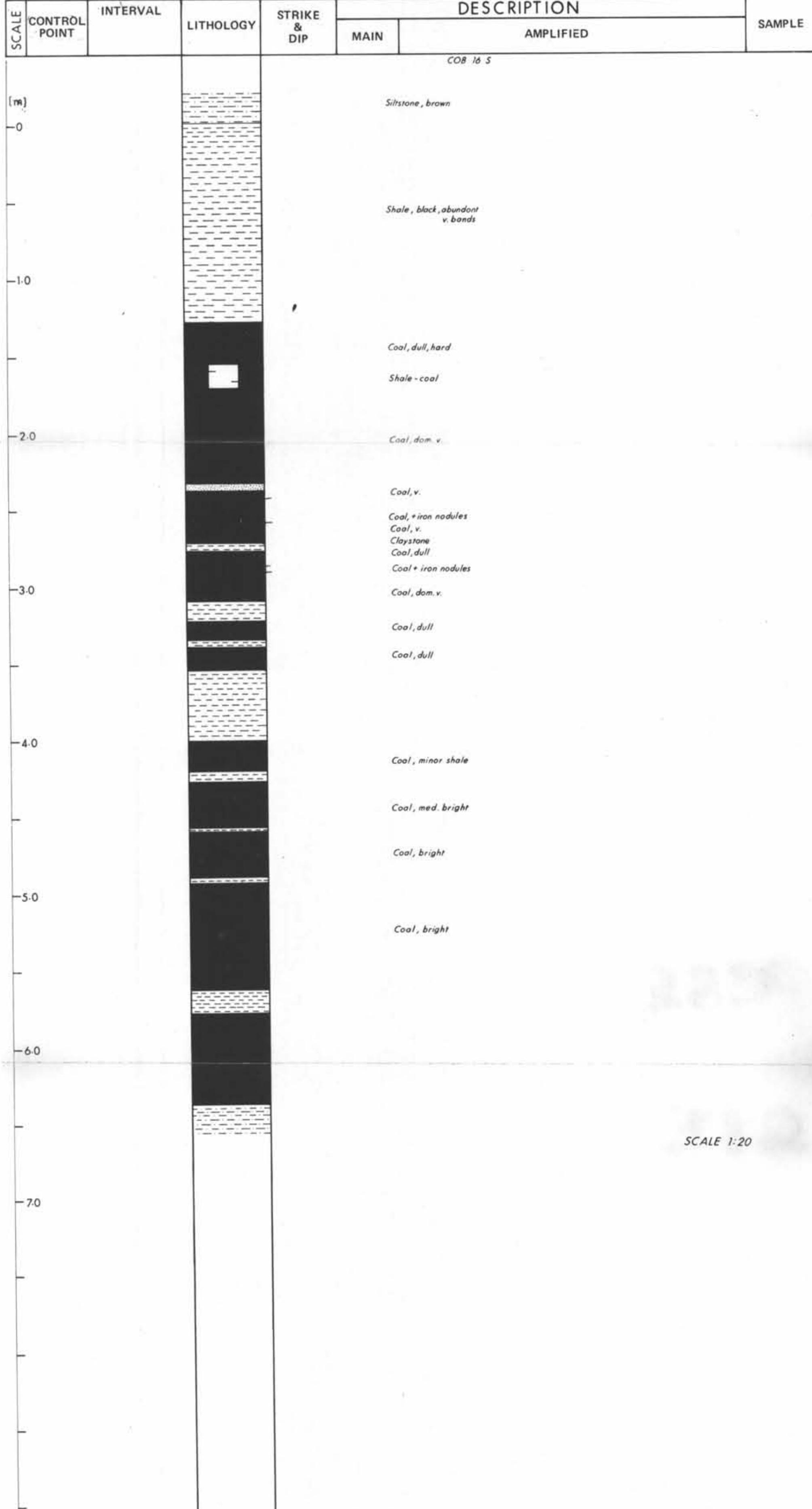
SCALE 1:20

382

STRATIGRAPHIC SECTION

PROJECT: NORTH BLOCK
 AREA: CHAUNCEY RIDGE
 LOCATION: PETE'S RIDGE

DESIGNATION:	PART _____ OF _____
AUTHOR: R.J MORRIS	DATE: 1980-07-26
SOURCE OF DATA:	
BOOK RJM 80-4 P.122-123	



SCALE 1:20

382

STRATIGRAPHIC SECTION

DESIGNATION: _____ PART _____ OF _____

PROJECT: NORTH BLOCK

AREA: CHAUNCEY RIDGE

LOCATION: PETE'S RIDGE

AUTHOR: R.J MORRIS DATE: 1980-07-26

SOURCE OF DATA:

BOOK RJM 80-4 P123

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

[m]

-0

-10

-20

-30

-40

-50

-60

-70

-80

-90

-100

-110

-120

-130

-140

-150

-160

COB 17 S

Coal, dull, soft

SCALE 1:20

80(3) A 42

382

STRATIGRAPHIC SECTION

DESIGNATION:

PROJECT: NORTH BLOCK

PART _____ OF _____

AREA: CHAUNCEY RIDGE

AUTHOR: R.J. MORRIS

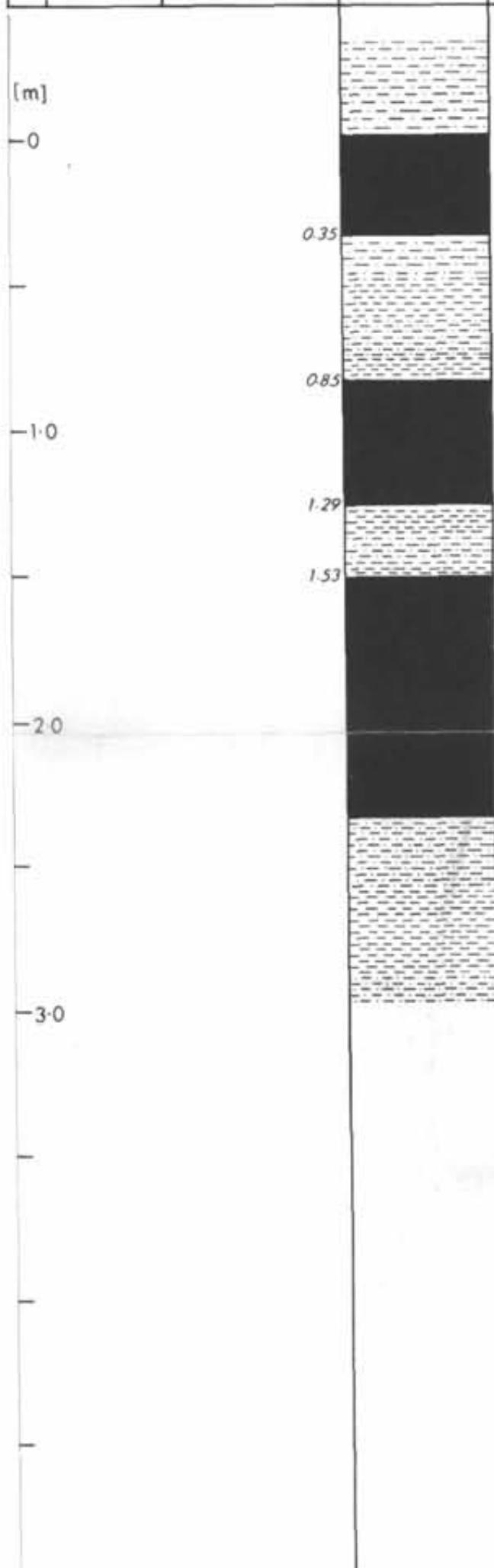
DATE: 1980 08 18

LOCATION: ELK RIDGE (COAL TRENCHES)

SOURCE OF DATA:

BOOK APPA BOOK #2 P106

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



SCALE 1:20

382

STRATIGRAPHIC SECTION

PROJECT: NORTH BLOCK

AREA: CHAUNCEY RIDGE

LOCATION: ELK RIDGE (COAL TRENCH)

DESIGNATION:

PART _____ OF _____

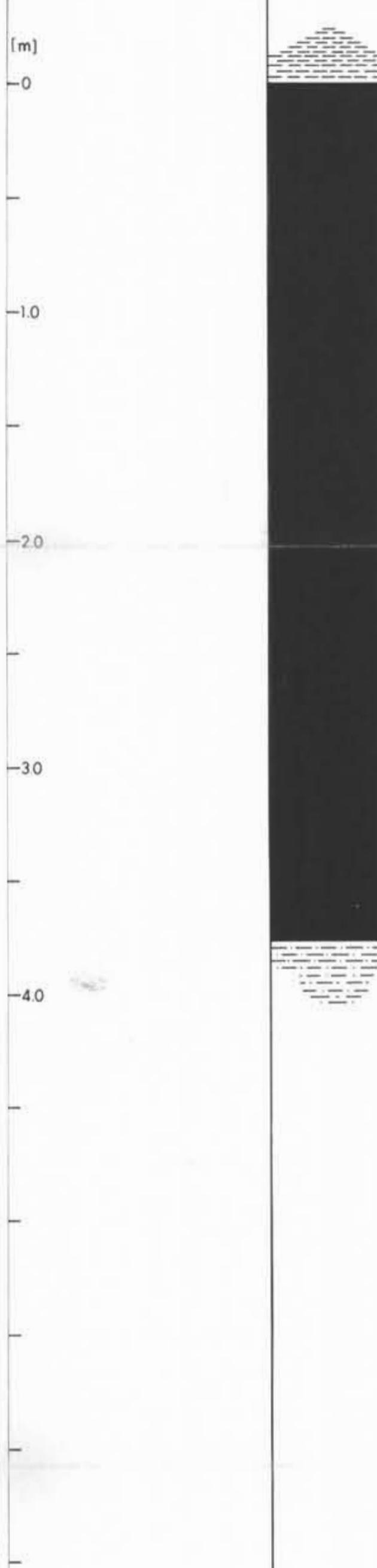
AUTHOR: R.J. MORRIS

DATE: 1980-08-18

SOURCE OF DATA:

BOOK APPA BOOK 2 P.106-107

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



COP 3 T

SCALE 1:20

382

STRATIGRAPHIC SECTION

DESIGNATION:	PART _____ OF _____
AUTHOR: R.J.MORRIS	DATE: 1980-08-18
SOURCE OF DATA: BOOK APPA #2 P 107	

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION		SAMPLE
					MAIN	AMPLIFIED	
[m]							COP 4 T
-0							Shale
0.58							Coal, hard, dull
0.89							Coal, soft, bright
0.07 <							Coaly shale
0.45							Coal, hard, bright
2.0							
0.90							Coal, hard, dull, heavy
1.70							Coal, soft, semi bright
4.0							
5.0							Coal, shaly
							Sh / siltst.

SCALE 1:20

382

STRATIGRAPHIC SECTION

DESIGNATION:

PART _____ OF _____

PROJECT: NORTH BLOCK

AUTHOR: R J MORRIS

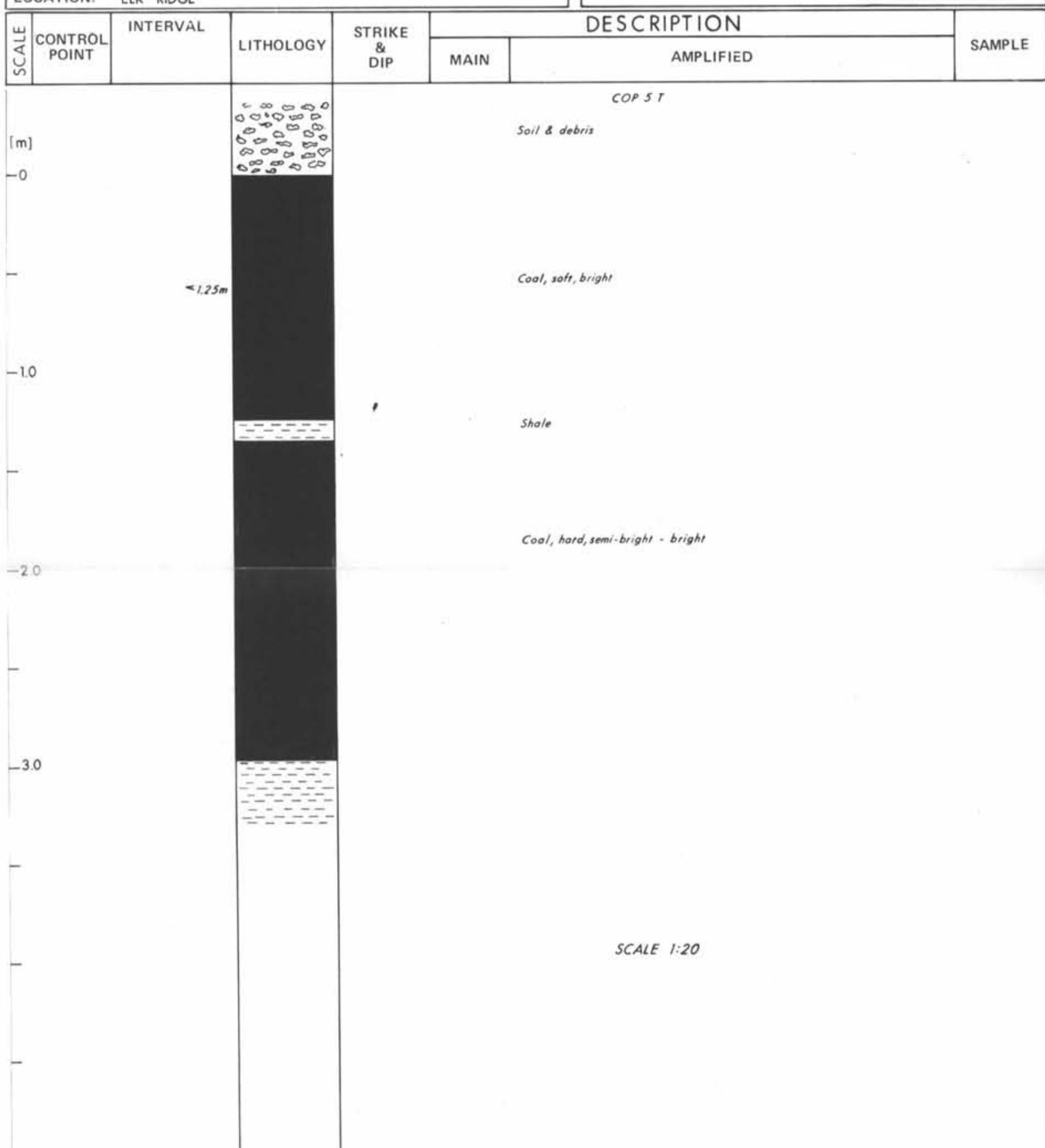
DATE: 1980 - 08 - 19

AREA: CHAUNCEY RIDGE

SOURCE OF DATA:

LOCATION: ELK RIDGE

BOOK: APPA. BOOK # 2 P.108



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STRATIGRAPHIC SECTION

DESIGNATION: _____ PART _____ OF _____

PROJECT: NORTH BLOCK

AUTHOR: R.J. MORRIS DATE: 1980-07-26

AREA: CHAUNCEY RIDGE

SOURCE OF DATA:

LOCATION: PETE'S RIDGE

BOOK APPA 80-1 P.95

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STRATIGRAPHIC SECTION

DESIGNATION:

PART _____ OF _____

PROJECT: NORTH BLOCK

AREA: CHAUNCEY RIDGE

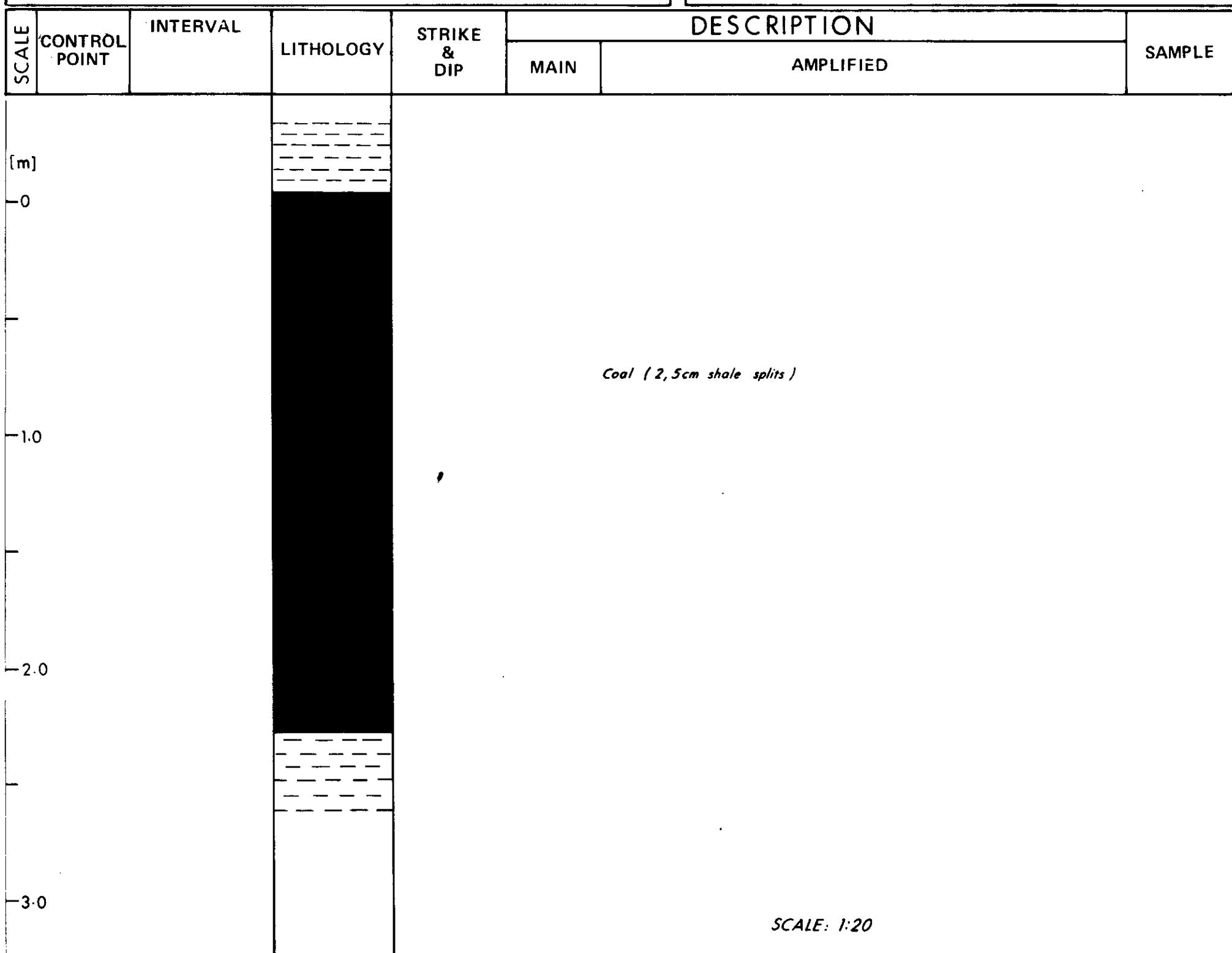
LOCATION: KRL ROAD

AUTHOR: R. J. MORRIS

DATE: 1980-07-26

SOURCE OF DATA:

BOOK: APPA 80-1 P.10



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STRATIGRAPHIC SECTION

PROJECT: NORTH BLOCK

AREA: CHAUNCEY RIDGE WEST (R.R. CUT, #1 SEAM)

LOCATION:

DESIGNATION: _____ PART _____ OF _____

AUTHOR: R.J. MORRIS DATE: 1980-07-26

SOURCE OF DATA:

BOOK RJM 80-2 P133

