K-Shell Burnt Ridge Ext. 81(1)A

BURNT RIDGE
EXTENSION

COAL PROSPECT
GROUP 214

REPORT ON COAL
LICENCES NOS.
264 - 276 INCLUSIVE

1981

00377

377

BURNT RIDGE EXTENSION

GEOLOGICAL REPORT ON COAL LICENSES

NOS. 272, 273 AND 267

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' NORTHERN LATITUDE

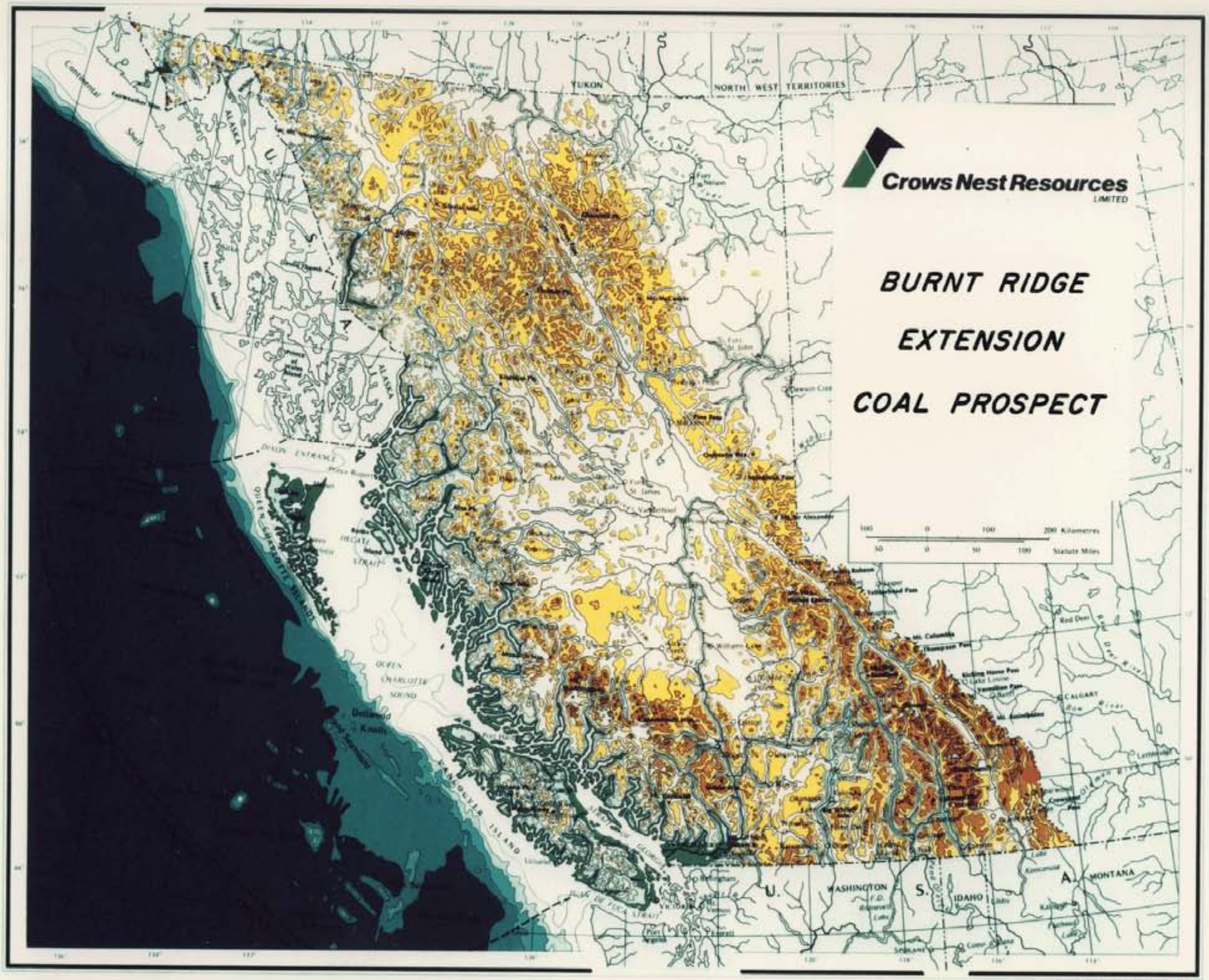
114° 45' TO 114° 50' WESTERN LONGITUDE

FIELD WORK: 1981 SEASON

REPORT WORK: FEBRUARY 1982

AUTHOR: B. D. Ryan, Ph.D.

2a/CLd.1



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K-Shell Burnt Ridge Ext 81(1)A

K. Shell Burnt Ridge Ext 81(1)A

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 Burnt Ridge Extension Project. Dr. Barry D. Ryan was in charge of the 1981 geological field program on Burnt Ridge Extension Coal Licences held by Shell Canada Resources Limited and operated by Crows Nest Resources Limited. He also prepared this report.

Dr. Ryan received his BSc Honours degree in Geology from the University of B.C. in 1967 and his PhD from the same University in 1973. He has worked for a number of mining companies before accepting a post with CNRL in April 1981.

I consider Dr. Ryan to be well qualified to expedite the geological field work and report preparation involved in this project. I am satified 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

2a/CLd.2

OPEN FILE
CONFIDENTIAL

BURNT RIDGE EXTENSION

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1.0 SUMMARY

Burnt Ridge Extension is the property name assigned by Crows Nest Resources Limited (CNRL) to a block of 3 coal Licences in Southeast B.C. The property is 10 air kilometres northeast of Elkford on the west side of the Fording River.

In this region coal-bearing rocks of the Jura-Cretaceous Kootenay Group are preserved in the core of the north trending Alexander Creek Syncline (Fording Syncline). This remnant of contiguous coal-bearing rocks is referred to as the Elk Valley Coal Field. (Pearson and Grieve 1980). There are three major coal mines located in the Elk Valley coal field; the Fording Mine 4 km to the north; Greenhills Mine under construction 3 km to the west, and the Line Creek Mine 20 km to the south of Burnt Ridge Extension. The road and rail transport routes to the Fording Mine follow the Fording Valley at the eastern edge of the property.

The Kootenay Group is divided into three formations (Gibson 1979) the middle Mist Mountain formation contains mineable quantities of coal. A complete section averaging 437 m of Mist Mountain Formation crops-out on the property. It contains an average of 54 m of coal whose rank covers the range of medium volutile bituminous.

Strata on Burnt Ridge Extension dips east a 5° to 30° steeper than the topographic slope which forms the west side of the Fording River Valley; the property is therefore amenable to open pit mining.

The in place coal resource for the property is about 80 million tonnes down to the elevation of the Fording River. Mineable reserves based on open pit geometry are about 63 million tonnes with a stripping ratio of 4.7/1 using a 1.5 specific gravity for coal in place. A pit with its low wall on the base of the coal bearing section would encompass some BC coal ground and would have reserves of approximately 100 million tons.

The 1981 exploration program included 1:2000 scale detailed geological mapping, road construction, and the drilling of 3 cored HQ size diamond drill holes. The total expenditure for the 1981 exploration program was $332,850.00.

A 1982 exploration program, incorporating more road construction detailed geological mapping, and an expanded drilling program, is planned.

5/CLd.7

2.0 INTRODUCTION

2.1 Location, Physiography, Access

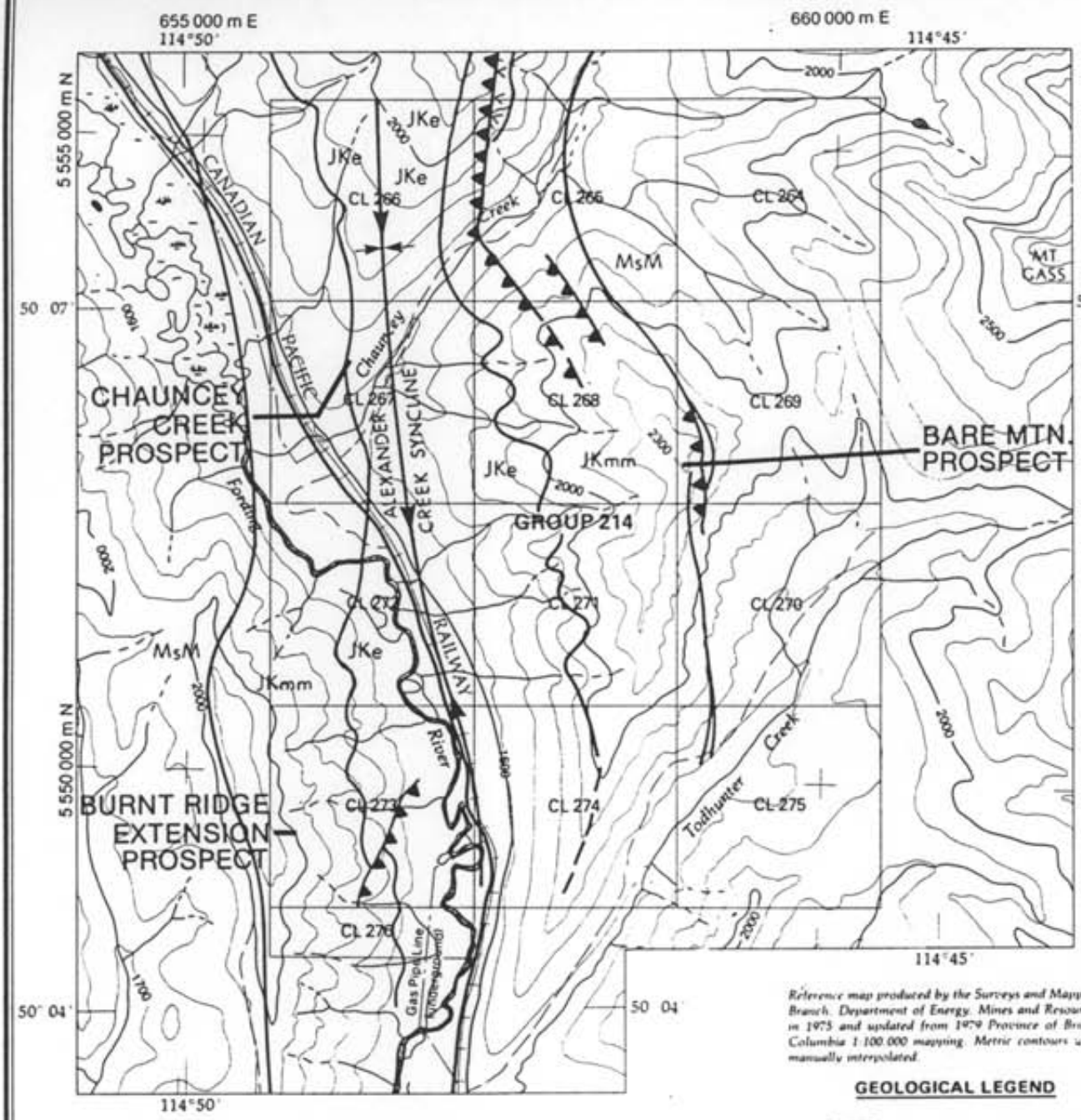
Burnt Ridge Extension coal property which forms part of CNRL's "North Block" of coal licences is located in southeast B.C., 10 km northeast of Elkford (Figure 1, 2, 3 and 4) latitude 50° 05' and longitude 114° 49' intersect on the property.

North Block is located in the physiographic region referred to as the Front Ranges of the Rocky Mountains (Holland 1964). The property covers part of a north trending ridge on the west side of the Fording River. The west side of the ridge is grass covered and dips more steeply than the east slope which except for patches is treed. The maximum height of the ridge is 2100 m. A linear drainage pattern is established on the east slope where creeks are mostly small and seasonal. These creeks flow directly into the Fording River which meanders through a 1 km wide valley whose elevation is about 1540 m.

A paved road connects Elkford to Sparwood. The Fording Mine has constructed a paved road from Elkford to their mine site 4 km north of Burnt Ridge Extension and 22 km from Elkford. This road and a parallel CPR rail line traverse the property where it

overlies the Fording River Valley. Access to the ridge crest and upper slopes of the property is by a four wheel drive road which branches off the Fording Mine road 3 km south of the property.

2a/CLd.9



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

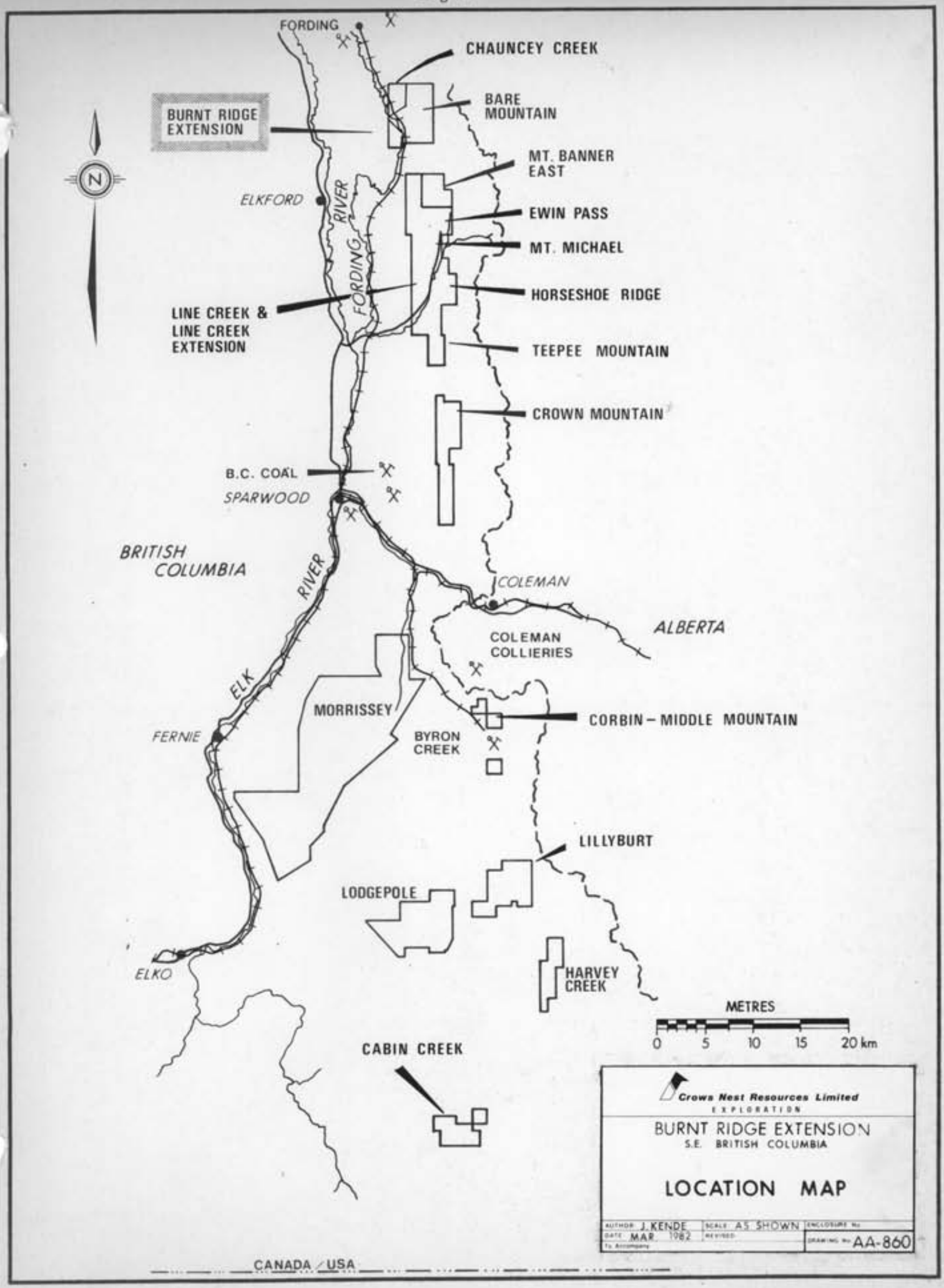
Crows Nest Resources Limited
EXPLORATION

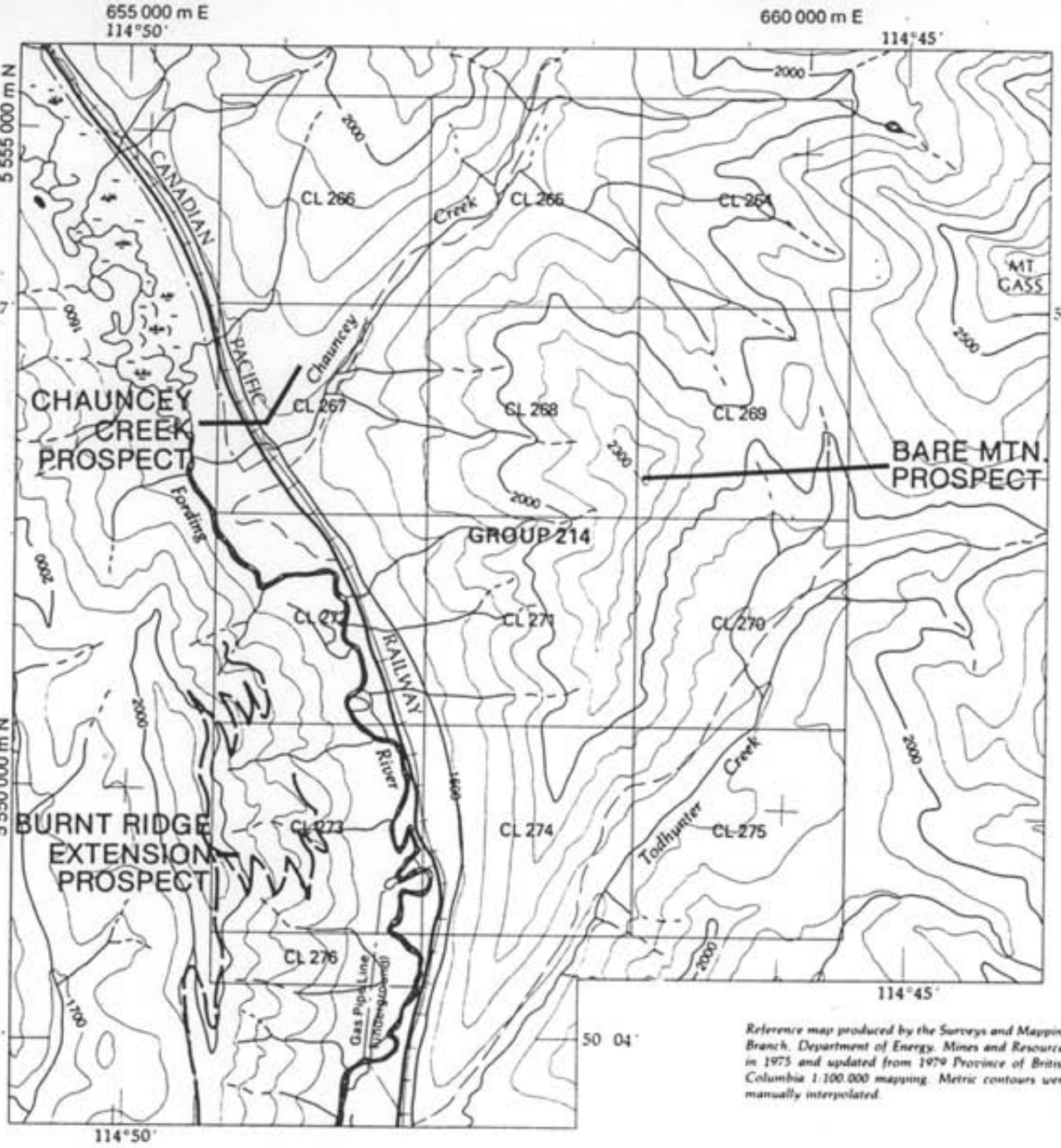
BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA

COMPILATION GEOLOGY MAP

NTS 82J/2

AUTHOR B. RYAN	SCALE 1:50 000	ENCLOSURE No
DATE 82-01	REVISED	AA-813
To accompany		


FORDING
CHAUNCEY CREEK
BARE MOUNTAIN
BURNT RIDGE EXTENSION
MT. BANNER EAST
ELKFORD
RIVER
EWIN PASS
MT. MICHAEL
FORDING
HORSESHOE RIDGE
LINE CREEK & LINE CREEK EXTENSION
TEEPEE MOUNTAIN
CROWN MOUNTAIN
B.C. COAL
SPARWOOD
BRITISH COLUMBIA
RIVER
COLEMAN
ALBERTA
COLEMAN COLLIERIES
ELK
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
BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA
LOCATION MAP
AUTHOR J. KENDE
SCALE AS SHOWN
DATE MAR. 1982
DRAWING No. AA-860
CANADA / USA



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)

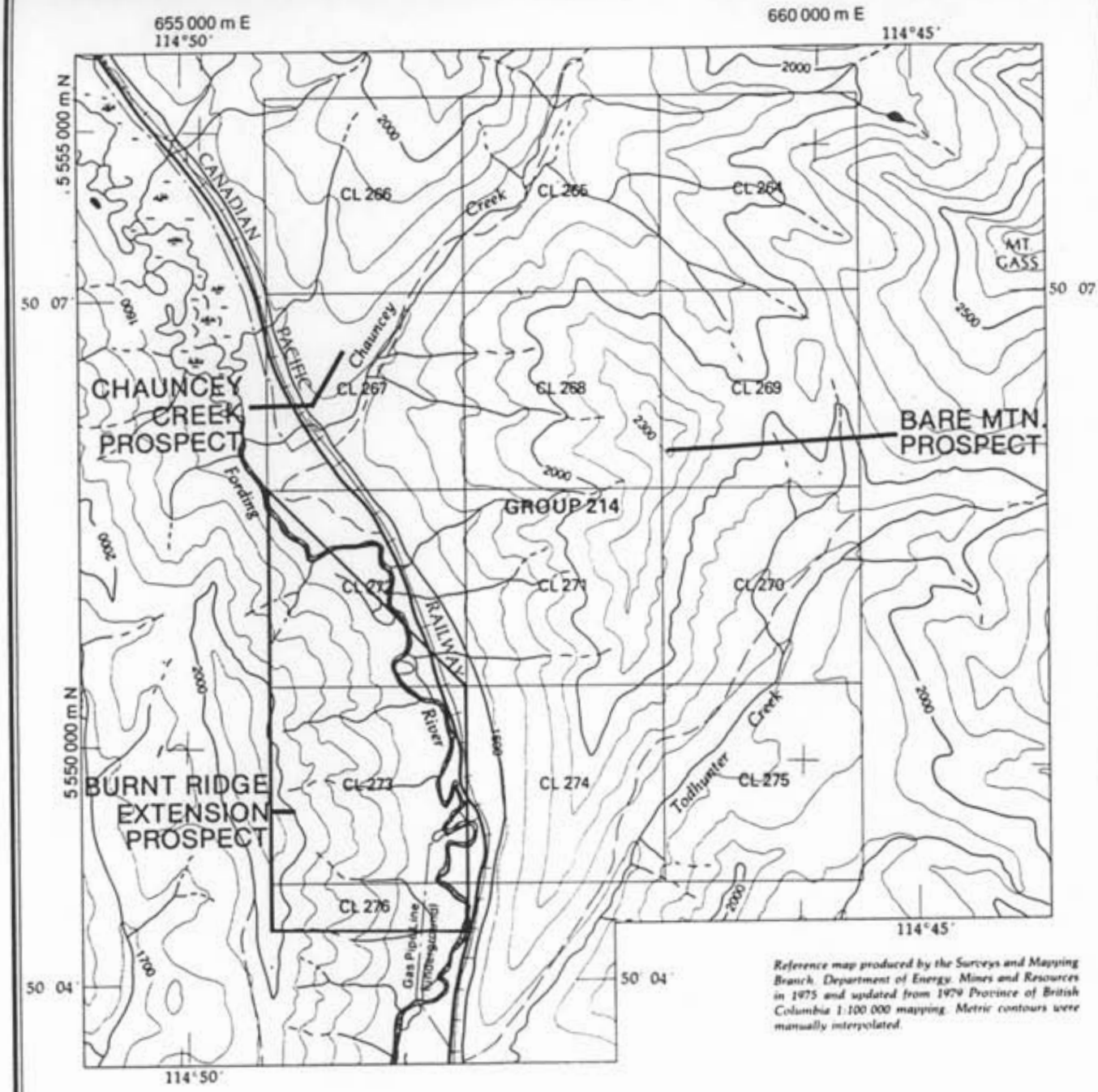
Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA

ACCESS MAP

NTS 82J/2

AUTHOR DR. B. RYAN	SCALE 1:50000	ENCLOSURE No.
DATE 82-01	REVISED	AA-812
To Accompany		



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

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA

INDEX MAP TO COAL LICENSES

NTS 82J/2

AUTHOR DR. B. RYAN	SCALE 1:50 000	ENCLOSURE NO
DATE 82-01	REVISED	AA-811
To Accompany		

2.2 Coal Land Tenure - Property History and Economics

Burnt Ridge Extension forms part of CNRL's North Block which comprises licences 264 to 276 inclusive (Figure 4). Burnt Ridge Extension is made up of 3 of these licences (276, 273, and 272). The licences are held by Shell Canada Resources Limited and are operated by its wholly owned subsiduary Crows Nest Resources Limited. Shell aquired the licences in 1978 when it gained control of Crows Nest Industries (CNI) the previous holder. CNRL personnel started mapping North Block in 1978 (Horachek and Fietz 1979), more detailed mapping was undertaken in 1980 (Morris 1981). In 1981 a major program of detailed geological mapping (scale 1:2000), road construction, and drilling was undertaken. The total cost of exploration on Burnt Ridge Extension in 1981 was $332,850.00. This report presents the data from the 1981 program.

An application to extend term of licence (Table 5) and tenure standing table (Table 6) are included.

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)

R J Kowalchuk (Signature)

MANAGER-ACCOUNTING CNRL (Position)

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

BURNT RIDGE, GROUP # 214

GEOLOGICAL MAPPING Yes ☒ No ☐

	Area (Hectares)	Scale	Duration
Reconnaissance			
Detail: Surface	550	1:2000	59 MAN DAYS
Underground			
Other* (specify)			

Total Cost $ 29,249

GEOPHYSICAL/GEOCHEMICAL SURVEYS Yes ☐ No ☐

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

Total Cost $ 1,826

ROAD CONSTRUCTION Yes ☒ No ☐

Length 1.2 (NEW) 0.8 (REOPEN) Width
On Licence(s) No.(s) 273
Access to BURNT RIDGE EXTENTION

Total Cost $ 43,705

SURFACE WORK Yes ☒ No ☐

	Length	Width	Depth	Cost
Trenching (MACHINE)	2.6 KM	1 M	1M	7,350
Seam Tracing				
Crosscutting				
Other* (specify)	25 M	0.5 M	0.5 M	500

Total Cost $ 7,850

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	3	1052.5	
Wireline				
Rotary: Conventional				
Reverse circulation				

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

Total Cost $ 198,630

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 $ 34,400

RECLAMATION Yes ☒ No ☐

Details RESEED NEW ROAD Total Cost $ 11,210

OTHER WORK (Specify details) Yes ☐ No ☒ Cost

Total Cost $

OFF-PROPERTY COSTS Yes ☒ No ☐

Details GEOLOGICAL REPORT Total Cost $ 5,980

Total Expenditures $ 332,850.00

Jan. 28/82 (Date)

L. W. Kowalski (Signature)

MANAGER - ACCOUNTING CNRL (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			ACQ/ADM		RENTALS		REQUIREMENT WORK						BUDGET		EXP	POTL	
NO.	LEGAL DESCRIPTION	AREA TOTAL AC/HA.	FEES YEAR	FEES $	ANNUAL $	TOTAL TO NEXT ANN. $ 10³	EXPIRED $ 10³	CURRENT YEAR LIC. YEAR	CURRENT YEAR $	PRE-FULFILMENT YEAR	PRE-FULFILMENT $	ANNIVERSARY DATE	CURRENT YEAR AFE	CURRENT YEAR $ 10³	TOTAL $ 10³	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 AR
264	LOT 6731	259															IN GOOD STANDIN
265	LOT 6732	259															JAN. 31, 1985 UN
266	LOT 6733	259															THE '74 COAL AC
267	LOT 6734	259															UNTIL JAN 31, 19
268	LOT 6735	259															UNDER THE '78 C
269	LOT 6736	259															ACT, WITH 520.5
270	LOT 6737	259															EXCESS CREDIT F
271	LOT 6738	259															THE SUBSEQUENT
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						

BA : 312

Table 6

Based on 1980 and 1981 field work, the coal resource for the property is approximately 80 million tonnes to the elevation of the Fording River. A feasible open pit could retrieve about 63 million tones (coal in place) at a stripping ratio of 4.7/1 cu m rock/tonnes coal. The 63 million tonnes reserve consists of 39 million tonnes measured and 24 million tonnes indicated. The pit would be about 4 km from the BC Coal Greenhills Plant which is under construction.

2a/CLd.19

2.3 Summary of 1981 Exploration Program

Geological mapping utilized 1:2000 scale topographic maps with 5 meter contour intervals and 1:5000 scale orthophotos. Ten field positions were surveyed in 1981 by Sheltech Canada Limited Enclosure 24 and Table 7 with covering letter) they are located by 5 ft. metal bars. Geological mapping covered an area of 3 square kilometers that overlapped parts of licences 272, 273, and 276. Surface exploration included road traverses using meter chain and Brunton compass and bush traverses with compass, maps and orthophotos. Coal intersections were mapped in detail and true thicknesses calculated (Table 8).

Enclosure 16 locates all machine work hand trenching and drilling. Machine work, other than drilling, involved road construction using D7, and D9 bulldozers and a backhoe, and road trenching using a backhoe. About 1.2 km of road was constructed and 0.8 km improved on licence 273. 2.6 km of backhoe trenches on new and pre-existing roads on licences 272 and 273 were mapped and filled in during the summer of 1981.

Five short hand trenches (accummulated length less than 25 m) were dug on licences 272 and 273.

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: BURNT RIDGE (4151-T) - S.E. BRITISH COLUMBIA

All survey control in the Burnt Ridge 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 nine geological control points and three 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 results were given to C.N.R.L. personnel in both tabular and map form.

A. L. Melton

A. L. Melton

RB/cm

s729

TABLE 7 BURNT RIDGE EXTENSION
1981 Survey Data

Description		Location UTM grid system Northing	Easting	Elevation
Diamong Drill Hole BRE 81-1	Collar	5550486.91	655777.27	1944.33
	Bottom	5550469	655687	1635
Diamond Drill Hole BRE 81-2	Collar	5549531.09	656012.16	1914.32
	Bottom	5549514	655872	1635
Diamond Drill Hole BRE 81-3	Collar	5549260.16	656100.49	1934.57
	Bottom	5549242	655905	1570
Road South end of Property		5549414.32	655626.68	2117.85
"	"	5548885.12	655679.33	2057.71
"	"	5549452.08	655692.28	2085.15
"	"	5549310.58	655911.26	2029.42
"	"	5549427.42	665898.27	2011.54
"	"	5549299.42	655981.77	1992.05
"	"	5549461.8	655985.85	1963.66

2a/CLd.22

TABLE 8 BURNT RIDGE EXTENSION

COAL INTERSECTIONS -- LOCATIONS, SEAM NUMBERS AND TRUE THICKNESSES (T/T)

1980 AND 1981 DATA

LOCATION Northing	Easting	Elevation	TRENCH/DRILL HOLE ORIENTATION Length M	Azimuth°	Plunge°	Number Intersection	COAL AV STR/DP	C/B°	T/T M Coal Only
5500000+	655000+			Number 1 Seam					
48823	5664	2045				1	339/52		7.8
49255	5565	2070				2	352/62		5.
50610	5315	2063	.45	132	0	3	000/40		23.27
50730	5347	2000	6.4	108	0	4	342/50		3.95
50825	5348	1975	11	124	0	5	003/47		6.9
50975	5365	1885	4	105	0	6	350/52		2.86
50473	5707	1700	1			7		64	.94
50473	5705	1692	7.2			7		70	6.38
50472	5702	1683	1.78			7		62.5	1.63
50973	5372	1885	7.5	280	0	8	010/47		5.50
49516	5889	1668	2.97			9		60	2.58
49514	5883	1660	4.55			9		66	4.16
49245	5941	1637	5.83			10		68	5.48
49245	5933	1624	1.5			10		68	1.39
								Average	6.06
				Number 2 Seam					
50734	5440	1955	4.9	095	3	1	000/42		3.02
50807	5477	1895	4.7	125	0	2	350/55		2.72
50953	5456	1890	5	107	0	3	352/42		3.06
50832	5488	1880				4			3.4
50852	5464	1900				5			3.9
50398	5330	2115				6	002/43		3
49517	5906	1700	3.51			7		63	2.68
49246	5958	1671	3.80			8		56	3.15
50475	5721	1746	4.83			9		64	4.34
								Average	3.25

A/CLdd.1

TABLE 8 BURNT RIDGE EXTENSION

COAL INTERSECTIONS -- LOCATIONS, SEAM NUMBERS AND TRUE THICKNESSES (T/T)

1980 AND 1981 DATA

	LOCATION Northing	Easting	Elevation	TRENCH/DRILL HOLE ORIENTATION Length M	Azimuth°	Plunge°	Intersection Number	COAL AV STR/DP	C/B°	T/T Coal Only
					Number 3 Seam					
	50006	5468	2110	13	125	10	1	013/51		7.71
	50060	5490	2070	10.5	138	10	2	355/48		3.46
	50796	5520	1885	7.5	095	8	3	349/50		4.81
	50832	5526	1894	5.2	115	0	3	349/50		3.22
	49428	5070		3.9	220	15	4	349/46		2.82
	50940	5500	1895				5			1.7
	50630	5520	1965				6			1.5
	50632	5512	1962				6			1.7
	50475	5728	1769	1.21			7		72	1.15
	49519	5917	1722	2.02			8		66	1.85
	49247	5976	1693	1.1			9		67	1.01
	49078	5763					10			3
									Average	3.39
					Number 4 Seam					
	49430	5740	2065	6.8	293	-9.5	1	002/54		4.43
	50633	5707	1915	8.3	097	4	2	342/42		4.59
	50630	5700	1915	8.25	052	2	2	348/56		6.35
(T4)	50215	5860	1850	7.5	060	15	3	350/52		4.17
	49402	5728	2075				4			4.3
	49190	5734	2070				5			3.8
	50356	5746	1945				6			3.9
	50373	5769	1950				7			5.1
	50450	5712	1063				8			3.8
	50472	5704	1960				8			11.0
(T3)	49770	5770	1990	9.2	040	10	9			5.39
	90368	5695	1918				10			6.1
	49344	5682	2065	12	134	6.5	11	004/39		4.73
	49368	5750	2083				12			5.1
	50484	5769	1913	3.12			13		54	2.52
	50484	5766	1905	7.04			13		55	5.86
	49525	5970	1828	9.75			14		65	8.9
	49252	6029	1804	8.37			15		68	7.66
									Average	6.51

A/CLdd.2

TABLE 8 BURNT RIDGE EXTENSION

COAL INTERSECTIONS -- LOCATIONS, SEAM NUMBERS AND TRUE THICKNESSES (T/T)

1980 AND 1981 DATA

LOCATION Northing	Easting	Elevation	TRENCH/DRILL HOLE ORIENTATION Length M	Azimuth°	Plunge°	Number	COAL AV STR/DP	C/B°	T/T Coal Only
			Number 5 Seam						
49414	5760	2058	9.5	315	-4.5	1	003/49		4.88
49400	5780	2055	1	293	-9.5	1	002/54		.65
50486	5777	1944	20	160	-4.5	2	356/55		5.64
49313	5774	2087				3			5.1
49306	5734	2095				3	325/61		1.47
50410	5780	1935				4			6.1
50604	5752	1923	20	160	-4.5	5	357/55		5.64
49253	5765	2088	10	168	6.0	6	325/61		3.9
49153	5844	2031				7	353/50		1.5
49148	5866	2029				7	340/56		5.0
50486	5775					8		53	2.16
49527	5981	1850	2.8			9		73	2.68
49526	5977	1841	2.07			9		73	1.98
49252	6029	1804	1.97			10		70	1.85
49253	6043	1829	1			10		65	.91
								Average	4.95
			Number 6 Seam						
49295	5902	2027	11.5	326	-5	1	352/42		2.62
49367	5910	2013	11	163	-5	2	000/49		3.08
49538	6015	1900	9.46	120	-17	3	350/53		7.22
49550	6000	1900	6.4	124	-11	3	003/58		5.18
49403	5912	1998	30.2	141	9	4	356/52		10.77
49376	5932	1995	15.8	154	8	4	356/52		5.0
49762	6006	1865	3	215	5	5	349/49		1.81
49753	5996	1868	15.5	225	3	5	338/56		10.32
49750	5992	1870	7	320	4	5	355/62		3.77
49562	6028	1883	17	135	5	6	005/48		8.67
(T2)49836	5918	1933	5	067	15	7	003/55		2.81
49648	6004	1873	16.5	320	4	8	355/62		7.54
49531	6012	1904	1.37			9		71	1.30
49257	6076	1890	5.04			10		66	4.64
(T5)50233	6109	1735	8	96	0	11	350/47		5.52
								Average	7.30

20

TABLE 8 BURNT RIDGE EXTENSION

COAL INTERSECTIONS -- LOCATIONS, SEAM NUMBERS AND TRUE THICKNESSES (T/T)

1980 AND 1981 DATA

LOCATION Northing	Easting	Elevation	TRENCH/DRILL HOLE ORIENTATION Length M	Azimuth°	Plunge°	Number	COAL AV STR/DP	C/B°	T/T Coal Only
				Number 7 Seam					
49420	5994	1965	13	173	-4	1	356/49		1.14
49518	6018	1906	8.8	139	-4	2	358/51		4.63
49278	6018	1868	5.1	047	0	3	335/58		4.11
49258	6083	1902	1.17			4		67	1.08
49256	6077	1891	1			4		67	.92
								Average	2.97
				Number 8 Seam					
49430	6018	1970	7	326	-12	1	000/52		2.12
49500	6048	1905	3.5	148	- 8	2	006/50		1.95
49794	6020	1860	9.4	043	0	3	345/61		4.9
49258	6084	1950	1.47			4		64	1.32
								Average	2.57
				Number 9 Seam					
49400	6042	1940	16	330	-5	1	354/57		4.74
49475	6065	1907	6.2	127	-8	2	000/49		4.3
49805	6041	1860	6.1	057	0	3	344/51		4.51
(T1) 49123	6120	1850	5	088	18	4	355/71		4.00
49259	6092	1919	3.47			5		63	3.09
								Average	4.13
				Number 10 Seam					
49340	6080	1935	5.2	345	15	1	355/46		1.56
49425	6086	1910	2.2	320	20	2	355/49		1.15
49831	6082	1852	2.7			3	353/53		2.10
								Average	1.6
				Number 11 Seam					
49836	6100	1850	1.4	060	0	1	348/55		1.09
								Average	1.09
				Number 12 Seam					
49846	6119	1851	3	068	-5	1	356/53		2.43
49840	6110	1852	5.5	075	0	1	355/50		4.36
								Average	6.79
				Number 13 Seam					
49850	6158	1848	6.1	085	5	1	350/55		4.65
								Average	4.65

A/CLdd..

Three cored HQ diamond drill holes were drilled on the property, specifically on licence 273. The core for these holes is stored in temporary core racks on Burnt Ridge Extension near the ridge west at a B.C. coal drill site (655600 East 5549410 North) (Enclosure 16). A total of 1052.5 meters of hole were drilled. A standard suite of geophysical logs were run down each hole; this included neutron-neutron and gamma through the rods and short spaced density, caliper, resistivity and gamma in open hole. All holes remained open for geophysical logging. Geophysical log data is presented in Enclosure 17. Lithology core logging data in Enclosure 18 and stratigraphic sections for the three drill holes in Enclosure 19.

5/CLd.27

3.0 GEOLOGY

3.1 Regional Geology and Stratigraphy

North Block is located in the macrogeologic province known as the "Main Ranges" of the Rocky Mountains. This province is characterized by major northeast directed thrusts and associated north-south trending folds that stack and fold sedimentary rocks ranging in age from late Proterozoic to early Tertiary (Price and Mountjoy 1970).

Coal-bearing rocks of the Jurassic-Cretaceous Kootenay Group were disrupted by this tectonism and now survive in cores of major synclines and separate thrust sheets. Surviving coherent areas of the Kootenay Group define the three major coal fields of southeast B.C., the Elk Valley, Crows Nest and Flathead Coal Fields.

North Block occupies part of the Elk Valley Coal Field. This Coal Field has been mapped by Pearson and Grieve (1980) and Grieve (1981). Regionally it is sandwiched between the north trending Borgeau thrust to the west and Lewis thrust to the east. The coal-bearing rocks are preserved for most part in the core of the Alexander Creek Syncline and an en echelon smaller syncline to the west. The hinges of these folds plunge gently north or south forming culminations and depressions along the axial traces.

The stratigraphic nomenclature of the Jurassiac-Cretaceous coal-bearing rocks of southeast B.C. (Kootenay Group) has been reviewed by Gibson (1979). This report adheres to the nomenclature suggested by Gibson (1979) (Table 9).

The Kootenay Group, outcrop, the extent of which in the Elk Valley defines the Elk Valley Coal field, is underlain by the Fernie Formation and overlain by the Cadomin Formation.

The Fernie Formation is composed of dark brown recessive weathering mudstones that near the top of the unit alternate with fine-grained sandstones. It contains an upper Jurassic marine fauna. The Cadomin Formation is often conglomeratic. The depositional environment could have been braided stream or pediment fan.

The Kootenay Group is subdivided into three formations, (Table 9). The oldest, Morrissey Formation is subdivided into a lower and upper member. The upper Moose Mountain Member is a distinctive and critically important sandstone marker which is conformably and abruptly overlain by the coal-bearing Mist Mountain Formation. The Moose Mountain Member is a grey, weathering, medium-grained,massive sandstone that was deposited in a shallow marine beach environment. The Mist Mountain Formation is composed of sandstone, mudstone, siltstone, and coal; it was

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	
			ELK FORMATION		non-marine: interbedded medium to coarse grain sandstone, chert-pebble conglomerate with minor siltstone shale and uneconomic coals	150 - 490
			MIST MTN. FORMATION		non-marine and brackish: interbedded coal, siltstones, shales, and sandstones	380 - 480
			MORRISSEY FORMATION	Moose mtn.	non-marine: massive cliff-forming sandstone	40 - 60
				Weary Ridge		
	Jurassic	Fernie Fm.			marine: shales, siltstone, sandstone, limestone	180 - 380

deposited in a deltaic environment that contained large swampy flood planes. The youngest, Elk Formation is composed of sandstone, siltstone, mudstone and thin coal seams, it was deposited in an environment similar to that of the Mist Mountain but more unstable.

2a/CLd.31

3.2 Property Geology - General

Enclosure 16 is a reduction to 1 to 5000 of the original 1 to 2000 detailed geological field map. Large areas of outcrop lithology are approximately delineated by lithology patterning on the map; unit boundaries are respresented by solid dashed or dotted lines depending on the certainty with which the contact is located. Bedding orientation measurements throughout the map area reveal little variation, so that it is acceptable to vector average them for each 250 meter square and plot the results in the center of each square on the map. The Moose Mountain Member and Elk Formation contacts are posted on the map. Thirteen distinct coal seams and at least 3 distinct sandstone units are recognized in the intervening outcrop of Mist Mountain Formation

Units on Burnt Ridge Extension dip uniformly east with dip values ranging from 10 to 70° but averaging about 45°. Three east-west sections (Enclosures 20, 21, and 22), into which the three drill holes are projected, illustrate the overall simple structure.

The general outcrop pattern of coal seams within the Mist Mountain Formation is not overly complicated by folds or thrusts; though on a more detailed scale, seams thicken and thin along strike, rock splits appear and disappear, and minor thrusts fold and disjoint the seams.

3.3 Property Geology - Stratigraphy and Lithology

The Moose Mountain crops-out along or slightly to the west of the ridge crest on Burnt Ridge Extension. It forms prominent grey cliffs. Bedding is obscure, where visible it is outlined by fine laminations which often outline large scale cross bedding. In places the sandstone contains chert pebble (less than 1 cm diameter) conglomeritic bands that are laterally discontinous and less than 1 m thick. The upper contact of the Moose Mountain Member with the Mist Mountain Formation is conformable and abrupt. In places the upper part of the Moose Mountain Member has the geophysical log fingerprint of a fining upwards sequence (River channel environment?)

A complete section of Mist Mountain crops-out on the property and a composite stratigraphic section is presented in Enclosure 23. This section is subdivided as follows; total present thickness 437 m composed of 155 m sandstone, 146 m mudstone, 82 m siltstone, and 54 m coal. Most of the sandstone occurs as three distinct units in the lower half of the section. These range in thickness up to 50 m true thickness and contain numerous sedimentary structures indicative of a channel. The three dimensional extent of these sands is evidence that the channels must have migrated laterally. Mudstone which predominates in the upper part of the section is dark grey, highly fractured; bedding is obscure, or sometimes

present as fine banding reminiscent of varved clays. It contains plant fragments, but no useful time specific fossils. Siltstone occurs throughout the section as lateral equivalents to, or overlaying the sandstone units. It often contains abundant ripple cross stratification and associated shallow water sedimentary structures.

Coal occurs as at least 13 seams each greater than .1 m thick and makes up 12.4% of the average stratigraphic section. The seams are numbered according to the Fording Mine convention where the oldest Mist Mountain seam is labelled 1. No coal is mapped as occurring within the Moose Mountain Member on Burnt Ridge Extension and number 1 seam forms an abrupt contact with the top of the Member.

The Elk Formation overlies the Mist Mountain Formation with a gradational contact which on Burnt Ridge Extension is placed at first occurence of buff weathering resistant sandstone above the recessive weathering mudstone of the upper Mist Mountain Formation.

3.4 Property Geology - Structural Geology

The property occupies part of the west limb of the north trending Alexander Creek Syncline, further to the west the limb is broken by the north striking Erickson Normal Fault which down drops beds on its east side. The east limb of the Alexander Creek Syncline is complicated by the Ewin Pass thrust (also called the Fording thrust).

Beds strike uniformly north-south and dip east on Burnt Ridge Extension. Dips vary from 35 - 45° in the west near the Moose Mountain sandstone to 45 to 65° near the Elk contact. This change in dip may reflect a steepening of beds towards the core of the syncline or a stepped profile for the west limb. The latter is not unlikely and could be related to incipient east directed thrusts in the Moose Mountain sandstone.

Major east directed thrusts that post-date the Alexander Creek Syncline have not been identified. The east dipping thrust shown to outcrop in the Elk in the south of Burnt Ridge Extension (Enclosure 15) may represent a major pre "Alexander Creek Syncline" thrust.

Local east dipping, west directed thrusts are common in the lower part of the Mist Mountain section. They are evidenced by intense fracture zones up to 1 m thick, drag folds and minor displacements in which the upper plate moves relatively westward. These thrusts probably formed at the same time as the Alexander Creek Syncline in response to a room problem in the core of the fold. Minor fold axes related to these thrusts trend northeast or south with shallow plunges; slickensides scatter widely but a majority plunge easterly.

2a/CLd.36

3.5 Property Geology - Coal Geology

Table 8 lists the true present thickness and coordinates for all intersections of coal seams originating from 1980 and 1981 surface mapping and 1982 drilling. Surface outcrops of coal are moderately to highly fractured, bright to dull and contain numerous mudstone splits. The results of proximate analyses of weathered and fresh samples are presented in Table 10 and 11 respectively and discussed in section 3-5. A brief description of each seam follows.

Seam Number 1 is sandwiched between Moose Mountain sandstone and an overlying channel sand. In the south, it is single seam greater than 5 m thick with approximately 10% mudstone splits. In the north, seam 1 splits into a number of separate seams, in one location there are 5 coal splits with a cumulative thickness of 23 m. In the three drill holes, the seam is split into 3 or more minor coal slits distributed over 20 m. If the single 23 m thickness intersection is excluded, then the average thickness of Seam 1 is 6.06 m.

Seam Number 2 is generally a single seam averaging 3.25 m true thickness. It is present in the 3 drill holes as a single or split seam. It appears to thin to the south of the map area.

Seam Number 3 has an average true thickness of 3.39 m. In the north, it is composed of two distinct seams separated by a 1 m mudstone split. In the south, the stratigraphic separation of Seams 2 and 3 decreases and seam 3 becomes a single seam. The thickness of seam 3 in the drill holes is about 1 m, considerably less than its average thickness at surface.

Seam Number 4 has an average true thickness of 6.51 m. It extends the length of the property, though in the north it contains a 3 m mudstone split which is not present in the south. It is thicker in the drill holes than at surface.

Seam Number 5 is actually two seams, only one of which can be traced to the north, the upper seam appears to wedge out in a sandstone as it is traced northwards. The lower seam is about 5 m thick in the north but thins to 1 - 2 m in the south where it is overlain by the upper seam. Considered as one composite seam, the average true thickness is 4.95 m; the average thickness in the three drill holes is 3.2 m.

Seam Number 6 is a major seam in the southern half of the property where it is composed of up to three major coal splits and has an average true thickness of 7.47 m. It does not outcrop in the northern half of the property. The upper coal split is 7.2 m thick near diamond drill hole 2 but thins to the north and south.

The lower two splits are separated from the upper coal by a siltstone split up to 3 m thick. The lower coal is split into two seams by a mudstone split up to 2 m.

Seam Number 7 was intersected in four places in the southern half of the property. It is distinguised by a prominent yellow weathering shale split, less than 1 m thick. The average thickness of the seam is 2.97 m

Seam Number 8 is exposed in 4 places in southern half of the property and has an average thickness of 2.57 m. It is usually clean and moderately fractured.

Seam Number 9 is exposed in five places in the southern half of the property and has an average thickness of 4.13 m. It contains no major rock splits.

Seam Number 10 is thin averaging 1.6 m but seems to be continuous in the southern half of the property where it is intersected in three places.

Seam Numbers 11 to 13 are each intersected once in the road which extends north from diamond drill hole 2. Seam 11 is 1.09 m thick, seam 12 is is a split seam with 6.79 m of coal and seam 13 has a thickness of 4.65 m.

TABLE 10 BURNT RIDGE EXTENSION

COAL QUALITY FOR SURFACE SAMPLES 1980 DATA

SAMPLE NO.	LOCATION EASTING	LOCATION NORTHING	ELEVATION	% MOISTURE	% ASH	% V.M.	% F.C.	% S.	% V.M. (Ash & H_2O Free)
	+650000	+5500000	Seam Number 1						
GOB 38S	5664	48823	2045	2.88	30.57	23.9	42.65	--	36
GOB 20S	5364	50977	1885	3.88	10.99	24.33	60.8	.3	29
GOB 22S	5400	51200	1850	3.65	13.09	23.3	59.96	.31	28
GOB 23S	5364	50977	1885	4.01	25.57	23.12	47.30	.42	33
GOB 18S	5374	50973	1885	4.22	43.48	19.73	32.57	.28	38
GOB IS				2.63	25.28	21.43	50.66	.32	30
AVERAGE 1 SEAM				3.55	24.83	22.64	48.99	.33	32.3
			Seam Number 2						
GOB 25S	5488	50832	1880	4.38	14.83	26.84	53.95	.32	33
GOB 24S	5464	50852	1900	5.02	22.70	25.30	46.98	.29	35
GOB 17S	5456	50953	1890	3.75	14.95	26.42	54.88	.34	33
AVERAGE 2 SEAM				4.38	17.49	26.19	51.94	.32	33.7
			Seam Number 3						
GOB 14S	5468	50006	2110	2.32	26.82	21.23	49.63	.35	30
GOB 27S	5530	50796	1895	2.21	28.34	20.26	49.19	.37	29
GOB 16S	5500	50940	1895	2.20	19.38	23.01	55.41	.41	34
GOB 37S	5512	50632	1962	1.88	35.81	21.13	41.18	--	34
GOB 15S	5490	50060	2070	2.68	29.09	22.81	45.42	.34	33
GOB 34S	5520	50630	1965	3.20	27.52	21.94	47.34	--	32
GOB 26S	5526	50800	1894	2.94	31.56	21.30	44.20	.4	33
AVERAGE 3 SEAM				2.49	28.36	21.67	47.48	.37	32

A/CLdd.5

TABLE 10 BURNT RIDGE EXTENSION

COAL QUALITY FOR SURFACE SAMPLES 1980 DATA

SAMPLE NO.	LOCATION EASTING	LOCATION NORTHING	ELEVATION	% MOISTURE	% ASH	% V.M.	% F.C.	% S.	% V.M. (Ash & H_2O Free)
	+650000	+5500000	Seam Number 4						
GOB 32	5776	50356	1945	2.63	24.19	23.14	50.04	.35	32
GOB 33	5769	50373	1950	3.11	21.52	24.74	50.63	.36	33
GOB 7S	5738	49190	2070	2.94	25.57	26.71	44.78	.36	37
GOB 4S	5728	49402	2075	2.95	19.08	24.86	53.11	.45	32
GOB 5S	5750	49368	2083	2.74	10.70	25.79	61.27	.61	30
GOB 2S	5744	49430	2065	5.29	23.43	26.71	44.57	.5	37
GOB 36S	5742	50450	1963	4.01	26.19	27.19	43.61	--	39
GOB 39S	5695	50632	1918	2.11	20.87	25.40	51.62	.27	33
GOB 35S	5715	50472	1960	2.81	32.71	22.23	42.25	--	34
GOB 28S	5711	50630	1915	2.88	17.18	23.36	56.58	.42	29
AVERAGE 4 SEAM				3.15	22.14	25.01	49.75	.42	33.6
			Seam Number 5						
GOB 31	5758	50604	1923	5.42	25.00	25.47	44.11	.41	37
GOB 41	5758	50604	1923	2.89	21.90	26.80	48.41	.38	36
GOB 30	5790	50410	1935	3.25	33.22	23.98	39.55	.36	38
GOB 40	5790	50410	1935	1.98	19.58	24.41	54.03	.37	31
GOB 6S	5774	49313	2087	1.49	41.27	20.17	37.12	.42	35
GOB 3S	5762	49416	2060	4.14	35.83	22.87	37.16	.42	38
AVERAGE 5 SEAM				3.20	29.47	23.95	43.40	.39	35.8
			Seam Number 6						
GOB 8S	5900	49292	2030	3.00	22.55	26.62	47.83	.56	36
GOB 9S	5910	49365	2010	2.97	25.76	26.43	44.84	.56	37
GOB 10S	5915	49402	2000	3.16	22.40	26.40	48.04	.45	35
GOB 11S	5930	49374	1995	3.53	14.03	29.20	53.18	.58	35
AVERAGE 6 SEAM				3.17	21.19	27.16	48.47	.54	35.8

A/CLdd.6

3.6 Property Geology - Coal Quality

Proximate analyses of fresh and oxidized coal from Burnt Ridge Extension indicate a medium volatile bituminous rank (Table 10, Table 11).

The results of proximate analyses of unoxidized coal samples from diamond drill hole 3 are presented in Table 11. The coal was floated with a 1.6 specific gravity solution. The average FSI values for the float are 6.4 with an average ash of 8.2%. The volatile range on an ash free dry basis is 21% to 27% for seams 1 to 9. Based on these numbers the volatile range for coal in the total average stratigraphic section is 21% to 29%. The calorific values for the floated coal from seams 1 to 9 range from 7300 to 8200 Kcal/Kg, the total range for coal in the total average stratigraphic section is about 7300 to 8400 Kcal/Kgm. The coal yields at a 1.6 SG float averaged 68%. At this specific gravity an average 71% of the total ash and 17% of the total coal did not float. (Table 12).

Proximate analyses of raw 1980 surface samples are presented in Table 10. Samples have low FSI values and are oxidized. Samples are arranged, based on the 1981 mapping, under seam number, and the volatile content calculated on an ash free dry basis for each sample. The volatile content of the oxidized samples is about 1.5

times the value of equivalent fresh samples. The average volatile content for each seam tends to increase up section cooberating the 1981 mapping. Sulfur contents range from a low of .32% to a high of .54% for seams 1 to 6; generally sulfur contents increase up section.

2a/CLd.43

TABLE 11 BURNT RIDGE EXTENSION

COAL QUALITY FOR DDH BRE 81-3 1981 DATA

	SAMPLE INTERVAL	LOCATION SEAM NO.	RAW/FLOAT (1.6SG)	% YIELD	% MOISTURE	% ASH	% V.M.	% F.C.	% FSI	% V.M. (Ash & H_2O Free)	Kcal/Kg
1	20.0 - 21.9	9	Raw		1	6.2			8.5		
			Float	93	.9	3.85	25.26	70.03	8.5	27	8170
2	35 - 35.73	8	Raw		1	21.1			8		
			Float	75	1.42	4.6	25.21	68.77	9	27	8047
3	34.4 - 40.6	7	Raw		.8	62.51			1		
			Float	26	.9	8.21	24.01	66.87	8.5	26	7774
4	52.0 - 55.3	6	Raw		.75	11.98			7.5		
			Float	86	1.3	6.53	23.99	68.38	8.5	26	7832
5	57 - 58	6	Raw		.59	20.67			4.5		
			Float	77	.65	9.4	21.81	68.14	6	24	7666
6	68.5 - 70.1	6 (?)	Raw		.59	29.25			7.0		
			Float	65	.54	10.98	22.86	65.62	7.5	26	7582
7	121.75 - 122.32	5	Raw		.53	21.34			1.5		
			Float	71	.49	9.37	19.93	70.21	2.5	22	7744

\/CLdd.7

TABLE 11 BURNT RIDGE EXTENSION

COAL QUALITY FOR DDH BRE 81-3 1981 DATA

	SAMPLE INTERVAL	LOCATION SEAM NO.	RAW/FLOAT (1.6SG)	% YIELD	% MOISTURE	% ASH	% V.M.	% F.C.	% FSI	% V.M. (Ash & H_2O Free)	Kcal/Kg
8	150.5 - 151.9	5	Raw Float	79	.66 2.5	19.98 5.2	22.54	69.76	7.5 8	24	7906
9	156.07 - 159.26	4	Raw Float	71	.75 .69	24.62 7.03	21.51	70.77	4.5 6.5	23	7876
10	164.6 - 169.9	4	Raw Float	72	.66 1.1	19.55 9.37	21.55	67.98	3 4	24	7620
11	300.15 - 303.3	2	Raw Float	72	.5 .72	20.04 8.40	19.35	71.53	2 2.5	21	7785
12	338.95 - 340.8	1	Raw Float	35	.59	52.74 7.67	19.64	72.08	1 8	21	7934
13	345.54 - 349.0	1	Raw Float	88	.39 .52	13.23 9.94	18.52	71.02	3.5 3.5	21	7674
14	349.63 - 352.5	1	Raw Float	42	.52 .59	43.82 13.56	17.77	68.08	1.5 6	21	7383

:A/CLdd.8

TABLE 12 BURNT RIDGE EXTENSION

COAL QUALITY DATA FOR DDH B.R.E. 81-3

YIELD DATA AT 1.6 SG FLOAT

INTERVAL	Coal Loss as % Total Coal in Raw Sample	Ash Loss as % total Ash in Raw Sample	Yield
) - 21.9	3.7	42	93
5 - 35.73	9.6	83	75
1.4 - 40.6	37	97	26
2 - 55.3	8.7	46	86
7 - 58	12	65	77
3.5 - 70.1	18.4	79	65
1.75 - 122.32	18.3	69	71
1.5 - 151.9	6.4	80	79
5.1 - 159.26	12.6	80	71
4.6 - 169.9	19.1	65	72
1.15 - 303.3	17.6	70	72
3.95 - 340.8	32.1	95	35
5.54 - 349.0	8.7	34	88
9.63 - 352.5	35.6	87	42
Average Values	17.1	71	68
Average Ash of float	8.2%		

CLdd.9

4.0 ECONOMIC POTENTIAL

4.1 Coal Resource and Reserves and Calculation

Estimates of resource potential, reserves and mining potential were made with the help of sections. Three sections oriented east-west on the UTM grid were prepared; these are 5550500 North 5549000 North and 5549250N. (Enclosures 21, 22 and 23). The section lines are located on Enclosure 15. Each of the three drill holes is located close to one of these sections and has been projected along strke into the section. The apparent dip of beds in the section planes was calculated using the average dip and strike values for 250 m squares either side of the secton. Coal seams are drawn into the section where outcrop control permits. The present true thickness of seams at surface in the sections was determined by averaging intersection thickness values for each seam for 250 m each side of the section line. Seam thicknesses at depth were taken from drill hole data.

A simple pit design was assumed as a first step to calculating reserves. High and low wall angles of 45° are drawn in the sections; the pit floor is 10 m above the Fording River. The area of coal seams within the pit outline in each section was measured (Table 13) as a first step to calculating measured reserves. Coal seams 6 - 13 have not been drawn into section 5550500 North. In

this case the area of the stratigraphic interval top of 5 seam to Elk contact in the pit was measured, the result was multiplied by the proportion of coal in the average stratigraphic section for the same interval to give an inferred area of coal. This value was used to calculate indicated reserves. The same procedures was used for seams 11 to 13 in section 5549250 North.

4.2 Open Pit Reserves

A summary of reserve data is presented in Table 14. The average area of coal in the three sections was multiplied by a probable pit length of 2250 m and a specific gravity of 1.5 to provide an in place reserve of 63 $X0^6$ tonnes of coal. The average stripping ratio for this coal is 4.7/1. This reserve breaks down to 39 X 10^6 tonnes measured and 24 X 10^6 tonnes indicated. The coal dips at about 45° and would have to be mined in a benched pit using truck and shovel.

4.3 Underground Reserves

Seams 1, 4, 6 and 12 have thicknesses greater than 5 m and are therefore amenable to underground hydralic mining. These seams each have reserves of very approximately 10 million tonnes to the elevation of the Fording River.

4.4 Property Resource

The resource of the property down to the elevation of the Fording River is approximately 80 X 10^6 tonnes. A considerably greater tonnage exists at a greater depth to the east in the core of the Alexander Creek Syncline which is overlain by CNRL coal licences.

2a/CLd.49

TABLE 13

Coal Reserve Data for Sections

Section 5550500 North

Seam No.	T/T* Surface	T/T Depth	Average T/T	Length	Area
4	7.43	8.29	7.86	220	1729
5	5.88	3.2	4.54	340	1544

Area of coal attributed to seams 6 - 13 = Area of Stratigraphic interval

5 seam to Elk in pit outline X % coal in same interval in average statigraphic section

= 91238 m^2 x .1483
= 123531 m^2 coal

Area of Pit Outline = 115369 m^2
Area of Elk = 7897 m^2
Area of Mist Mtn. = 107472 m^2

For 1 m section slice

Measured Reserves = 3273 x 1.5 x 1 tonnes Coal
= 4910
Indicated Reserves = 13531 x 1.5 x 1 tonnes Coal
= 20297
Total Reserves = 25206 tonnes Coal

Ratio m^3 Rock/tonnes Coal = 3.91/1
* T/T true thickness

2a/CLd.50

TABLE 13

Section 5549500 North

Seam No.	T/T Surface	T/T Depth	Average T/T	Length	Area
4	4.15	7.66	5.91	740	3073
5	6.28	2.22	4.25	720	2380
6	6.42	4.3	5.36	600	3216
7	2.06	1.84	1.95	520	1014
8	2.24	1.35	1.8	500	900
9	4.46	2.67	3.57	496	1771
10	1.48	1.48	1.48	480	710
					13064 Total

Area of Coal attributed to seams 11 to 13
= 50770 x .1502
= 7625 m^2

Area of Pit Outline = 203718
Area of Elk = 19726
Area of Mist Mtn. = 183992

For 1 m section slice

Measured Reserves = 13064 x 1.5 x 1 tonnes Coal
= 19596 tonnes Coal
Indicated Reserves = 7625 x 1.5 x 1 tonnes Coal
= 11439 tonnes Coal
Total Reserves = 31035 tonnes Coal

Ratio m^3 Rock/tonnes Coal = 5.26/1

2a/CLd.51

TABLE 13

Section 5549500 North

Seam No.	T/T Surface	T/T Depth	Average T/T	Length	Area
4	5.7	8.9	7.3	420	3066
5	4.77	4.49	4.63	560	2593
6	7.81	7.81	7.81	484	3780
7	2.88	2.97	2.92	460	1343
8	2.03	2.36	2.21	440	972
9	4.32	4.13	4.22	420	1772
10	1.37	1.6	1.48	406	601
11	1.1	1.1	1.1	388	427
12	6.79	6.79	6.79	370	2512
13	4.65	4.65	4.65	363	1688
					18754 Total

Area of Pit Outline = 160142
Area of Elk = 47204
Area of Mist Mtn. = 112938

For 1 m section slice

Measured Reserves = 18754 x 1.5 X 1 tonnes Coal
= 28131 tonnes Coal

Ratio m^3 Rock/tonnes Coal = 5.03/1

TABLE 14

Summary of reserve data		Average Values
Average Reserves for the 3 Sections		.028 10^6 tonnes
Assumed Length of pit		2250 m
Total Reserves		63 x 10^6 tonnes
Average Stripping Ratio		4.73/1 cu meters rock/tonnes Coal
Reserve breakdown	Measured	39 x 10^6 tonnes
	Indicated	24 x 10^6 tonnes

5.0 RECOMMENDATIONS FOR FURTHER WORK

Exploration to date indicates the potential for a medium sized open pit mine. Reserves at present are 63 x 10^6 tonnes of which 39 x 10^6 tonnes are measured reserves. An exploration program to increase the measured reserve is outlined. A 4.7 km road should be constructed that crosses the Fording River at the north end of the property and trends up slope to the south at 8%, to the south end of the property. This road would fortuiously almost follow the Mist Mountain, Elk contact and therefore provide at least six ideal drill sites. Inclined drill holes from these 6 sites could penetrate the entire Mist Mountain section and therefore provided a good data base for seam correlation and average seam thickness estimates. This would required less than 3000 meters of drilling. Major seams (12, 6 and 4) should be adit sampled (Note: that though 1 seam is thick, it does not provide much reserve in the assumed pit). Possible adit sites exist on or close to pre-existing roads. Geological Mapping should concentrate on the lower slopes accessed by the proposed road. Hand trenching on these slopes, especially in the gullies, may provide more information about the near surface extension of the seams.

6.0 SELECTED BIBILIOGRAPHY

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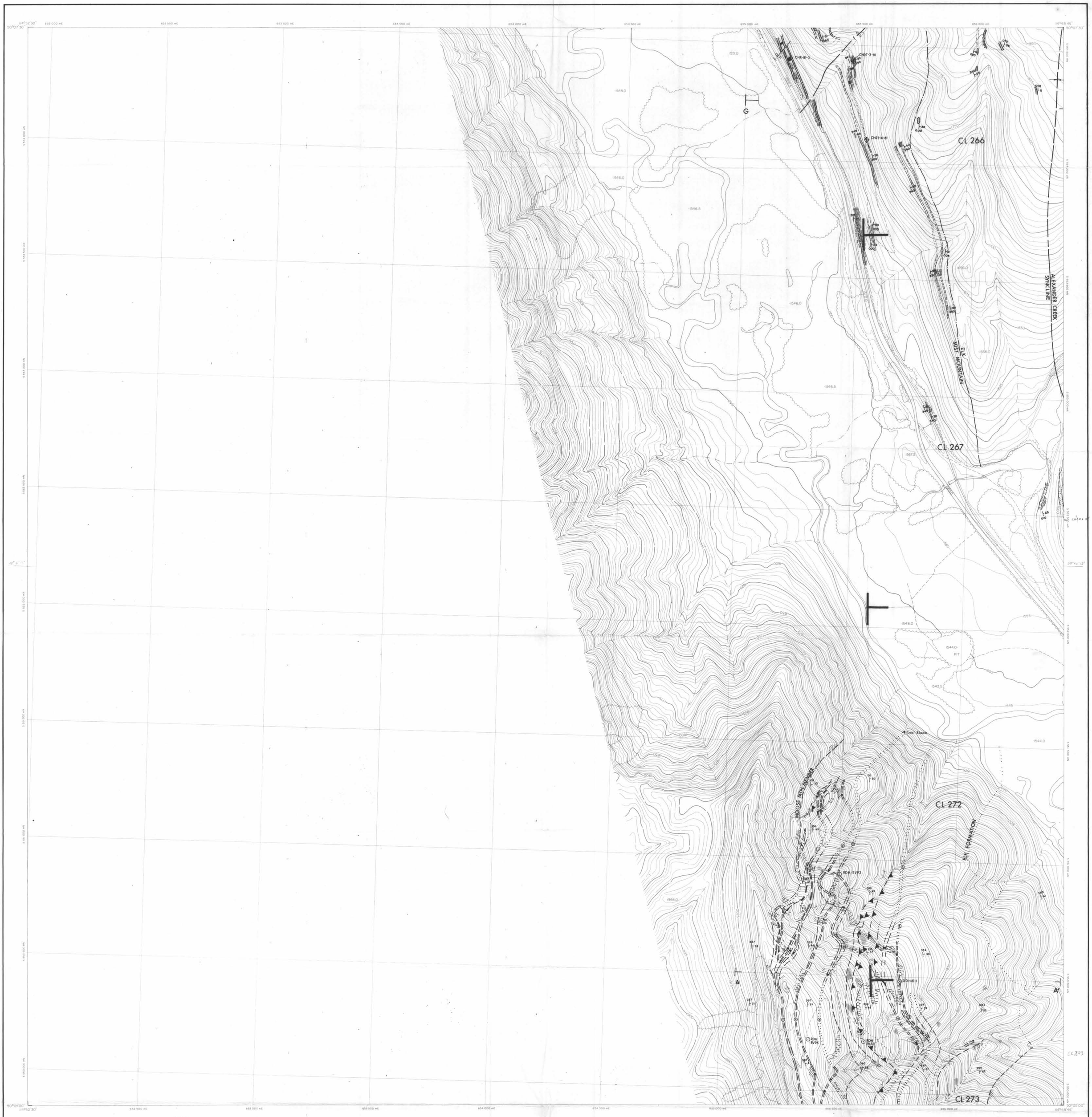
2a/CLd.54

K-Shell Burnt Ridge EH 81(2)A

K-Shell Burnt Ridge 81(2)A

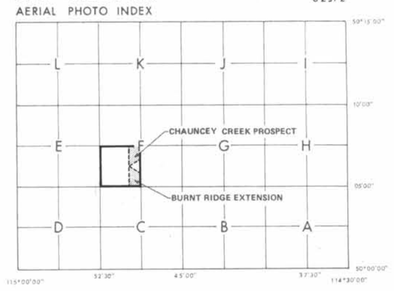
OPEN FILE

377



MAP INDEX AND AERIAL PHOTO INDEX

82J/2



G.N.
T.N.

REFERENCE

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

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

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

GEOLOGICAL LEGEND

JURASSIC - CRETACEOUS

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

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
HAND TRENCH
MACHINE TRENCH

METRES 100 50 0 100 200 300 METRES

SCALE 1 : 5000

K. Shell Burnt Ridge Ext. 81/2/A

Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION — CHAUNCEY CREEK PROSPECT
S.E. B.C.

GEOLOGY MAP

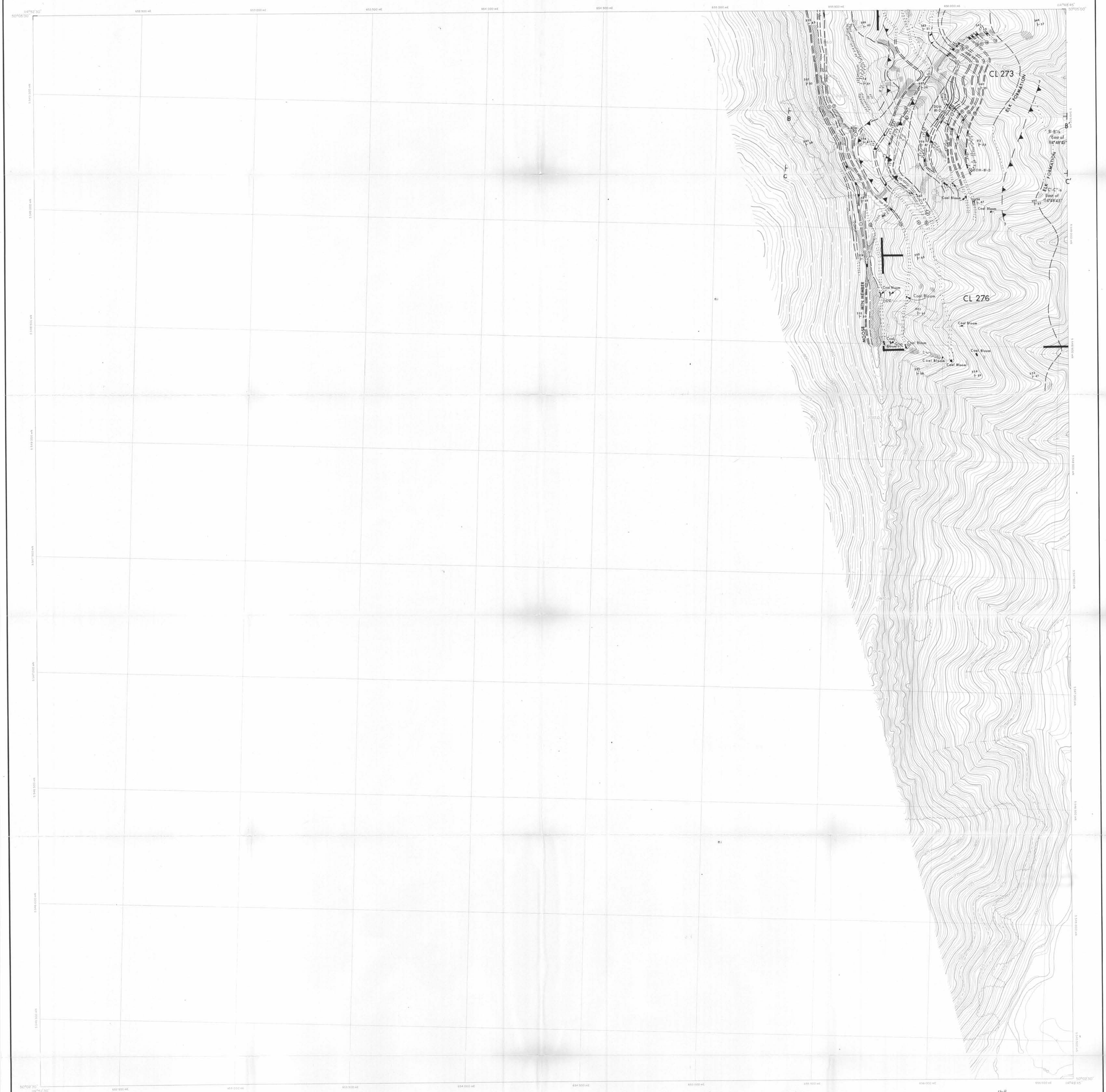
1 of 2

NTS. 82J2 — UTM ZONE 11

AUTHOR: B. RYAN - H. KUCERA	SCALE: 1:5000 METRES	ENCLOSURE No : 15
DATE: 82 01	REVISED:	DRAWING No: HE-95
To Accompany		

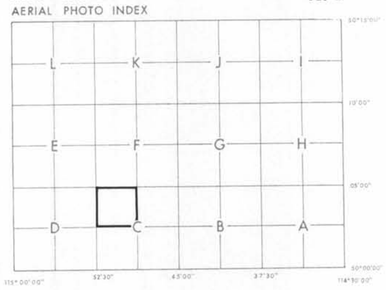
BR2U1

377



MAP INDEX AND AERIAL PHOTO INDEX

82J/2



G.N.
T.N.

REFERENCE

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

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

PREPARED BY :
NORTH WEST SURVEY CORPORATION (YUKON) LTD.
JOB NO. 79 109

GEOLOGICAL LEGEND

JURASSIC - CRETACEOUS

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

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)

METRES 100 50 0 100 200 300 METRES

SCALE 1 : 5000

Shell Kyburnt Ridge Ext. 81(2)A

Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION
S.E. B.C.

GEOLOGY MAP

2 of 2

NTS. 82J2 — UTM ZONE II

AUTHOR: B. RYAN	SCALE: 1:5000 METRES	ENCLOSURE No : 15
DATE: 82.01	REVISED:	DRAWING No: HE-95A
To Accompany 1981 BURNT RIDGE EXTENSION REPORT		

377

652 000 mE | 652 500 mE | 653 000 mE | 653 500 mE | 654 000 mE | 654 500 mE | 655 000 mE | 655 500 mE | 656 000 mE

114°52'30" 50°06'15"

114°48'45" 50°06'15"

50°05'00"

CL 272
CL 273
DDH-81-1
BR-81-T4
BR-81-T5
BR-81-T2
BR-81-T3
81-409
DDH-81-2
Core Storage
81-403
81-402
81-405
81-407
81-404
DDH-81-3
BR-81-T1
81-401
CL 273
CL 276
CL 276

652 500 mE | 653 000 mE | 653 500 mE | 654 000 mE | 654 500 mE | 655 000 mE | 655 500 mE | 656 000 mE | 656 500 mE

50°03'45" 114°52'30"

50°03'45" 114°48'45"

MAP INDEX AND AERIAL PHOTO INDEX

82 J/2

L K J I
E F G H
D C B A

115°00'00" 114°52'30" 114°45'00" 114°37'30" 114°30'00"

50°10'00" 50°03'00" 50°00'00"

T.N.
Grid North

REFERENCE

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

1920
1925
1930
1741
• 1739.4

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

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

Metres 100 50 0 100 200 300 400 Metres
SCALE 1:5000

GEOLOGICAL LEGEND

- Survey Point
- Diamond Drill Hole CNRL 1981
- Hand Trench
- Road Constructed CNRL 1981
- Road Improved CNRL 1981
- Road Maintained as 4 Wheel Drive Access
- Road Backhoe Trenched and Filled in by CNRL 1981

377 K-Shell Burnt Ridge Ext 81(5)A

Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION
S.E. B.C.

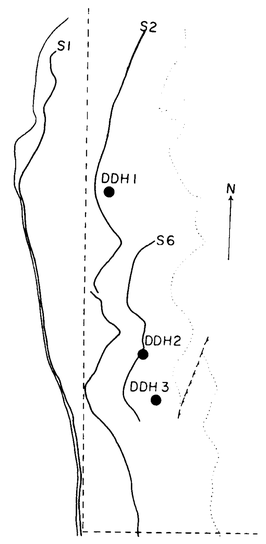
ROADS, DRILLHOLES and TRENCHES

NTS 82J2 | UTM ZONE 11

AUTHOR: H.KUCERA	SCALE: 1:5000	ENCLOSURE No: 16
DATE: 82.03.	REVISED:	DRAWING No: HE-95B
To Accompany		

BR201

BURNT RIDGE EXTENSION S.E.B.C
GEOPHYSICAL LOG CORRELATION DIAGRAM



LITHOLOGY
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

DDH 1 | DDH 2 | DDH 3

GAMMA | CALIPER | RESISTIVITY | S S DENSITY | NEUTRON

MIST MOUNTAIN FORMATION

MOOSE MTN MBR

9 SEAM
8 SEAM
7 SEAM
6 U SEAM
6 SEAM
5 SEAM
5 U SEAM
5 U SEAM
5 SEAM
4 SEAM
CHANNEL SAND
CHANNEL SAND
CHANNEL SAND
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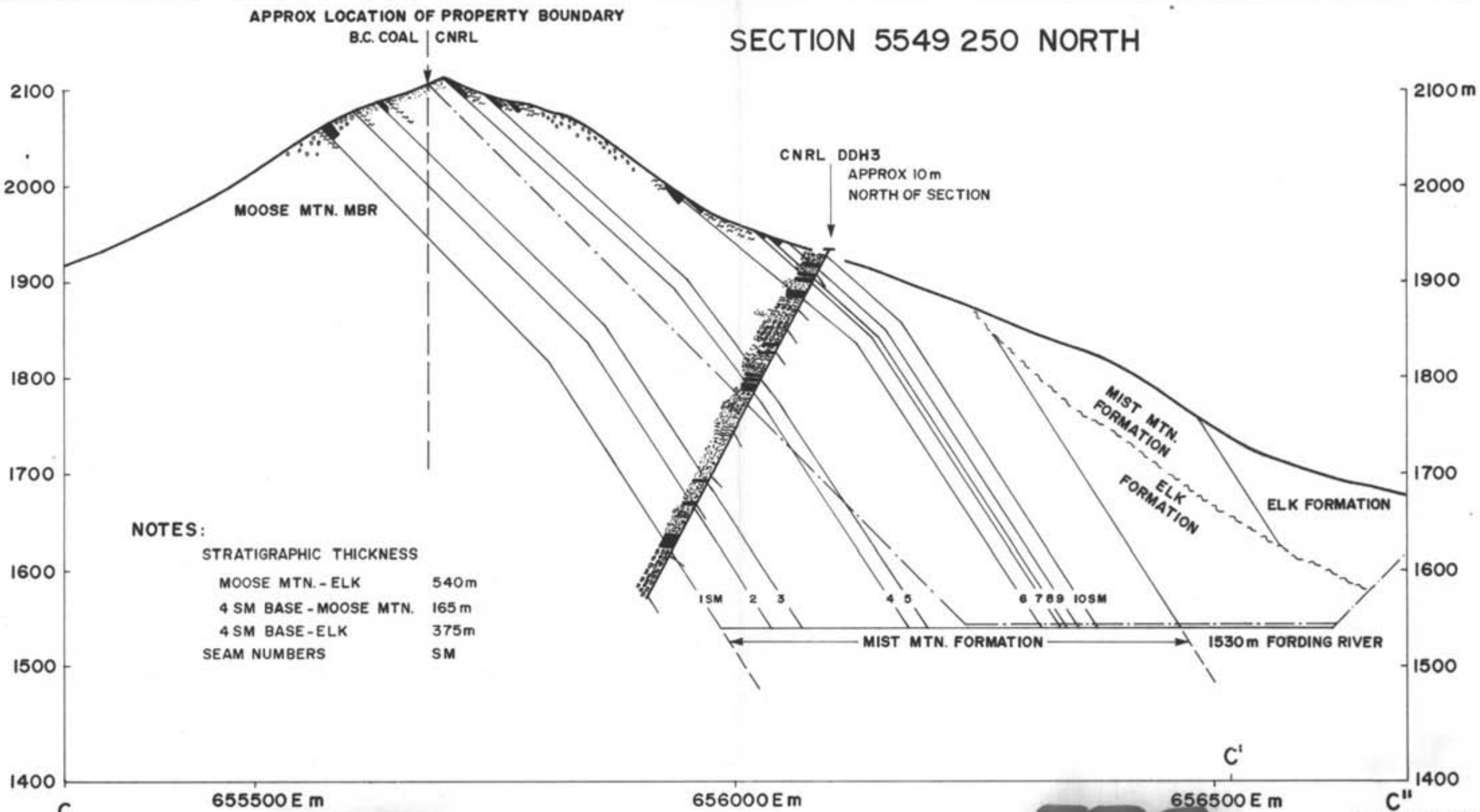
MARKER



NOTES:

STRATIGRAPHIC THICKNESS

MOOSE MTN.-ELK	540m
4 SM BASE-MOOSE MTN.	165m
4 SM BASE-ELK	375m
SEAM NUMBERS	SM

SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

LEGEND

SANDSTONE (Coarse grain)

SANDSTONE (Fine grain)

MUDSTONE

COAL

CONTACTS

KNOWN

INFERRED

FAULT

LICENCE BOUNDARY

PROVISIONAL PIT WALL

377

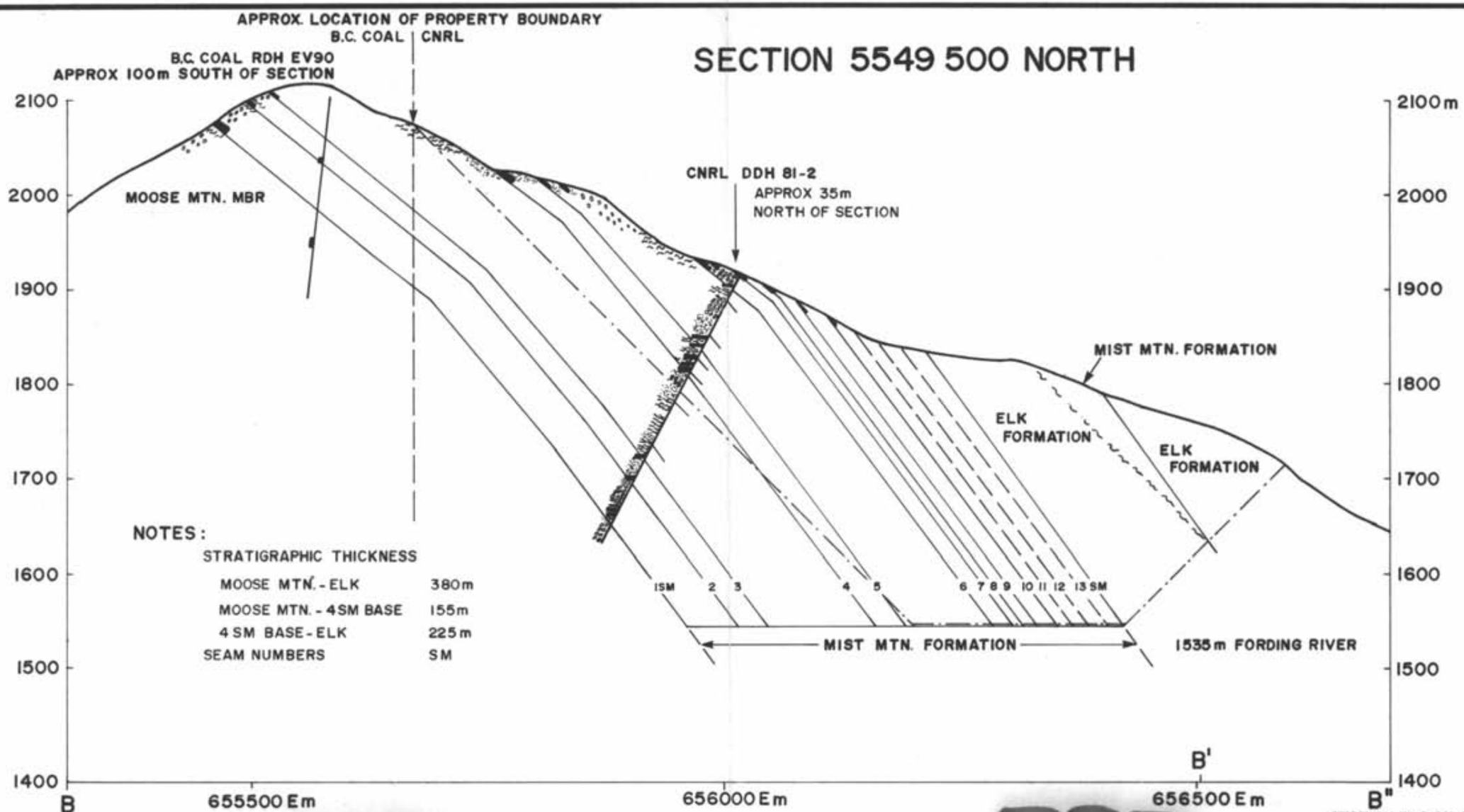
Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA
GEOLOGICAL SECTION
SECTION 5549 250 NORTH

AUTHOR DR. B. RYAN	SCALE 1:5000	ENCLOSURE No. 22
DATE 81-12	REVISED	DRAWING No. HF-94A

Shell
K-2 Burnt Ridge Ext 81(2)A

SECTION 5549 500 NORTH



NOTES:

STRATIGRAPHIC THICKNESS

MOOSE MTN. - ELK	380m
MOOSE MTN. - 4SM BASE	155m
4 SM BASE - ELK	225m
SEAM NUMBERS	SM

SECTION END ON SHEET
82J2 N.E. ZONE C

SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

LEGEND

SANDSTONE (Coarse grain)
SANDSTONE (Fine grain)
MUDSTONE
COAL

CONTACTS

KNOWN
INFERRED
FAULT
LICENCE BOUNDARY
PROVISIONAL PIT WALL

377

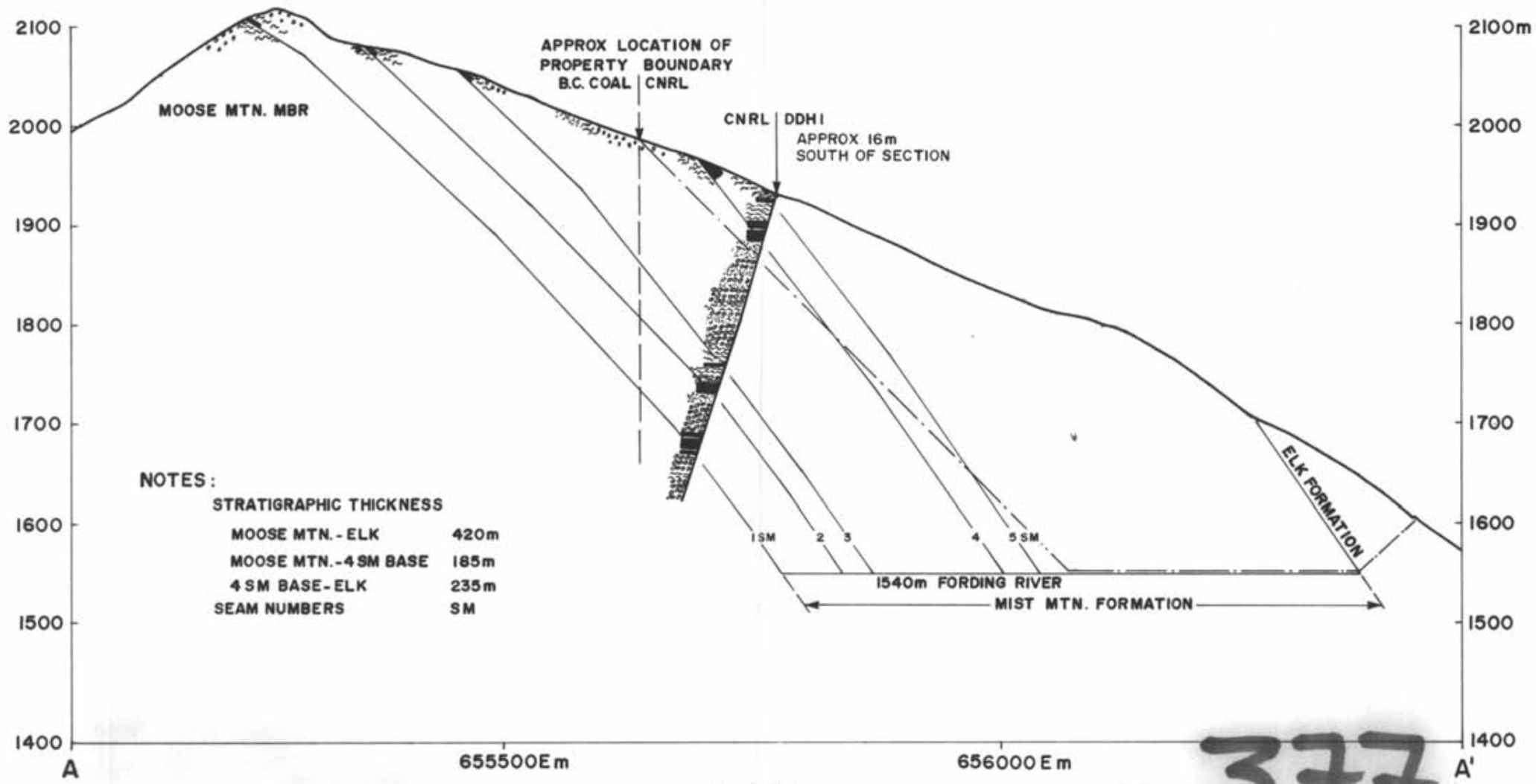
Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA
GEOLOGICAL SECTION
SECTION 5549 500 NORTH

AUTHOR DR. B. RYAN | SCALE 1:5000 | ENCLOSURE No. 21
DATE 81-12 | REVISED | DRAWING No. HF-94B
To Accompany

Shell
K-Burnt Ridge Ext. 81C21A

SECTION 5550 500 NORTH



NOTES:

STRATIGRAPHIC THICKNESS

MOOSE MTN.-ELK	420m
MOOSE MTN.-4SM BASE	185m
4SM BASE-ELK	235m
SEAM NUMBERS	SM

SCALE 1:5000

100 0 100 200 metres

NO VERTICAL EXAGGERATION

LEGEND

SANDSTONE (Coarse grain)

SANDSTONE (Fine grain)

MUDSTONE

COAL

CONTACTS

KNOWN

INFERRED

FAULT

LICENCE BOUNDARY

PROVISIONAL PIT WALL

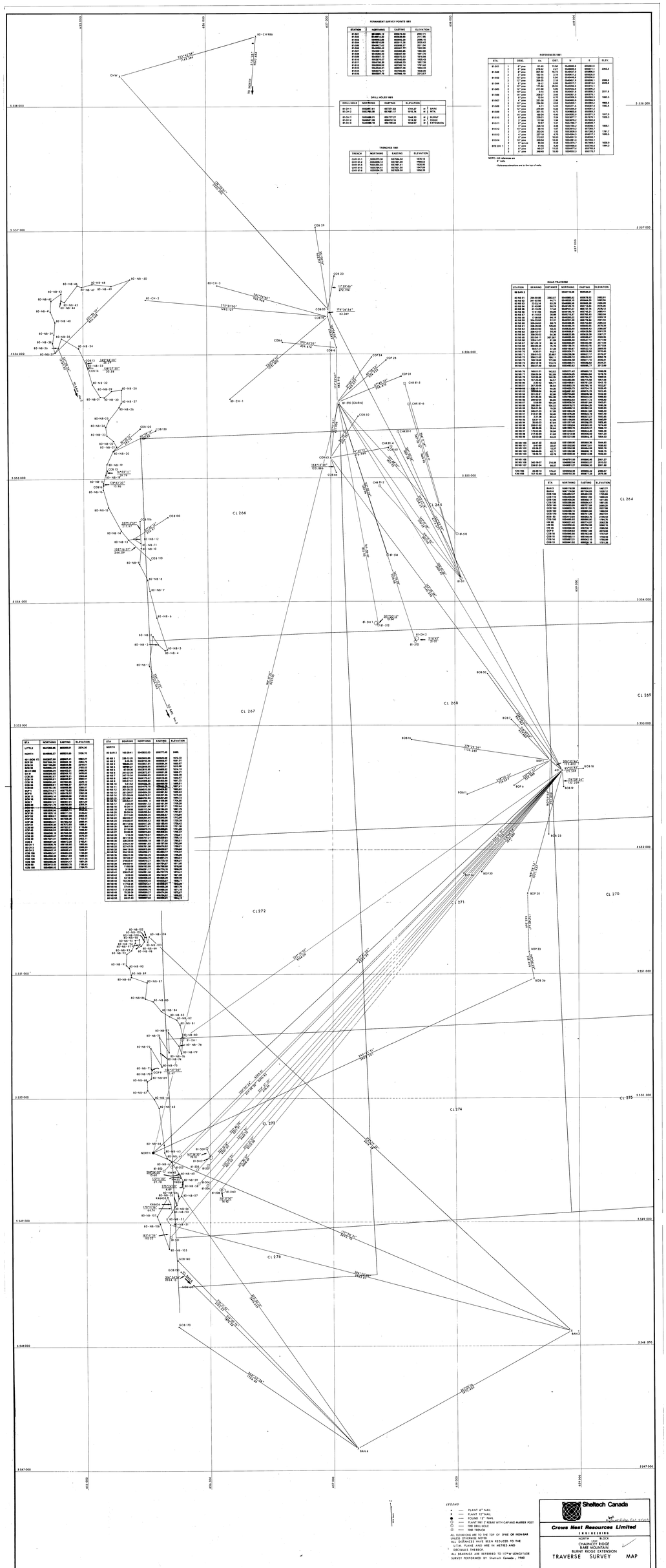
377

Crows Nest Resources Limited
EXPLORATION

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA
GEOLOGICAL SECTION
SECTION 5550 500 NORTH

AUTHOR DR. B. RYAN	SCALE 1:5000	ENCLOSURE No. 20
DATE 81-12	REVISED	DRAWING No. HF-940

Shell
K Burnt Ridge Ext. 81(2)A



PERMANENT SURVEY POINTS 1981

STATION	NORTHING	EASTING	ELEVATION
81-501	5548888.12	0668716.33	2057.71
81-502	5548888.12	0668716.33	2057.71
81-503	5548543.80	0668452.20	2096.10
81-504	5548151.60	0668171.20	2025.42
81-505	5547811.20	0667911.20	2011.91
81-506	5547469.00	0667651.20	1933.00
81-507	5547126.80	0667391.20	1865.0
81-508	5546784.40	0667127.40	1841.10
81-509	5546442.20	0666867.40	1842.40
81-510	5546100.00	0666607.40	1913.3
81-511	5545758.80	0666347.40	1935.3
81-512	5545416.60	0666087.40	1868.1
81-513	5545074.40	0665827.40	1793.7
81-514	5544732.20	0665567.40	1835.5
81-515	5544390.00	0665307.40	1838.9
BTE DH 1	5548887.76	0668716.33	1848.0
2	5548887.76	0668716.33	1848.0
3	5548887.76	0668716.33	1848.0

DRILL HOLES 1981

DRILL HOLE	NORTHING	EASTING	ELEVATION	
81-DH-1	5550081.61	0672721.52	1791.21	BARE
81-DH-2	5551780.28	0673551.17	1870.70	6" NTS.
81-DH-3	5550088.81	0672777.27	1848.22	BURNT
81-DH-4	5549928.98	0668726.36	1874.22	BURNT
81-DH-5	5548288.18	0667195.60	1934.57	EXTENSION

TRENCHES 1981

TRENCH	NORTHING	EASTING	ELEVATION
CHR 81-1	0550215.28	0672646.50	1878.10
CHR 81-2	0550456.12	0672421.90	1898.50
CHR 81-3	0550088.81	0672777.27	1848.22
CHR 81-4	0550364.07	0672622.00	1866.00
CHR 81-6	0550084.25	0672628.08	1898.20

REFERENCES 1981

STA.	DESC.	Az.	DIST.	N	E	ELEV.
81-501	1 - 8" pine	81.42	13.08	5548888.6	0668612.0	
	2 - 8" pine	127.42	15.12	5548887.0	0668613.1	2062.3
81-502	1 - 8" pine	327.42	15.12	5548887.0	0668615.0	
	2 - 8" pine	81.42	13.08	5548888.6	0668612.0	
81-503	1 - 12" pine	120.00	3.00	5548541.8	0668455.2	
	2 - 12" pine	300.00	2.50	5548541.8	0668451.1	2096.0
81-504	1 - 10" pine	17.00	5.00	5548150.6	0668173.2	2025.8
	2 - 10" pine	17.00	5.00	5548150.6	0668173.2	
81-505	1 - 12" pine	211.00	3.35	5548812.5	0668912.2	
	2 - 12" pine	211.00	3.35	5548812.5	0668912.2	2011.9
81-506	1 - 8" pine	348.27	11.62	5548477.4	0668653.8	
	2 - 8" pine	13.64	8.70	5548476.9	0668653.3	1865.0
81-507	1 - 10" pine	234.00	4.00	5548127.8	0668393.2	
	2 - 10" pine	234.00	4.00	5548127.8	0668393.2	1866.0
81-508	1 - 10" pine	4.11	5.33	5548777.4	0668877.8	1842.4
	2 - 10" pine	184.11	5.33	5548777.4	0668877.8	
81-509	1 - 8" pine	351.10	8.12	5548435.2	0668615.1	
	2 - 8" pine	351.10	8.12	5548435.2	0668615.1	1913.3
81-510	1 - 8" pine	229.21	2.24	5548087.7	0668357.5	1935.3
	2 - 8" pine	229.21	2.24	5548087.7	0668357.5	
81-511	1 - 8" pine	17.00	1.41	5547745.5	0668097.5	
	2 - 8" pine	17.00	1.41	5547745.5	0668097.5	
81-512	1 - 8" pine	226.18	3.00	5547408.2	0667838.1	1868.1
	2 - 8" pine	226.18	3.00	5547408.2	0667838.1	
81-513	1 - 8" pine	237.10	6.70	5547044.5	0667577.1	1793.7
	2 - 8" pine	237.10	6.70	5547044.5	0667577.1	1835.5
81-514	1 - 10" pine	202.00	13.42	5546702.1	0667316.9	
	2 - 10" pine	202.00	13.42	5546702.1	0667316.9	
81-515	1 - 8" spruce	84.00	8.58	5546374.1	0667055.1	1838.9
	2 - 8" pine	84.00	8.58	5546374.1	0667055.1	1848.0
BTE DH 1	1 - 8" pine	140.37	11.62	5548477.4	0668653.8	
	2 - 8" pine	348.40	15.90	5548900.0	0668703.7	

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

ROAD TRAVERSE

STATION	BEARING	DISTANCE	NORTHING	EASTING	ELEVATION
BI-BAN 2			5548887.76	0668716.33	
BI-N0 101	294.50.08	3363.87	5549988.42	0666916.52	2002.41
BI-N0 102	41.42.00	52.00	5549990.00	0666969.00	2000.00
BI-N0 103	41.53.00	63.28	5549992.00	0667021.00	2000.00
BI-N0 104	41.42.00	53.16	5549995.25	0667074.96	2075.20
BI-N0 105	41.42.00	53.16	5549997.50	0667128.92	2075.20
BI-N0 106	41.53.00	53.16	5549999.75	0667182.88	2080.41
BI-N0 107	41.10.03	36.88	5550012.67	0667216.87	2092.94
BI-N0 108	41.10.03	36.88	5550025.59	0667250.86	2093.00
BI-N0 109	336.24.03	45.73	5550042.00	0667282.00	2095.00
BI-N0 110	336.24.03	45.73	5550058.95	0667312.95	2095.00
BI-N0 111	336.24.03	45.73	5550075.90	0667343.90	2095.00
BI-N0 112	336.24.03	45.73	5550092.85	0667374.85	2095.00
BI-N0 113	336.24.03	45.73	5550109.80	0667405.80	2095.00
BI-N0 114	336.24.03	45.73	5550126.75	0667436.75	2095.00
BI-N0 115	336.24.03	45.73	5550143.70	0667467.70	2095.00
BI-N0 116	336.24.03	45.73	5550160.65	0667498.65	2095.00
BI-N0 117	336.24.03	45.73	5550177.60	0667529.60	2095.00
BI-N0 118	336.24.03	45.73	5550194.55	0667560.55	2095.00
BI-N0 119	336.24.03	45.73	5550211.50	0667591.50	2095.00
BI-N0 120	336.24.03	45.73	5550228.45	0667622.45	2095.00
BI-N0 121	336.24.03	45.73	5550245.40	0667653.40	2095.00
BI-N0 122	336.24.03	45.73	5550262.35	0667684.35	2095.00
BI-N0 123	336.24.03	45.73	5550279.30	0667715.30	2095.00
BI-N0 124	336.24.03	45.73	5550296.25	0667746.25	2095.00
BI-N0 125	336.24.03	45.73	5550313.20	0667777.20	2095.00
BI-N0 126	336.24.03	45.73	5550330.15	0667808.15	2095.00
BI-N0 127	336.24.03	45.73	5550347.10	0667839.10	2095.00
BI-N0 128	336.24.03	45.73	5550364.05	0667870.05	2095.00
BI-N0 129	336.24.03	45.73	5550381.00	0667901.00	2095.00
BI-N0 130	336.24.03	45.73	5550397.95	0667931.95	2095.00
BI-N0 131	336.24.03	45.73	5550414.90	0667962.90	2095.00
BI-N0 132	336.24.03	45.73	5550431.85	0667993.85	2095.00
BI-N0 133	336.24.03	45.73	5550448.80	0668024.80	2095.00
BI-N0 134	336.24.03	45.73	5550465.75	0668055.75	2095.00
BI-N0 135	336.24.03	45.73	5550482.70	0668086.70	2095.00
BI-N0 136	336.24.03	45.73	5550499.65	0668117.65	2095.00
BI-N0 137	336.24.03	45.73	5550516.60	0668148.60	2095.00
BI-N0 138	336.24.03	45.73	5550533.55	0668179.55	2095.00
BI-N0 139	336.24.03	45.73	5550550.50	0668210.50	2095.00
BI-N0 140	336.24.03	45.73	5550567.45	0668241.45	2095.00
BI-N0 141	336.24.03	45.73	5550584.40	0668272.40	2095.00
BI-N0 142	336.24.03	45.73	5550601.35	0668303.35	2095.00
BI-N0 143	336.24.03	45.73	5550618.30	0668334.30	2095.00
BI-N0 144	336.24.03	45.73	5550635.25	0668365.25	2095.00
BI-N0 145	336.24.03	45.73	5550652.20	0668396.20	2095.00
BI-N0 146	336.24.03	45.73	5550669.15	0668427.15	2095.00
BI-N0 147	336.24.03	45.73	5550686.10	0668458.10	2095.00
BI-N0 148	336.24.03	45.73	5550703.05	0668489.05	2095.00
BI-N0 149	336.24.03	45.73	5550720.00	0668520.00	2095.00
BI-N0 150	336.24.03	45.73	5550736.95	0668550.95	2095.00
BI-N0 151	336.24.03	45.73	5550753.90	0668581.90	2095.00
BI-N0 152	336.24.03	45.73	5550770.85	0668612.85	2095.00
BI-N0 153	336.24.03	45.73	5550787.80	0668643.80	2095.00
BI-N0 154	336.24.03	45.73	5550804.75	0668674.75	2095.00
BI-N0 155	336.24.03	45.73	5550821.70	0668705.70	2095.00
BI-N0 156	336.24.03	45.73	5550838.65	0668736.65	2095.00
BI-N0 157	336.24.03	45.73	5550855.60	0668767.60	2095.00
BI-N0 158	336.24.03	45.73	5550872.55	0668798.55	2095.00
BI-N0 159	336.24.03	45.73	5550889.50	0668829.50	2095.00
BI-N0 160	336.24.03	45.73	5550906.45	0668860.45	2095.00
BI-N0 161	336.24.03	45.73	5550923.40	0668891.40	2095.00
BI-N0 162	336.24.03	45.73	5550940.35	0668922.35	2095.00
BI-N0 163	336.24.03	45.73	5550957.30	0668953.30	2095.00
BI-N0 164	336.24.03	45.73	5550974.25	0668984.25	2095.00
BI-N0 165	336.24.03	45.73	5550991.20	0669015.20	2095.00
BI-N0 166	336.24.03	45.73	5551008.15	0669046.15	2095.00
BI-N0 167	336.24.03	45.73	5551025.10	0669077.10	2095.00
BI-N0 168	336.24.03	45.73	5551042.05	0669108.05	2095.00
BI-N0 169	336.24.03	45.73	5551059.00	0669139.00	2095.00
BI-N0 170	336.24.03	45.73	5551075.95	0669169.95	2095.00
BI-N0 171	336.24.03	45.73	5551092.90	0669200.90	2095.00
BI-N0 172	336.24.03	45.73	5551109.85	0669231.85	2095.00
BI-N0 173	336.24.03	45.73	5551126.80	0669262.80	2095.00
BI-N0 174	336.24.03	45.73	5551143.75	0669293.75	2095.00
BI-N0 175	336.24.03	45.73	5551160.70	0669324.70	2095.00
BI-N0 176	336.24.03	45.73	5551177.65	0669355.65	2095.00
BOB 100	32.07.07	40.83	5551088.00	0669483.96	1844.60
BOB 101	32.07.07	40.83	5551087.00	0669483.00	1844.60
BOB 102	32.07.07	40.83	5551086.00	0669482.00	1844.60
BOB 103	160.44.03	42.75	5551082.00	0669486.13	1838.19
BOB 104	160.44.03	42.75	5551080.00	0669488.20	1838.19
BOB 105			5548701.00	0669886.96	2051.37
BOB 106	323.19.07	214.08	5548900.00	0669703.00	2051.00
BOB 107	324.01.56	66.87	5548951.27	0669657.27	2051.00
FAD 002	32.09.16	135.41	5549022.48	0669815.52	2090.20
FAD 003	101.13.40	128.94	5549019.00	0669952.00	2075.00

STA	NORTHING	EASTING	ELEVATION
LITTLE	5547088.25	0670551.47	2136.30
NORTH	5549988.42	0666961.68	2136.70
401 (COB 10)	5550107.00	0668871.41	2062.27
BOB 16	5550 [illegible]	0668 [illegible]	2062.00
BOB 18	5550 [illegible]	0668 [illegible]	2062.00
BOB 30	5550 [illegible]	0668 [illegible]	2100.00
BOB 36	5550 [illegible]	0668 [illegible]	2100.00
COB 10	5550 [illegible]	0668 [illegible]	2062.00
COB 20	5550 [illegible]	0668 [illegible]	2062.00
COB 23	5550 [illegible]	0668 [illegible]	2062.00
COB 29	5550 [illegible]	0668 [illegible]	2062.00
COB 43	5550 [illegible]	0668 [illegible]	2062.00
COB 44	5550 [illegible]	0668 [illegible]	2062.00
COB 59	5550 [illegible]	0668 [illegible]	2062.00
COB 67	5550 [illegible]	0668 [illegible]	2062.00
COB 70	5550 [illegible]	0668 [illegible]	2062.00
COP 24	5550 [illegible]	0668 [illegible]	2062.00
COP 28	5550 [illegible]	0668 [illegible]	2062.00
COP 31	5550 [illegible]	0668 [illegible]	2062.00
COP 33	5550 [illegible]	0668 [illegible]	2062.00
COP 36	5550 [illegible]	0668 [illegible]	2062.00
COP 40	5550 [illegible]	0668 [illegible]	2062.00
COP 41	5550 [illegible]	0668 [illegible]	2062.00
COP 42	5550 [illegible]	0668 [illegible]	2062.00
COP

K-Shell Burnt Ridge Ext 81(3)A

K-Shell Burnt Ridge Ext 81(3)A

STRATIGRAPHIC SECTIONS

CONFIDENTIAL

377

CROWS NEST RESOURCES LIMITED

PROJECT: BURNT RIDGE EXTENSION

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

HOLE I.D: DH-BRE-3-81

ZONE: 82/J2

GRID TYPE: U T M

EASTINGS: 656100.49

NORTHINGS: 5549260.16

ELEVATION (m): 1934.57

TOTAL DEPTH DRILLED: 413.6 DRILLER: D.W. COATES

AZIMUTH:

INCLINATION:

DRILL TYPE: DIAMOND OVERBURDEN: 3.85 metres

CORE DIAMETER: H.Q. CASING LEVEL: 3.85

LENGTH CORED: 409.75 WATER LEVEL:

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

LOGS USED: CALIPER, GAMMA, NEUTRON, DENSITY, RESISTIVITY, DEVIATION

LOGGED BY: DAVIES EXPLORATION LOGGING LENGTH LOGGED: 412.0

CORE EXAMINED BY: A. ROPER, K. MACKENZIE

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: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos | GEOP. PICK | PAGE 1 OF 11

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/B / A / Code 12
5.18			CASING		3.85						Casing.			
8.2	3.16 / 3.2		SLST.		7.82						Locally sandy, highly jointed, stick to semi-stick, shows water staining grades into sandstone at 7.82.			
			SS.		8.38						Fine grained, ripple cross-bedding, highly jointed.		60 / 8.4	
11.3	3.06 / 3.1		SS+SLST		11.3						50/50, ripple cross-bedding, grey.			
			SS.		12.3						Fine grain, ripple cross-bedding.			
14.3	2.86 / 3.0		SS+SLST.								50/50.		64 / 14.3	
17.4	3.11 / 3.1		SS+SLST.		20.0									
20.4	1.91 / 3.0	64%	COAL	2.1 / 4.29		49%					Carbonaceous mudstone to 20.5, dull to 21.65 m, dirty to 21.17, shiny 21.9, dull, semi-stick, blocky.		60 / 22.1	
21.9	1.32 / 1.5	88%	COAL		22.1								67 / 23.5	
23.5	1.11 / 1.6	69%	MDST.		24.9						Locally silty, grey to dark grey, locally carbonaceous.			
25.9	2.32 / 2.4		SS+SLST.								Abundant dewatering features, light grey, stick, iron staining, jointed, calcite filled.			
29.0	3.12 / 3.1		SS+SLST.		31.9						Grades into mudstone.			
32.0	3.0 / 3.0		MDST.		35.05						Locally siltstone, dark grey, carbonaceous, water staining on bedding, joints.		59 / 34.5	
35.1	2.14 / 3.1		COAL		35.73	72%					Shiny, brittle			
36.9	1.1 / 1.8	61%	MDST.		36.9						Abundant fossils.			
			SLST.		38.4						Dark grey, 30% sandstone bands.			
38.4	1.44 / 1.5	96%	COAL	2.2 / 4.59		48%					Top of COAL is mudstone, dull rubbly, 3 mudstone bands at 38.8 to 38.9, 38.9 to 38.97, second one has a large pyrite lense.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos | GEOP. PICK | PAGE 2 OF 11

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
43.0	3.34 / 5.6	60%	COAL							39.34 to 39.72 COAL for 37 cm.			
44.8	1.73 / 1.8	96%	COAL		40.6					Black mudstone 5 cm at base of seam,		67 / 40.6	
45.7	0.68 / 0.9	76%	SS+SLST.		49.6					Joints, water staining, ripple cross-bedding, becomes muddier at base of unit.		68 / 46.4	
48.8	3.19 / 2.4	133%	MDST.		52					Silty mudstone.		68 / 51.4	
51.2	2.83 / 2.4	118%	COAL	3.3 / 4.81	55.3	69%				Semi-stick, dull block for 80 cm, shiny to 54.3 powdery bright and powdery from 55m 55.3 m.			
54.3	2.02 / 3.1	65%	SS+SLST.		57					Siltstone, ripple cross-bedding.		64 / 57	
57.1	2.34 / 2.8	84%	COAL	1.0 / 1.46	58	68%				Semi-stick, dull, few bright bands.			
58.2	1.5 / 1.1	136%	MDST.							Carbonaceous, some COAL stringers.		70 / 58.2	
			MDST.		58.8								
61.7	2.86 / 3.5	82%	SLST.							61.7 to 61.96 carbonaceous mudstone, medium to dark grey siltstone, sandy bands, stick, fossils.		74 / 61.7	
63.4	1.69 / 1.7	99%	SLST.									75.8 / 63.4	
65.2	1.37 / 1.8	76%	SLST.		68.05					a/a; fossiliferous.			
68.3	3.03 / 3.1	98%	MDST.		68.5					Dark grey, shaley, fissile, fossiliferous, semi-stick, gradational to COAL.		69 / 68.1	
			COAL ZONE							Good COAL, mudstone splits, semi-stick, mud bands; 68.72 to 68.82 68.92 to 68.95; 68.5 to 68.7 bright COAL; 68.82 to 68.92 bright;			
70.1	1.79 / 1.8	99%	COAL ZONE		70.1					68.95 to 68.98 bright. All remaining COAL is dull; 70.0 to 70.1 bright, shaley, dark grey, black, semi-stick.			
			MDST.		71.12								
			COAL		71.62					Dirty, dull, dirty band, 71.21 to 71.48; semi-stick.		74 / 70	

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos | GEOP. PICK | PAGE 3 OF 11

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 / Code [12]
72.2	2.15 / 2.1	102%	MDST.								Shaley, semi-stick rubble, minor needle COAL, a few silty bands, slicks, fossiliferous.			
75.3	3.01 / 3.1	97%	MDST.		78.17								76° / 74.0	
78.3	2.91 / 3.0	97%	SLST.								Some sandy bands, massive minor calcite stick, light to medium grey.			
81.4	3.12 / 3.1	101%	SLST.		82.87									
84.4	2.97 / 3.0	99%	SST.								Fine to medium grained, first 64 massive, stick, 83.51 to 84.16 - ripple cross stratification, remainder is massive at 84.4 to 84.9 siltstone band.		71° / 84.16	
87.5	3.11 / 3.1	100%	SST.		87.3						86.86 to 87.3 massive, fine grained begin medium grained sandstone, ripple cross stratification, iron staining possible fault zone, rubble, stick.			
90.5	3.05 / 3.0	102%	SLST.		89.5									
92.1	1.14 / 1.6	71%	SST.								Medium grained, ripple cross stratification, iron staining, semi-stick fault zone.		62 / 90.6	
93.6	1.15 / 1.5	77%	SST.		96.88						a/a 94.96 begins stick, continues to end of unit.		36 / 93.6	44° / 180
97.2	3.56 / 3.6	99%	SLST+SS		99.83						Interbedded, siltstone/sandstone-70/30.		64° / 97.88	J
100.6	3.02 / 3.4	89%	SHALEY MDST.		102.95						Dark grey, rubble to semi-stick, fissile, fossiliferous, silty towards end.			60 / 020
102.7	1.89 / 2.1	90%	SST.								Medium course grained, COAL stringers on bedding, finely laminated, stick, light and dark bands, COAL bands at		98.0	J
108.8	6.29 / 6.1	103%	SST.								112.48, continues to 113.0, sharp contact with COAL.		63° / 100.4	
111.9	2.95 / 3.1	95%	SST.		113.0						Some minor ripple cross stratification.		56° / 112.5	
114.9	2.6 / 3.0	87%	COAL		113.3						Vitrinite, good bright shiny COAL, rubble.			
118.0	3.24 / 3.1	105%	MDST.								Dark grey to black, fossiliferous, some silty bands (30%) COAL bands 113.82 to 114.45 - 114.58 to 114.93 - rubbly COAL, calcite on jointing.			
121.0	3.02 / 3.0	101%	MDST.		121.75						Minor sandstone bands, carbonaceous mudstone grades into COAL, shiney bright.		64° / 121.7	

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 4 OF 11

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 / Code [12]
124.1	1.36 / 3.1	44%	COAL		122.32						Shiny bright.	66° / 124.5	
125.9	1.85 / 1.8	103%	MDST.								Shaley, dark grey, calcite on joints, COAL zones 125.33 to 125.58 - 125.73 to 125.96.		
127.7	2.31 / 1.8	128%	MDST.								131.8 to 132.3 shiny coal		
130.1	2.24 / 2.4	93%	MDST.		132.2								
133.0	2.65 / 2.9	91%	SLST.								Stick, medium grey, sandy bands.		
135.9	3.1 / 2.9	107%	SLST.								a/a		
139.1	3.16 / 3.0	99%	SLST.		140.74								
142.2	3.06 / 3.1	99%	SST.		145.2						Fine grained, interbedded with siltstone, sandstone is ripple cross stratified.		
145.2	3.16 / 3.0	105%	SLST.								Fine siltstone, stick, dark grey.	75° / 146.5	
148.4	3.09 / 3.2	97%	SLST.		150.5								
151.5	2.48 / 3.1	80%	COAL		151.9						Dull, slicks, powdery to rubble, last 20 cm bright and powdery.		
154.5	2.87 / 3.0	96%	MDST.		156.07						Minor siltstone, dark grey, stick.		
157.6	2.17 / 3.1	70%	COAL								Dull, rubble to powdery, 157.6 to 157.9 mudstone split.		
159.0	1.34 / 1.4	96%	COAL		159.26						157.9 COAL dull and blocky, 158.72 bright powdery COAL.		
160.6	1.18 / 1.6	74%	SLST.								Carbonaceous with COAL stringers.		
162.8	1.29 / 2.2	59%	SLST.										
164.6	1.26 / 1.8	70%	SLST		164.4								

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos | GEOP. PICK | PAGE 5 OF 11

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 / Code [12]
165.5	0.53 / 0.9	59%	COAL								Dull, blocky, brittle, 165.7 to 166.2 bright zone.		
167.9	2.17 / 2.4	90%	COAL								166.25 to 166.55 dirty band, 166.61 to 167.9 powdery.		
169.8	1.48 / 1.9	78%	COAL		169.9						168.25 to 169.9 dirty.		
170.7	0.62 / 0.9	69%	MDST.		170.64						Carbonaceous, dark grey.	65 / 171	
172.7	1.27 / 2.0	64%	SLST.								Some sandstone bands dark grey to black, mostly stick, some semi-stick 60/40 siltstone/sandstone - slicks, minor coaly bands		
175.9	3.01 / 3.2	94%	SLST.										
179.0	3.24 / 3.1	105%	SLST.		181.1						a/a	73 / 181.1	24 / 180
182.0	3.22 / 3.0	107%	SST.								Calcite filled joints, medium grey, fine to medium grained, finely laminated, some COAL wisps, mostly stick, some rubble.		J
185.0	3.28 / 3.0	109%	SST.								COAL stringers from 185 to 188, also sandstone medium to coarse grained.		
188.1	3.3 / 3.1	107%	SST.										
191.1	3.04 / 3.0	102%	SST.								188 to 191 fine to medium grained, ripple cross stratification to end.		
194.2	3.16 / 3.1	102%	SST.		195.5						A few silty bands towards end of section.		
197.2	2.78 / 3.0	93%	SLST.		198.6						Medium grey, massive, few mudstone bands, Coaly stringers.		
200.3	3.09 / 3.1	100%	SST/SLST								70/30 sandstone/siltstone, sandstone medium grained, ripple cross stratified, sandstone light grey, siltstone medium grey.	56 / 203	
203.3	3.2 / 3.0	107%	"										
206.4	3.01 / 3.1	97%	"		205.8								
209.4	2.82 / 3.0	94%	SST.		208.9						Coarse grained, channel, COAL stringers (wisps) medium to light grey.		

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 6 OF 11

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	Sample No. 10	C/B / El. 11	C/P / A / Code 12
212.5	3.09 / 3.1	100%	SLST.		212.74					Medium grey, massive, slicks, stick.			
215.5	3.03 / 3.0	101%	MDST.		217.7					Carbonaceous black, COAL stringers, minor silty bands, stick.			
218.5	3.14 / 3.0	105%	SST.		218.83					Fine to medium grained, finely laminated, stick.			
221.0	2.19 / 2.5	88%	SLST.		220.77					Mudstone carbonaceous, some COAL stringers, stick to semi-stick, 220.7 to 221.0 sandstone band medium grained.			
221.7	0.88 / 0.7	126%	SLST.							Medium grey, massive, 221.74 to 222.34 fine sandstone band, finely laminated		54 / 220	
224.6	2.71 / 2.9	94%	SLST.							Few mudstone bands, fossiliferous.		67 / 226	
226.8	2.06 / 2.2	94%	SLST.							Dark grey, massive COAL stringers, semi-stick.			
228.1	1.15 / 1.3	89%	SLST.										
230.1	1.86 / 2.0	93%	SLST.										
236.7	5.87 / 6.6	89%	SLST.							231.26 to 236.8 mudstone carbonaceous, COAL bands 60/40 mudstone/siltstone.			
240.0	2.93 / 3.3	89%	SLST.							Sandy bands with siltstone at 236.9 begins medium grained sandstone at 237.2 to 237.5 ripple cross stratified,		53 / 237.5	
242.9	2.97 / 2.9	102%	SLST.							Siltstone, massive mudstone to dark grey, COAL stringers, slicks 241.92 to 242.49.			
246.0	3.05 / 3.1	98%	SLST.										
249.0	3.01 / 3.0	100%	SLST.							A few COAL bands.			
252.1	2.73 / 3.1	88%	SLST.										
255.1	3.09 / 3.0	103%	SLST.							255.2 to 255.3 COAL - dirty, dull with shiny bands, semi-stick to stick.			
258.2	3.11 / 3.1	100%	SLST							259.0 more mudstone bands, siltstone becomes dark grey.			
261.2	2.71 / 3.0	90%	SLST							Stick.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N.BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 7 OF 11

Marker Bt. [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]
264.3	2.73 / 3.1	88%	SLST.								264.0 to 264.3 mudstone/ COAL rubble. 264.97 to 265.09 COAL, bright, powdery			
267.3	2.93 / 3.0	98%	SLST.								Siltstone becomes fissile to 270.4. Fossiliferous.		70° / 268	
270.4	2.95 / 3.1	95%	SLST.								270 to 270.37 mudstone/COAL rubble.			
273.4	2.02 / 3.0	67%	SLST.								274.91 to 273.4 rubble, mudstone/siltstone.			
275.2	1.08 / 1.8	60%	SLST.								276.09 to 275.2 COAL/mudstone rubble.			
276.5	0.57 / 1.3	44%	SLST.								Siltstone/mudstone; siltstone abundant cracks and jointing filled with calcite.			
279.5	1.57 / 3.0	52%	SLST.		279.5						276.81 to 277.01 COAL, shiny. 279.25 to 279.50 COAL/mudstone rubble.			
			SLST/SST.		281.68						Interbedded, light grey.		64 / 281.7	
282.6	3.04 / 3.1	98%	SLST./ MDST.								Massive, slicks, fractured, dark grey to black.			
285.6	3.25 / 3.0	108%	MDST.		287.26						285.7 to 285.82 sandstone band. COAL partings, stick.			
288.7	3.16 / 3.1	102%	SLST.		291.7						Sandy bands, light to medium grey, stick, massive.		49 / 288	32 / 180
291.7	2.12 / 3.0	104%	MDST.		294.37						Carbonaceous mudstone bands.			
294.7	3.07 / 3.1	104%	SST/SLST.		296.67						50/50, stick.			
297.8	1.88 / 3.2	99%	SILTY MDST.		299.75						Calcite on joints, stick, dark grey, massive, fossiliferous.			
300.0	.53 / 0.8	59%	MDST.		300.15						Carbonaceous, semi-stick to rubble.			
300.8	.53 / 0.8	66%	COAL								300.15 to 300.4 bright shiny. 300.4 to 300.80 mudstone split.			
302.4	1.1 / 2.7	41%	COAL								300.08 to 301.05 dull, blocky 301.05 to 301.45 dull with shiny bands.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 8 OF 11

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								301.45 to 302.50 bright, shiny, blocky. 302.5 to 302.71 dull with bright bands.			
303.3	0.66 / 0.9	73%	COAL		303.3						302.71 to 302.81 dirty COAL. 302.8 to 303.3 dull, powdery		56 / 303.4	
304.2	.97 / 0.9	108%	SILTY MDST.								abundant COAL stringers, semi-stick, dark grey. 304.89 to 304.99 COAL, dirty dull.			
			SILTY MDST.								304.99 to 305.03 mudstone 305.03 to 305.08 COAL			
306.0	1.32 / 1.8	73%	SILTY MDST.		307.0						305.65 to 306.85 dull COAL with shiny streaks. 305.85 to 306.0 dull, dirty COAL.			
310.0	3.85 / 4.0	96%	SLST.		310.27						Sandstone bands, ripple cross stratified, medium grey, semi-stick.			
313.0	3.02 / 3.0	101%	SST.		315.27						Minor siltstone bands, medium grey, stick, fine grained, finely laminated, calcite filled cracks and joints, silty bands are			
316.1	2.99 / 3.1	97%	SLST.								fossiliferous, finely laminated, stick and medium grey.		52 / 316	
319.1	3.05 / 3.0	102%	SLST.								316.76 to 316.99 shiny COAL band.			
322.2	3.12 / 3.1	101%	SLST.								Lighter grey, massive.			
328.3	6.23 / 6.1	102%	SLST.		329.3									
330.1	3.08 / 1.8	171%	SLST.+ SST.		330.49						60/40 siltstone/sandstone; sandstone has siltstone clasts, stick.			
			SHALEY MDST.		331.69						Semi-stick, medium grey.			
			SLST.								Rubble.			
334.1	1.8 / 4.0	45%	SLST.								Stick to semi-stick, COAL stringers, medium to dark grey, sandy bands, fossiliferous.			
337.3	2.95 / 3.2	92%	SLST.		337.45						337.45 to 337.89 COAL rubble.			
			MDST.		338.95						Stick.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 9 OF 11

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]
338.9	1.19 / 1.6	74%	COAL								339.4 to 339.6 mudstone split, bright with shiny bands.			
340.5	.84 / 1.6	53%	COAL		340.8						340.63 to 340.7 mudstone.			
			MDST.		341.61						Dark grey, COAL stringers.			
343.5	2.27 / 3.0	76%	SLST.		343.4						341.61 to 341.91 sandstone, ripple cross stratified.		68 / 341.7	
			COAL		344.06						343.4 to 343.49 mudstone dull with bright bands.			
			SLST.		344.94						344.06 to 344.34 mudstone			
346.6	2.2 / 3.1	71%	COAL								344.94 to 345.54 mudstone, carbonaceous dull blocky with shiny streaks, semi-stick.			
			COAL								348.38 to 349.0 rubble zone 349.0 to 349.63 mudstone massive.			
349.0	2.53 / 2.4	105%	COAL								349.63 to 351.40 powdery, COAL 351.4 to 351.6 mudstone split			
351.4	1.0 / 2.4	42%	COAL								351.76 to 352.16 dull, semi-stick powdery, blocky. 351.6 to 351.76 dirty.			
352.7	.99 / 1.3	76%	COAL		352.5						352.16 to 352.5 dull, powdery.			
353.6	.76 / 0.9	84%	MDST.		354.35						Carbonaceous, slicks, dark grey to black.			
354.2	.48 / 0.6	80%	COAL								Semi-stick, dull with shiny bands.			
355.7	0.5 / 1.5	33%	COAL		355.7						355.7 to 355.8 mudstone			
358.8	2.68 / 3.1	86%	SST.		361.0						Fine grained, 40% silt light grey, laminar cross stratification.		62 / 358	30 J / 180
361.8	3.1 / 3.0	103%	SST.								Medium grained some silty bands, ripple cross stratification, siltstone massive.		67 / 363	
364.9	3.53 / 3.1	114%	SST.											

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 10 OF 11

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	Sample No. C/B / El. 11	C/P / Code 12
			SST.		365.89							
			SLST.		367.41					Massive, medium grey.		
367.9	2.91 / 3.0	97%	SST.							Fine to medium grained, stick. 368.2 to 369.26 rip ups of siltstone, calcite on jointing.		
370.9	3.08 / 3.0	103%	SST.							369.26 to 370.46 finely laminated, ripple cross stratification. 370.46 sandstone massive, medium grained, light to medium grey.	62 / 370.5	
374.0	3.19 / 3.1	103%	SST.							375.54 becomes finely laminated; 376.19 to 380.9 rubble, slicks.	48 / 375.5	
376.7	2.35 / 2.7	87%	SST.									
379.8	0.27 / 3.1	9%	SST.							380.9 very coarse grained, coarsely planar laminated.		
383.1	2.5 / 3.3	76%	SST.									
386.2	3.09 / 3.1	100%	SST.							387.61 to 389.7 highly fractured. 389.0 sandstone medium grained, coarse.		
389.0	2.53 / 2.8	90%	SST.									
389.7	1.0 / 0.7	143%	SST.							389.91 to 390.21 rip ups, 40% siltstone clasts.		
392.3	2.68 / 2.6	103%	SST.		393.42						56 / 392	24 J / 180
394.1	1.76 / 1.8	98%	SLST.							Dark grey with thin sandstone lamination.		
396.8	2.78 / 2.7	103%	SLST.		386.8						60 / 396	
398.4										Medium grained (channel sand) COAL wisps, light to medium grey. Soft sediment deformation; siltstone laminations.	53 / 397.5	
401.4										398.5 to 399.0 siltstone finely laminated. Medium grained sandstone a/a.	59 / 399	
			SST.							Abundant COAL wisps and siltstone bands, 402.43 to 402.5 siltstone.	35 / 400.5	

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 3 | BOX nos: | GEOP. PICK | PAGE 11 OF 11

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]
			SST.						402.5 to 402.51 COAL rubble. 402.51 to 402.71 sandstone.				53 / 397.5	
404.5	2.64 / 3.1	85%	SST.						402.71 to 402.76 hard COAL rubble Massive medium grained, light to medium grey.				59 / 399	
407.5	3.07 / 3.0	102%	SST.						Faintly laminated in spots. a/a.				35 / 400.5	
410.6	3.12 / 3.1	101%	SST.						a/a.				64 / 406	
413.6	2.98 / 3.0	99%	SST.						a/a.				66 / 409	
													57 / 413	

CROWS NEST RESOURCES LIMITED

PROJECT: BURNT RIDGE EXTENSION

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

HOLE I.D: DH-BRE-2-81

ZONE: 82/J2

GRID TYPE: U T M

EASTINGS: 656012.16

NORTHINGS: 5549531.09

ELEVATION (m): 1914.32

TOTAL DEPTH DRILLED: 316 DRILLER: D.W. COATES

AZIMUTH:

INCLINATION:

DRILL TYPE: DIAMOND OVERBURDEN: 9.4 metres

CORE DIAMETER: H.Q. CASING LEVEL:

LENGTH CORED: 293.6 WATER LEVEL:

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

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

LOGGED BY: DAVIES EXPLORATION LOGGING LENGTH LOGGED: 315

CORE EXAMINED BY: A. ROPER, K. MACKENZIE

DATE EXAMINED: JULY, 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 BURNT RIDGE EXTENSION AREA N. BLOCK HOLE no 2 BOX nos GEOP. PICK PAGE 1 OF

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]
			SST.		12.23						Grey, very fine grain with siltstone interbeds and interlaminations, stick, iron stains.				
9.4			COAL								Dull, brittle, semi-stick to rubble, dull with bright bands, cleat, minor mudstone interlaminations.		71° / 10.6		
10.9	1.46 / 1.5		COAL		13.51										
13.1	1.05 / 2.2		MDST.								Carbonaceous, COAL stringers throughout. 14.62 to 14.73 COAL stick.				
14.0	.78 / .90		MDST.								16.4 m to 19.9 semi-stick to rubble, calcite stains, Hydro fluid staining.				
14.3	.31 / .30		MDST.								16.4 m to 18.68 m COAL zone.				
16.4	1.55 / 2.1		MDST.												
18.5	.52 / 2.1		MDST.												
19.9	.51		MDST.								19.9 m to 22.21 m dark grey to black, no laminations, iron stains.				
21.0	.71 / 1.1		MDST.												
22.0	.79 / 1.0		MDST.		22.21										
24.4	3.01 / 2.4		SST.		23.94						Very fine grain to medium grain with coarse grain interlaminations, stick.				
28.3	2.95 / 3.9		SLST.		27.1						Medium grey, finely laminated, stick, plant fragments.				
31.3	3.07 / 3.00		SST.								Very fine grain grey, finely laminated, stick. 35.33 m to 36.95 m fracture zone, iron stained.		65° / 28.8		
34.1	2.54 / 2.8	91%	SST.								37.04 m course grain sandstone, light grey. trough cross-bedding right way up, minor COAL stringers				
36.2	2.3 / 2.1	110%	SST.								and interbeds of fine grain sandstone.				
38.4	1.8 / 2.2		SST.								Mudstone rip-up clasts for the last 0.40 m of sandstone unit.				
			SST.												

PROJECT BURNT RIDGE EXTENSION AREA N. BLOCK HOLE no 2 BOX nos GEOP. PICK PAGE 2 OF

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	Sample No.	C/B / El 11	C/P / Az / Code 12
41.4	3.15 / 3.0		SST.											
44.5	2.96 / 3.1													
47.5	3.18 / 3.0												40° / 47.5	
50.9	3.2 / 3.4												81° / 47.95	
53.9	2.16 / 3.0				54.76									
56.3	2.39 / 2.4		SLST								Medium to dark grey, fine sandstone interbeds, stick, cross stratified, 55.28 to 56.3 carbonaceous, COAL stringers, minor slicks.			
57.6	1.09 / 1.3										56.3 to 56.55 Rubble zone, leached calcite. 58.63 to 59.16 Rubble zone, leached calcite, minor COAL stringers,			
59.1	1.23 / 1.5										iron staining.			
62.1	2.67 / 3.0										67.8 to 68.8 carbonaceous mudstone, COAL strings, plant fragments, pyrite.			
65.2	2.44 / 3.1													
66.4	1.4 / 1.2													
68.8	1.63 / 2.4	68%	MDST.								Carbonaceous, semi-stick.			
			SLST.								Grey, finely laminated, stick.			
71.0	2.15 / 2.2	98%	MDST.								Carbonaceous mudstone, black COAL stringers.			
72.5	1.3 / 1.5	87%	COAL								COAL sample taken, dull and blocky.			
75.2	.46 / 2.7		MDST								Silty mudstone, laminated COAL stringers up to 8cm thick, stick, some fossils, fissile			
78.3	2.87 / 3.1													
81.3	3.04 / 3.00				82.6						Mudstone becomes very carbonaceous near top of coal seam.		73° / 79	

PROJECT BURNT RIDGE EXTENSION AREA N. BLOCK HOLE no 2 BOX nos GEOP PICK PAGE 3 OF

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	Sample No. 10	C/B / El 11	C/P / Az Code 12
84.4	2.14 / 3.1	69%	COAL		84.4	43%					Bright and blocky, stick to semi-stick.			
			MDST.		85.2						Grey.			
85.9	1.58 / 1.5		SLST.								Grey laminated, calcite joints, coal stringers.			
89.1	3.2 / 3.2	100%			90.2								53 / 92.3	
92.3	3.15 / 3.2		SHALE								Dark grey shale, carbonaceous, some fossils slicks, stick to semi-stick grads to mudstone at 93 m, locally silty.			
94.7	2.61 / 2.4				96.5						Locally carbonaceous, movement along joints, hanging wall.		66 / 96.5	
96.6	1.69 / 1.9													
99.6	3.09 / 3.0	100%	COAL			100%					Dull, blocky shiny stringers, (high ash). Semi-stick, 20cm mudstone split at 98.04.	Sampled		
100.8	1.27 / 1.2	100%			100.8	100%					Rubble, mudstone split at 99.6.			
102.7	1.32 / 1.9		MDST.		104						Silty bands, COAL bands grades into siltstone.			
			SLST.		105.4						Muddy bands grades into mudstone at 105 m.		65 / 104.2	
105.7	3.02 / 3.0		COAL		106.33						Dull, blocky, dirty.	Sampled.		
			SLST.		108.62						Laminated, muddy, carbonaceous, 60 % siltstone, 40% mudstone, some COAL stringers, stick to semi-stick.		65 / 107	
108.8	2.36 / 3.1		COAL								Semi-stick to rubble, dull with bright bands, blocky dirty bands 110.3 to 110.4.			
110.0	1.5 / 1.2	125%										Sampled.		
111.9	1.2 / 1.9	63%									5 cm dirty COAL band at 112.m.			
113.2	1.4 / 1.3				113.5	88%							77 / 114.9	
114.9	1.97 / 1.7		MDST.		14.90						Slicks, 8 cm band of COAL, at 114.75 20cm of very carbonaceous mudstone, generally massive, calcite filled joints.		71 / 116.4	

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 2 | BOX nos | GEOP. PICK | PAGE 4 OF

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
117.9	3.05 / 3		SLST.								Mudstone band at 117.9 to 40 cm thick.			
121.0	3.17 / 3.1										Locally laminated. Carbonaceous mudstone at 120.9 m to 121.05 m.			
123.4	2.3 / 2.4		SLST.		124.3						Mudstone at 122.24 to 122.64 Sandstone at 122.74 to 123.04, Fine grain.			
126.9	3.12 / 3.5		SAND								Mudstone 123.04 to 123.4, Siltstone grades into sandstone at 124.3 m.		59 / 126.5	
											Locally laminated, locally silty, fluid movement along joints.			
129.5	2.4 / 2.6				131.9						Grades into a medium grain sandstone at 127.72 m Fine coarse laminations, light grey.		60 / 129.5	
132.5	3.3 / 3		SLST.								Stick to semi-stick, highly jointed COAL stringers along bedding planes, calcite in joints, massive.			
134.4	1.9 / 1.9										Grades into sandstone at 133.4 then 60/30/10 SLST/SS/MDST. 20 cm - sandstone bands, jointed cracks filled with calcite.			
135.9	2.03 / 1.15	135%												
138.9	2.81 / 3.0										End of interbeds at 140.16. Siltstone/sandstone 80/20			
141.7	2.94 / 2.8				143.75						Stick. COAL stringers.			
144.7	2.99 / 3		MDST.								Dark grey, COAL stringers.			
			SLST.		145.97						Grey, massive.			
147.5	2.93 / 2.8		MDST.		146.04								70 / 148.4	
150.2	2.74 / 2.70		SLST.		150.5						Locally sandstone, Calcite in some joints, some laminations.			
153.3	29.9 / 3.1		MDST.		151.2						Dark grey, carbonaceous, COAL stringers.			
156.4	3.19 / 3.10		MDST.		157						Silty Mudstone, grades into mudstone at 157m			
159.4	2.14 / 3.0		MDST.		159.65						Dark grey, COAL stringers, stick to semi-stick.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 2 | BOX nos: | GEOP. PICK | PAGE 5 OF

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	Sample No. [10]	C/B El. [11]	C/P A Code [12]
162.5	3.17 / 3.1		SLST.		163.3						70/30 Siltstone/Mudstone.			
164	1.75 / 1.5		SS.		165.2						Fine grain, Light grey, coarsely laminated.			
			MDST.		166.05						Dark grey, COAL stringers, slicks.			
			SLST.		169.4						Dark grey, COAL stringers			
169.8	5.77 / 5.80		SLST.		171.53						Interbedded fine sandstone/siltstone 40/60			
172.8	3.02 / 3.0		MDST.								Silty mudstone, dark grey to black, carbonaceous, COAL stringers, 2 cm semi-stick, thin sandy bands, slicks.			
175.8	2.92 / 3.0													
178.9	2.94 / 3.1				181.33									
181.9	2.88 / 3.0		SLST.								Siltstone with Sandy bands, water diapirs, until 182 m, stick to semi-stick.			
188.0	5.86 / 6.1										Siltstone grey to dark grey, massive, some slicks along joints.			
191.1	2.99 / 3.1										Stick, massive, coarsely laminated, some fossils.			
194.1	3.35 / 3.0										Very few joints, calcite filled.			
197.2	3.05				198.55						Grades into mudstone at 198.55, local siltstone bands.			
			MDST.								Dark grey, COAL rubble 199.9 to 200.2 m, slicks on joints, locally carbonaceous 202.1 to 203.6.			
203.3	3.01 / 6.1										COAL stringers. Siltstone band 203.6 m → 75 cm, stick, dark grey mudstone.			
											Shale at 204.78 → 33 cm, Dark grey to black, fossiliferous.			
											Dirty COAl - 205.11 → 12cm			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 2 | BOX nos | GEOP. PICK | PAGE 6 OF

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	Sample No. [10]	C/B / El. [11]	C/P / Code [12]
206.3	2.87 / 3.0								semi-stick. Carbonaceous mudstone 205.23 → 55 cm, dark grey to black mudstone.					
208.6	2.21 / 2.3		SHALE						Highly fossiliferous, dark grey to black, minor slicks, COAL rubble at 206.74, very carbonaceous.				67 / 208.5	
211.8	3.21 / 3.2								COAL rubble 211.45 → 5 cm, 210.87 → 20 cm. COAL/shale rubble 212.37 → 60 cm.					
213.2	1.16 / 1.4								Grades into siltstone at 213.68 → 83 cm (214.51)					
215.5	2.55 / 2.3				215.13				Light grey shale 214.51 + 62 cm. (215.13)					
216.7	.54 / 1.2	45%	COAL		217.15				Rubble.					
218.5	1.41 / 1.8		MDST.						Shaley mudstone.				66 / 218	0 / 180
									Dirty COAL mudstone rubble 20 cm at 218.5.					
221.0	2.28 / 2.5		MDST.						Siltstone band with local sand 70 cm (ends at 219.55).					
					223.35				Dark grey to black mudstone 20 cm, slicks, silty mudstone, grey, stick to semi-stick.					
224.0	3.17 / 3.0		SS.		224.66				Fine grain light grey, stick, ripple crossbedding.					
			SLST./ MDST.		226.35									
227.2	3.13 / 3.2		SILT/ SS.		229.86									
			SLST.		230.8				Massive, dark grey, stick.					
230.4	3.23 / 3.2													
233.6	3.0 / 3.2		MDST.		232.78				Massive, dark grey, stick.					
236.3	2.9 / 2.7		SLST.		240.5				Siltstone/sandstone 70/30 banded, grey, stick.				60 / 233.4	
241.1	4.11 / 4.8													

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 2 | BOX nos | GEOP. PICK | PAGE 7 OF

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 / A / Code 12
			MDST.		240.9						Dark grey to black, carbonaceous, coaly bands, semi-stick.			
242.9	0.8 / 1.8		COAL	1.1 / 3.99	244.2	27.6%					Rubble.			
244.4	0.54 / 1.5										Grey COAL stringers, semi-stick. Sandstone band at 244.78 to 245.3.			
246.0	1.43 / 1.6		MDST.		246.9						245.85 to 246.15 - COAL band.			
247.5	1.6 / 1.5		SLST.								Medium grey, some fine sandstone bands, generally massive, stick.		65 / 252.7	
249.0	1.58 / 1.5										Carbonaceous Mudstone band 256.58 to 257.2 (Dark grey to black, COAL stringer)		62 / 256.2	
252.1	3.13 / 3.1													
254.8	2.64 / 2.7													
257.9	3.12 / 3.1				258.5						Grades into sandstone at 258.5.			
			SST.								Light grey, faint laminations, fine grained, stick, some thin calcite filled cracks.			
261.1	3.20 / 3.20													
264.3	3.14 / 3.20										Large joint at 264.5 to 265.0, calcite abvious 3 cm movement, Laminations predominant iron staining at 264.0.		62 / 764.7	26 / 90
267.3	3.01 / 3.0										Some thin siltstone bands, 266.95 to 267.1 abundant COAL stringers.		62 / 267.3	
270.3	3.2 / 3.0										Sandstone becomes coarse to medium grained at 269.0			
273.4	2.88 / 3.1										COAL stringers starting at 269, slicks with these COAL stringers.			
276.4	3.29 / 3.0				276.4									
278.9	1.54 / 2.5	61	COAL	.44 / 1.4	276.88	31%					Shiney rubble.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 2 | BOX nos | GEOP. PICK | PAGE 8 OF

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
			MDST.		284.95						Black to carbonaceous, stick to semi-stick.			
281.0	1.26 / 2.1	60%									30 cm of COAL rubble at 279.77 to 280.07. Silty band at 283.02 to 283.71.			
285.6	3.91 / 4.6	85%	COAL		290.2						284.95 to 285.6 Shiney rubble.			
287.4	0.30 / 1.8	16.7%									285.6 to 288.0 Dull dirty rubble.			
289.2	1.76 / 1.8	97.8%									288.0 to 288.7 Shiney rubble. 290.0 to 290.2 Dull dirty rubble.			
290.2	1.29 / 1.7	75.9%		4.0 / 5.99		66.8%					290.2 to 290.9 Shiney rubble.			
291.2	0.20 / 0.30	66.7%	MDST.		294.65						Dark grey to black, semi-stick, some slicks on bedding planes.		66 / 291.2	
294.4	2.35 / 3.2	73.4%									COAL rubble 294.05 to 294.4, Shiney.			37 / 180
297.2	2.76 / 2.8		SLST.		297.2						Grey, stick, massive, minor sandstone.		55 / 297.2	
299.9	2.86 / 2.7		SANDY SLST.		303.3						Interbedded Siltstone/Sandstone (50/50), sandstone, light grey, cross-bedding		54 / 303.5	
303.3			SST.								Stick, Fine grained, fine laminated, grey.			

CROWS NEST RESOURCES LIMITED

PROJECT: BURNT RIDGE EXTENSION

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

HOLE I.D: DH-BRE-1-81

ZONE: 82J/2

GRID TYPE: U T M

EASTINGS: 655777.27

NORTHINGS: 5550486.91

ELEVATION (m): 1944.33

TOTAL DEPTH DRILLED: 322.8 m DRILLER: D.W. COATES

AZIMUTH:

INCLINATION:

DRILL TYPE: DIAMOND OVERBURDEN: 4.0 metres

CORE DIAMETER: H.Q. CASING LEVEL:

LENGTH CORED: 318.8 WATER LEVEL:

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

LOGS USED: CALIPER, GAMMA, NEUTRON, DENSITY, RESISTIVITY, DEVIATION

LOGGED BY: DAVIES EXPLORATION LOGGING LENGTH LOGGED: 322.8

CORE EXAMINED BY: A. ROPER, K. MACKENZIE

DATE EXAMINED: JULY, 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: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos | GEOP. PICK | PAGE 1 OF

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]
4 m									No core recovery, Casing.					
7 m	0.3 / 3	10	SLST. COAL		7 m				Rubble.					
8.23	0.8 / 1.23	65	COAL						Brittle, broken, rubble, semi-stick.					
			COAL	2.71 / 3.44	9.71	79%								
10.36	2.0 / 2.13	94	SLST.		10.96				Finely laminated, stick, semi-stick, thin sandstone laminal.					26 / 180
			MDST.		11.26				Stick, semi-stick.					
			SLST.		11.69				Stick, semi-stick.				50 / 11.89	
11.89	1.58 / 1.53	103	MDST.		12.00				Stick, semi-stick.				62 / 12.00	
			SLST.		12.10				Stick, semi-stick.					
			MDST.		12.90				Black mudstone with carbonaceous bands, rubble.					
13.72	1.25 / 1.83	68	MDST.						Grey mudstone, stick.					
14.33	0.88 / 0.61	144	MDST.						Stick, minor siltstone bands.				51 / 14.05	
15.85	1.57 / 1.57	103	MDST.		16.00				Cross bedded, thinly laminated, stick. 16.13 - 1 cm COAL band.					
			SLST.		16.73				Locally silty, grades from siltstone, laminated; calcite veins.				61 / 16.15	
17.4	1.35 / 1.55	87	MDST.						Locally silty, grades from siltstone, laminated; calcite veins.				43 / 17.8	48J / 340
19.2	1.84 / 1.8	102	MDST.		20.85				Mudstone becomes more silty.					
21.3	1.03 / 2.1	49	SLST.	1.55 / 1.55	21.3				Possible fault.					

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos | GEOP. PICK | PAGE 2 OF

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]
			SST.		21.77				Oxidized, fine grained, broken, rubble, iron stained, cross bedded.				64 / 24.3	28J / 31.0
2.29	1.28 / 1.6	80	MDST.		22.9				Some dirt, mud bands 10 cm thick.					
			SLST.										51	34J / 180
			SLST.		25.4									000 / 10
			SST.		25.5				Sandstone with some mud.					
25.9	1.4 / 3.0	46	MUD		25.9								52 / 26.48	
28.9	2.38 / 3.0	79	MDST.										48 / 28.0	
30.2	1.5 / 1.3	115	MDST.		31.2				Silty bands, jointing bedding is water stained.					
			SHALE		32.9				Iron stained, silty, micaceous, mud bands.				51 / 31.3	37 / 340
32.9	2.39 / 2.7	89	MDST.		35.3				Rubble.					
			COAL		35.4				Rubble, powdery.					
35.4	.83 / 2.5	33	MDST.		35.65				Stick.				55 / 35.65	
			COAL		36.29				Slicks, semi-stick to rubble, blocky, dull, hard.					
			COAL		38.0				Less competent, brittle, shiny.					
			MDST.		38.1									
38.1	1.92 / 2.7	71	MDST.		38.2									
39.0	.87 / 0.9	97	COAL		39.0				Broken, fine, shiny.				55 / 39.1	

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 3 OF

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
			MDST.		39.46				Slicks.					
			COAL		40.02				Mostly dirty, then a band of shiny fine powdery, small band of dirty COAL, then shiny powdery.					
40.2	1.18 / 1.2	98	MDST.		41.85				Locally silty, cross stratification.				33	
			COAL		42.8				Very dirty, rubble.					
43.6	2.36 / 3.4	69	COAL		43.6				Fine, dirty, shiny.					
			COAL		44.1				Semi-stick, dull, blocky.					
			COAL		44.4				Shiny with dull bands.					
			COAL		44.8				Dull, dirty, some shiny bands, powdery.					
44.8	1.0 / 1.2	83	COAL		45.12				Shiny, blocky, semi-stick.					
			MDST.		45.45				Stick.				42 / 45.2	
47.9	2.16 / 3.1	70	COAL		47.9				Shiny, blocky, semi-stick.					
48.5	.43 / 0.6	72	COAL		48.5				Dull with mudstone streaks.					
			COAL		48.65				Bright, brittle.					
			COAL		48.99				Dull, blocky COAL.					
			COAL		49.11				Bright, brittle COAL.					
			COAL		49.26				Dull, blocky.					
			COAL		49.46				Shiny, bright, blocky.					

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 4 OF

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		49.66						Dull, dirty.			
			COAL		50.0						Dull, blocky			
50.6	1.9 / 2.1	91	MDST.		50.6									
			SLST.		51.03						Massive, calcite veins, grey.			37 / 180
52.1	1.61 / 1.5	107	MDST.		52.1						Siltstone bands.		70	30 / 220
			MDST.		52.32						Dark grey band 52.1 to 52.6; then grey.			
			SLST.		52.62						Grey, iron staining on joints.			
53.9	1.86 / 80	103	SST.		54.17						Fine sandstone, ripple cross stratified.		46 / 53.9	32J / 180
55.2	1.26 / 1.3	97	MDST.		55.2						Dark grey.			
57.0	1.76 / 1.80	98	SLST.		57.0						Grey, bedding plains iron stained, minor mudstone (30%)-interbedded, stick, semi-stick.		50 / 56.0	
			MDST.		57.39						Carbonaceous bands, dark grey, rubble.			
			SST.								Medium grey, fine to medium grained, semi-stick, thin laminated, 1/2 m siltstone-mudstone band at 61.31 to 61.81.			
					58.56						Ripple, cross stratification, stick, semi-stick.			
58.8	2.03 / 1.80	113	SLST. 60 MDST. 40		59.26						Dark grey, some COAL bands (3mm) stick.			
			SLST.		59.87						Interbedded fine sandstone, stick.			
			MDST.		60.08						COAL, carbonaceous mudstone, rubble.			
60.4	1.61 / 1.6	101	SLST.		62.4						Minor sandstone bands, calcite staining on bedding, stick.		51 / 60.6	25J / 180

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos | GEOP. PICK | PAGE 5 OF

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	Sample No. [10]	C/B / El. [11]	C/P / Az / Code [12]
63.1	2.8 / 2.7	104	CARB. MDST.								Carbonaceous, dark grey to black, Coaly zone (62.54 to 63.1)			
64.3	1.24 / 1.20	103			63.9						Coaly zone (63.37 to 63.66)			
66.8	2.18 / 2.5	87.2	SLST.								50-siltstone, 50 mudstone, interbedded, stick.			
68.9	1.92 / 2.1	91.4			68.9									
71.6	/ 2.7		SLST.		71.6						60% siltstone, 40% mudstone, minor sandstone, interbedded, COAL stringers, slickensided, light grey, stick.		62 / 68.9	38 / 180
73.2	1.73 / 1.6	108.0	SST.								Fine to medium, light grey, minor Coal bands, semi-stick, thinly laminated.		51 / 75.3	
75.3	2.01 / 2.10	95.7									Minor mudbands.			19 / 180
76.1	1.31 / 0.8	164.0			76.63									
79.6	2.97 / 3.5	84.9	SST.		79.7						Medium to course, minor COAL carbonaceous wisps. thinly laminated, light grey, stick at 76.1, 20 cm mudstone pebbles,			
			SLST.		82.0						interbedded siltstone (70) - mudstone (30), Possible fault. Grey.			
82.3	2.16 / 2.7	80.0	SLST. PEBBLES		83.8						Siltstone, Mudstone, Minor COAL-Pebble zone.			
83.8	.51 / 1.5	34.0	SLST.											
85.7	1.65 / 1.9	86.8									(70) sltstone, Medium grain sandstone at 84.15 to 84.35 (30) mudstone, interbedded, semi-stick after 87.5 stick.			
87.5	.34 / 1.8	18.9			89.26									
90.2	2.65 / 2.7	98.1	SST.								Medium grained, a few COAL bands (0.02 m thick) some Coaly wisps, thinly laminated		52 / 89.7	42 / 90
93.3	2.81 / 3.1	90.6									at 93.3 to 0.2 m SST. pebble zone.			
			SST.		94.18						Calcite veins toward end of sandstone section.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 6 OF

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.		94.95				Fine siltstone, abundant calcite veins.					
95.7	1.81 / 2.4	75.4	SST.		95.7									
98.1	1.71 / 2.4	71.3	SLST.						Highly fractured to pebbley (fault zone?) = less than .21 m remainder of section semi-stick.					
99.4	1.93 / 1.3	148			100.04				.19 m COAL band (98.71 to 98.90) fine minor mudstone.					
100.3	0.89 / 0.90	98.9	SST.						Light grey, laminated, fine to medium grained thin COAL wisps, minor COAL bands (4.0 cm)					
101.5	1.07 / 1.20	89.2												
102.7	4.52 / 1.2	37.7							At 102.83 to 103.77 Finely laminated, medium grey siltstone.			47 / 104.5		
104.6	1.8 / 1.9	94.7			112				Rip-ups of clay pebbles at 104.9 and 105.78 - 106.48 zone of rip-ups and mud interlayered with sand, jointing filled with calcite.			69 / 107.2	32 / 180	
107.6	3.07 / 3.0	102							Well laminated.					
108.8	1.18 / 1.2	98												
111.9	2.98 / 3.1	96			112									
			SLST.		113.1				Dark grey, last 30 cm slicks within COAL bands (1 cm) Calcite veins.			56 / 112.5		
114.9	3.0 / 3.0	100	SST.						a/a, medium grained, COAL filled cracks, wash out sands COAL wisps, more massive than above.					
			SST.		117.1									
118.0	2.78 / 3.1	90	CARB. MDST.						Dark grey mudstone, locally carbonaceous, some COAL, COAL zone 119.36 to 119.8 - rubble.					
119.8	1.58 / 1.80	88							Locally shaley.					
123	3.11 / 3.2	97			123.96									
129	5.82 / 6.0	97	SST.						Medium grey.					

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos | GEOP. PICK | PAGE 7 OF

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. SST.		131.9						60% siltstone, 40% sandstone, medium grey, soft sediment		58 / 129.53	26J / 160
131.9	2.91 / 2.9	100.3	SLST.								deformation. Coarse grain minor sandstone.			
135.3	2.3 / 3.4	67			135.54									
			MDST.		135.99						Medium grey.			
			SLST. SST.		137.77						Interbedded, finely laminated, ripple cross stratification, abundant mudstone rip-up clasts, soft sediment deformation.			
138.4	3.04 / 3.1	98	SST.								Fine grain, medium grey, calcite and pyrite on joints, minor bands of medium sandstone with minor siltstone bands.		72 / 137.96	28J / 350
											Ripple cross stratification, Last 0.13 m zone of mud rip-up clasts.			
			SLST.								Finely interbedded siltstone with mudstone cross stratification at 138.64 m for 0.51 m zone of bank rip-up, soft sediment			
141.4	3.16 / 3.0	105			143.48						deformation with small COAL wisps; at 141.18 plant fragments.			
			SST.		144.2						Fine laminated sandstone (fine grain sandstone), very minor crystals of pyrite.		52 / 143.48	
144.5	3.1 / 3.1	100	MDST.		144.53						Medium grey.			
			SST.								To mud rip-up clasts at 144.6m, laminated sand, soft sediment deformation to mudstone pods COAL wisps small COAL bands of			
											0.05. At 146.76 a dark grey medium sandstone to finely interbedded with siltstone continues for 0.64 m.		47 / 146.76	65J / 180
147.5	3.13 / 3.0	104			148.48									
			MDST.								Interbedded for first 0.24 m with sandstone and siltstone at 149.98 most becomes more siltier.			
150.6	3.09 / 3.1	99.7			150.66									
			SST.								Medium grey, medium grain, laminated, abundant rip-up clasts, and up to 6 cm of thick mudstone bands, minor COAL bands of 0.50cm.			
152.4	1.86 / 1.8	103									Zone of mudstone to rip-up on either side surrounded by sandstone:			

PROJECT	BURNT RIDGE EXTENSION	AREA	N. BLOCK	HOLE no	1	BOX nos	GEOP. PICK	PAGE	8	OF

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
154.5	1.99 / 2.1	95%			157.57						152.31 m thick of mudstone 0.15 m 152.95 thick of mudstone 0.31 m		80 / 55.2	66J / 355
											154.2 m thick of mudstone 0.3 m 155.16 m thick of mudstone 0.34 m			
158.6	2.94 / 4.1	72%	SST.		160.31						Medium grain, clean, no interbeds of any kind. minor cross bedding.			
			SST.								Medium sandstone as above with COAL bands and COAL wisps.			
160.6	3.08 / 2.0	154%											66 / 161.47	62J / 355
163.7	2.77 / 3.1	89%	SST.											
166.7	2.69 / 3.0	90%	SST.		167.52									
169.5	2.0 / 2.8	71.5%	MDST.		169.5						High carbonaceous mudstone with COAL zones, COAL is dull to fine blocky, the last 0.09 m is mud , mud/COAL, 70%/30% some slicks.			
170.9	1.07 / 1.4	76%	MDST.	1.55 / 1.55	171.05						Dark, most with carbonaceous bands and slicks.			
			COAL	.23 / 0.59	171.28	39%					Slicks, dull, brittle, fine.			
			MDST.	1.45 / 1.45	172.73						Silty, highly carbonaceous.			
172.8	1.56 / 1.92	81%	COAL	0.07 / 0.18	172.8	39%					Dull, rubble, brittle, semi-stick mudstone split.			
			MDST.	1.58 / 1.74	174.38	91%					Silty carbonaceous.			
174.7	1.16 / 1.9	61%	COAL	0.32 / 0.50	174.70	64%					Fine, brittle, dull with bright bits.			
			SLST.	1.80 / 1.80		100%					Dark grey, carbonaceous, stick to semi-stick. .39(th) 177.15 m to 177.54 m COAL, blocky, dull with bright bands.			
176.5	1.75 / 1.98	85%	SLST.								178.3m to 179.2m mudstone-COAL interbedded.			
177.7	1.24 / 1.20	103%	SLST.											
179.2	1.29 / 1.50	85%			179.9						179.9			

PROJECT: BURNT RIDGE EXTENSION | AREA | N...BLOCK | HOLE no 1 | BOX nos | GEOP. PICK | PAGE 9 OF

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]
181.4	1.47 / 2.2	67%	COAL	1.21 / 1.91	181.11	63%					Dull, blocky to bloom.			
183.2	1.24 / 1.80	74%	SLST.								Dark grey, minor mudstone and COAL interbeds, stick to semi-stick.			
185.0	1.64 / 1.8	91%	SLST.								186.70 to 186.80 rubble.			
186.8	1.81 / 1.8	100.5%	SLST.											
187.8	.81 / 1.00	81%	SLST.								186.8 to 187.8 m minor interbeds of very fine grain grey sandstone.			
189.3	1.61 / 1.5	107%	SLST.		191.11						Fault zone- 187.6 m to 189.6 m fractured, weathered, soft and quartz filled fractures.			
192.3	3.23 / 3.00	107%	SST.								Grey light grey, fine grain, stick.		74 / 191.69	27 / 360
193.9	1.54 / 1.6	96%	SST.		194.09									
196.9	3.01 / 3.00	100%	SST.								Medium grey, fine grain, interbedded with grey siltstone, stick. Abundant fractures, calcite filled fractures 199.47 m to			
199.9	3.26 / 3.00	108%	SST.								200.91 m, siltstone, grey, stick.		66 / 198.43	
202.4	2.55 / 2.5	102%	SST.		202.4									
			SLST		203.88						Grey to dark grey, stick, some slicks.			
204.8	2.22 / 2.4	92%	SST.		206.04						Medium grey, medium grain, stick, COAL stringers. 204.8 to 205.56 grey siltstone band, carbonaceous, stick,			
206.3	1.45 / 1.5	96%	COAL			96%					some semi-stick. Powder to rubble, dull with bright bands to 206.25m			
											206.3 to 206.58 semi-stick to rubble, dull, brittle.			
207.9	1.52 / 1.6	95%	COAL								206.58 to 207.15 m, bright, fine. STick.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos | GEOP. PICK | PAGE 10 OF

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	Sample No. 10	C/B / El. 11	C/P / Az / Code 12
			COAL								206.58 to 207.15 m bright, fine, stick.			
			COAL								207.15 to 208.32 rubble, dry COAL. 208.32 to 209.33 semi-stick, some stick, brittle, shiny.			
			COAL		209.86	95%					209.33 to 209.4 rubbly, bright with dull bands.			
210.9	1.38 / 3.00		SLST.								209.4 to 209.68, semi-stick, dull.			
211.8	.54 / .9	60%	SLST.								Grey to dark grey, stick, massive, slicks, weathered. Fault zone 210.9 to 211.8 m high ash COAL.			
214.0	1.95 / 2.2	88%	SLST.								211.8 to 212.12 highly carbonaceous mudstone and siltstone, COAL bands.	62 / 212.8		
215.5	1.59 / 1.5	106%	SLST.								Grey to dark grey, siltstone, finely laminated in bands, COAL strings throughout, slicks.			
218.5	2.63 / 3.00	87.6%	SLST.								216.64 m to 218.10 fine sandstone, laminated.			
221	2.52 / 2.5	101%	SLST.								At 220.34 to 220.50 rubble zone, whole interval weathered, the rest is stick.			
			SLST.		221.47									
224.3	3.46 / 3.3	105%	SST. SLST. INTERBEDS								Soft sediment deformation, small scale bedding, medium grey siltstone, fine sandstone, stick, at 229.39 carbonaceous mudstone			
227.4	3.0 / 3.1	97%	"								zone continues to 229.89 at 228.49 the sandstone becomes coarser grained; siltstone becomes dark grey to black. Mnor carbonaceous	31.15		
230.4	3.04 / 3.0	101%	"								bands, stick.			
231.9	1.48 / 1.5	99%	"								Stick to semi-stick; rubble zone .17 m beginning at 231.73.			
233.8	1.96 / 1.9	103%	SST.								Medium grained finely laminated, stick, medium grey. Calcite on the fractures, abundant jointing at 236.72	62 / 234.68	35J / 010	
236.8	2.98 / 3.0	99%	SST.								to 239.49 dark grey siltstone, stick, semi-stick. 237.49 to 239.91 have siltstone interbedding with sandstone			
240.0	3.06 / 3.2	96%	SST.								darker grey (stick). Ripple cross stratification, abundant jointing, calcite filled.			
242.9	2.84 / 2.9	98%	SST.								242.3 to 242.69 dark grey sandstone band, 243.9 sandstone becomes lighter and medium coarse grained, finely laminated, stick.	57 / 241.2	010	

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 11 OF

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]
46.0	2.99 / 3.1	97%	SST.								246.44 begins abundant COAL wisps to the end of sandstone, also changes to stick.		57 / 241.2	J / 180
47.8	1.68 / 1.8	93%	SST.		249.75									
49.9	1.69 / 2.1	94%	MDST.								Rubble, small COAL bands, black.			
50.9	0.72 / 1.0	72%	MDST.		251.0									
53.9	2.03 / 3.0	68%	SLST.		254.16						Dark grey to black, semi-stick, 250.9 to 251.16 rubble, slicks at bottom of section. last 0.26 m rubble.			
			COAL								Semi-stick, bright with dull bands, blocky, fine, at 254.56 high ash content to 254.65.			
			COAL	1.14 / 1.15	255.30	99%					255.17 rubble, COAL as above continues to end of COAL zone.			
56.6	2.65 / 2.7	98%	SLST.			99%					Fine grained, dark grey to black 256.36 to end of siltstone, unit becomes finely laminated with fine sandstone, stick		59 / 256.6	
59.7	2.87 / 3.1	93%	SLST.		261.51						ripple cross stratified.			
62.7	2.56 / 3.0	85%	COAL			90%					261.51 to 261.77 brittle, bright, semi-stick, some ash. 261.77 to 262.7 rubble, powder, dull, fine.			
64.3	1.21 / 1.6	76%	COAL			76%					262.7 to 264.1 semi-stick, brittle, dull. 264.1 to 268.8 rubble, fine dull.			
65.8	0.51 / 1.5	34%	COAL			34%								
67.3	0.49 / 1.5	33%	COAL			33%								
68.8	1.13 / 1.5	75%	COAL		268.8	75%								
70.1	0.99 / 1.3	76%	MDST. SLST.								Highly carbonaceous 268.8 to 269.36 semi-stick, fine COAL bands (2mm) 269.36 to 270.1 high ash COAL, dull powdery-fine.			
			MDST. SLST.		271.38						270.1 to 271.38 semi-stick, high carbonaceous siltstone, dark grey to black, boney COAL bands(2mm) throughout.			
73.1	2.73 / 3.0	91%	COAL	1.72 / 1.99	273.1	86%					271.38 to 272.77 semi-stick, high ash COAL, dull 272.77 to 273.1 fine, high ash, rubble.			

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 12 OF 13

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.		274.43						Dark grey to black, stick to semi-stick, highly carbonaceous, smal			
276.1	3.21 / 3.1	104%	SST.								COAL bands (4mm). Fine grained until 275.62 becomes medium grained lighter grey with ripple cross stratification.			
278.1	2.42 / 2.0	121%	SST.								278.20 trough cross bedding, small scale, finely laminated all stick; 278 to 278.15 rubble.		56 / 278.3	38J 005
280.7	1.64 / 2.6	63%	SST.											
282.5	1.95 / 1.8	108%	SST.								Sandstone becomes interbedded with silt, medium grey, stick.			
285.6	3.11 / 3.1	100%	SST.								As above, stick, ripple cross stratification.			
289.9	4.01 / 4.3	93%	SST.								287.86 rubble, weathered - 288.69 288.69 to 289.60 semi-stick.			
291.7	2.01 / 1.8	112%	SST.								289.60 to 289.9 rubble. 288.69 to 291.76 finely laminated sandstone, no siltstone interbeds some minor carbonaceous layers with slicks.		74 / 289.5	25J 000
294.7	3.01 / 3.0	100%	SST.								291.76 to 923.6 medium grey sandstone, abundant carbonaceous wisps; semi-stick, rubble.			
297.8	3.07 / 3.1	99%	SST.								293.6 to 298.82 massive, medium grained, medium grey sandstone, rip-up clasts at 294.79; 294.90 carbonaceous wisps for 5 cm.			
			SST.		298.82						294.90 to 295.71 zone of sparsely spaced rip-ups (3-4 cm max.) 296.51 to 298.82 small rip-ups throughout, last 0.3m abundant			
300.2	2.11 / 2.4	88%	MDST.								rip-ups, black, carbonaceous, minor COAL bands, semi-stick, plant fragments, slicks, weathered on fractures.			
301.1	0.83 / 0.9	92%	MDST.		301.81						COAL zone 300.73 to 300.78 bright, shiny, brittle, rubble-powdery 300.71 to 301.33 rubble zone.			
302.9	1.79 / 1.8	99%	SLST.		302.9						Laminated, ripple cross stratification, dark grey to black, carbonaceous, slicks, weathered, semi-stick.			
303.6	0.51 / 0.7	73%	COAL ZONE		303.4						Very high ash, dull with bright bands, semi-stick-rubble.			
305.4	1.81 / 1.8	101%	SST.		305.50						Dark grey, fine grained, slicks, fractured, porous, calcite throughout, soft sediment deformation. Possible fault zone			
			MDST.		307.21						weathered and slicks throughout sample highly carbonaceous, black, slicks, (could be high ash COAL-dull)			
307.5	0.91 / 2.1	43%	SST.								Dark grey, medium grained, massive, with some carbonaceous bands, semi-stick to rubble.			33J

PROJECT: BURNT RIDGE EXTENSION | AREA: N. BLOCK | HOLE no: 1 | BOX nos: | GEOP. PICK | PAGE 13 OF 13

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]
313.0	5.59 / 5.5	102%	SST.								312.57 sandstone becomes finely laminated, cross bedding (trough).			
316.1	3.1 / 3.1	100%	SST.											
317.6	1.47 / 1.5	98%	SST.								Stick, semi-stick.			
318.2	0.61 / 0.6	102%	SST.								Minor carbonaceous bands, 1mm wide.			
321.3	2.46 / 3.1		SST.								318.2 to 318.51 conglomerate 1cm is the width of the largest pebble, medium to coarse grained; 318.02 to 318.05 slightly coarser		57 / 320	0-10 / 020
322.8	0.78 / 1.5		SST.		322.8						conglomerate. 320. 79 to 321.82 fine conglomerate.		58 / 321.3	50J / 300
											321.58 to 321.82 highly fractured zone.		54 / 321	31J / 020

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: BURNT RIDGE (4151-T) - S.E. BRITISH COLUMBIA

All survey control in the Burnt Ridge 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 nine geological control points and three 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 results were given to C.N.R.L. personnel in both tabular and map form.

A L Melton

A. L. Melton

RB/cm

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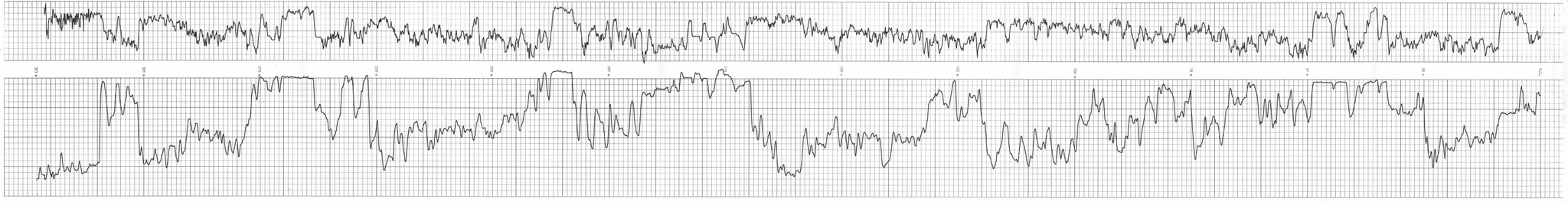
DAVIES EXPLORATION LOGGING LTD.

COMPANY: Ocean Bank Resources
WELL NAME: BOR - 01
LOCATION: Bount Eider Shoreline
LOCATION: N.W.T.
LOCATION:
RIG TYPE: Jack Up
DATE: 2042 23 1981
LOGGED DEPTH: 323 m
CASING DEPTH: 323 m
HOLE DIAM: 8.5.
HOLE DEPTH: 96.
CASING DEPTH: 18 m
REMARKS:

CALIPER — NATURAL GAMMA — RESISTIVITY — DENSITY



DAVIES EXPLORATION LOGGING LTD.

COMPANY	Crown Reef Resources
WELL NUMBER	SR - P 1
LOCATION	Pagan Island
PROVINCE	N.Ch.
ELEVATION	
LOG TYPE	Original Gamma & Neutron
DATE	July 18 1981
DRILLED DEPTH	323 m
LOGGED DEPTH	323 m
ZERO DATUM	G.L.
HOLE DIAMETER	NQ
CASING LENGTH	T.D.
REMARKS	

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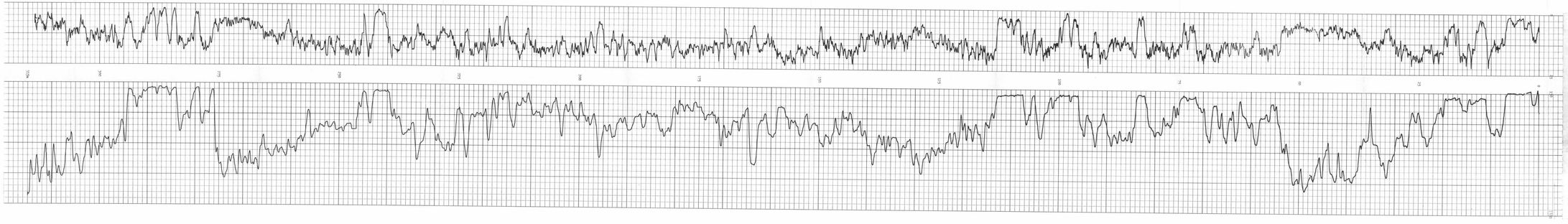
WATER EXPLORATION KANONG LTD.
COMPANY
WELL
FIELD
COUNTY
PROVINCE
COUNTRY
DATE
RUN
DATUM
ELEV.
PERM. DATUM
LOG MEASURED FROM
DRILL. MEASURED FROM
CALIPER
NATURAL GAMMA
RESISTIVITY
DENSITY



DAVIES EXPLORATION LOGGING LTD.

COMPANY	CROWNNEST RESOURCES LIMITED
HOLE NUMBER	DHR #2
LOCATION	Burnt Hills Extension
PROVINCE	N. S.
ELEVATION	
LOG TYPE	Natural Gamma & Neutron
DATE	Aug. 5, 1981
DRILLED DEPTH	315m
LOGGED DEPTH	315m
ZERO BELOW	Drill floor
HOLE DIAMETER	N. S.
CASING LENGTH	
REMARKS	

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BAKER HUGHES EXPLORATION LOGGING LTD.
[redacted]
COMPANY: SUNCOR ENERGY LIMITED
WELL: 100/06-29-085-13W6/00
FIELD: Sunrise Steam Generator
COUNTY: St. Ft.
STATE: Alberta
DATE: Dec. 22, 1995
PRESENTATION: 5"/100m
LOGGING UNIT: 5174
ENGINEER: Ryan Cline
ENGINEER: A.Ma
WITNESS: J.Ma
CALIPER
NATURAL GAMMA
SEISMICITY
DEPTH
CHECK SUMMARY
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
450
475

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SANTOS EXPLORATION LANGONE LTD.
COMPONENT DEVELOPMENT SERVICES
WELL NAME
BBR - 2
LOCATION
BOWEN BASIN, AUSTRALIA
COMPANY
S.E.L.
ELEVATION
LOG TYPE
Schlumb Triple c Resistivity
DATE
Nov. 29, 1971
DIRECTION
Vertical
DIRECTION
Vertical
DIRECTION
DRILLER
BOYES Foster
DIRECTION
S.E.L.
DIRECTION
S. E.
DIRECTION
REMARKS
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425m

377

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STRATIGRAPHIC SECTION

DESIGNATION:	Jr Shell Burrat Ridge Ext. - DDH 1981-01-01	ENCLOSURE No. 19	
PROJECT: BURRAT RIDGE EXTENSION	AUTHOR: D. STANLEY	PART 1 OF 1	
AREA:	SOURCE OF DATA:	DATE: 1981	
LOCATION:			

SCALE	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION: MAIN	DESCRIPTION: AMPLIFIED	SAMPLE
(m) TIME BEDDING ANGLES & CONTS		GOAL SAMPLE NUMBER					
					Casing		
					Siltstone	Bubble.	
		1			COAL	Brittle, broken. Bubble, semi-stick.	
10.0					Siltstone	Finely laminated, thin sandstone bands. Stick, semi-stick.	
10.0 J	26/180			11.90	Siltstone Mudstone	Interbedded, carbonaceous at base. Stick, rubble.	
11.39	50°				Mudstone	Grey with minor siltstone. Semi-stick.	
11.08	42°						
14.05	51°			16		Cross bedding, thinly laminated. Calcite present as veins. Semi-stick.	
16.15	61°				Mudstone		
17.80	43°				Siltstone	Semi-stick.	
J	18/310						
19.9						Minor sandstone at base. Rubble.	
				21.77			
						Siltstone bands from 22.9 - 25.5	
25.30	64°						
J	28/310					Semi-stick.	
25.01	51°				Mudstone	Jointing and bedding - water stained.	
J	34/180						
26.55	53°						
28.0	57°					Rubble.	
30.0						Shale from 31.2 - 32.9	
31.5	51°						
J	37/340						
				31.2			
				32.9	COAL	Powdery. Rubble	
35.16	55°				Mudstone		
					COAL	Slickensided, blocky, hard, dull, becomes brittle, shiny. Semi-stick. Rubble.	
39.10	55°	2		40.0		Fine, shiny. Broken slickensides.	
40.0						Dirty COAL, powdery.	
		3				Dirty. Rubble.	
		4			COAL	Fine, shiny, dirty.	
						Dull, blocky. Semi-stick.	
						Shiny, dull bands.	
						Dirty. Rubble.	
43.2	42°					Shiny, blocky. Semi-stick.	
						Dull with mudstone streaks.	
						Bright, brittle.	
50.0				50.0	Mudstone	Interbedded, medium to dark grey	
50.6	37/180			52.62	Siltstone	ripple cross stratified. Semi-stick.	
52.1	30°				Sandstone	Fine grained.	
J	30/220					Ripple cross stratified. Stick.	
53.9	44°			54.17			
54.8	37/180				Mudstone	Water stained. Stick, semi-stick.	
56.8	50°				Siltstone	Finely laminated, medium to dark grey.	
				58.56	Sandstone	Finely laminated, ripple cross stratification.	
					Siltstone	Minor sandstone bands, calcite veins. Stick.	
60.0						Rubble. Stick.	
60.6	51°					Carbonaceous, dark grey to black.	
J	23/180				Mudstone	62.16 - 63.1 = COAL zones.	
				63.9		63.37 - 63.66	
						Mudstone interbeds throughout.	
68.9	62°				Siltstone	Stick.	
J	36/180						
						COAL stringers, sandstone interbeds. Slickensides.	
70.0							
				71.6			
						Fine grained. Medium to light grey.	
					Sandstone	Finely laminated. Minor COAL wisps.	
						Medium to coarse grained. Semi-stick.	
71.3	51°					76.1 - 76.3 = mudstone pebbles.	
J	19/180						
				79.2			
80.0						Interbedded mudstone - 30% Semi-stick.	
80.6	51°				Siltstone	82.0 - 83.8 = siltstone pebbles.	
J	23/180						
						Minor sandstone band.	
						Stick.	
89.7	52°			89.26			
J	42/90						
90.0						Medium grained. Few COAL bands and wisps.	
					Sandstone	Finely laminated. Stick, semi-stick.	
						Calcite veins. 93.3 - 93.5 = sandstone pebbles.	
				94.18			
					Siltstone	Fine grained. Abundant calcite veins. 98.71 - 98.9 = COAL band. Highly fractured, pebbles. Minor mudstone as fine bands. Semi-stick.	
100.0				100.4			
101.2	63°					102.83 = 103.77 = finely laminated siltstone	
102.8	69°						
J	32/180					104.9; 105.78 - 106.48 = zones of rip-ups.	
					Sandstone	Fine - medium grained, light grey, laminated. Stick, semi-stick. Thin COAL wisps.	
						Calcite filled veins and fractures.	
110.0							
112.5	56°			112.0	Siltstone	Dark grey, calcite veins. COAL bands of low thick. Slickensides.	
				113.1	Sandstone	Medium grained, COAL wisps. Coarsely laminated - massive. Stick, semi-stick.	
				117.1			
						Dark grey, minor COAL. Semi-stick. Carbonaceous 119.8 - 119.8 = COAL zone. Rubble.	
120.0					Mudstone	Locally shaly. Semi-stick.	
				123.96			
					Sandstone	Medium grey, fine grained. Semi-stick.	
129.5	58°						
J	26/180						
130.0					Siltstone/Sandstone	60/60	
				131.8	Siltstone	Coarse grained, minor sandstone.	
						131.54 = 135.99 mudstone.	
137.9	72°				Siltstone/ Sandstone	Interbedded, finely laminated, ripple cross stratified, mudstone rip-up clasts.	
J	28/350			137.77			
						Fine grained. Pyrite, calcite and pyrite on joint planes. Ripple cross stratified. Small COAL wisps, plant fragments. Mudstone rip-up clasts.	
140.0							
143.5	52°						
146.7	47°						
J	69/180						
150.0					Sandstone	Mudstone interbedded with siltstone. Medium grained. Strong COAL wisps. Minor COAL bands.	
						Zone of mudstone with mudstone rip-up clasts up to 6cm long.	
160.0							
161.47	66°						
J	62/355					No interbeds, minor ripple cross stratification.	
164.5	71°						
J	60/000					COAL bands and wisps.	
				167.52			
					Mudstone	Carbonaceous. Slickensides. Dark grey. Minor COAL seams.	
170.0				171.05			
					COAL/ Mudstone	COAL - dull, brittle. Shiny. Slickensides. Mudstone - shiny, high carbonaceous. Rubble. COAL - dull brittle. Mudstone - as above. Semi-stick.	
				176.7		COAL - dull, brittle, bright bands.	
					Siltstone	Dark grey, carbonaceous. Stick. Semi-stick. 177.15 - 177.36 = COAL, blocky, dull with bright bands. 178.3 - 179.2 = Mudstone COAL interbeds.	
180.0		5		179.9			
				181.11	COAL	Dull, blocky.	
						Dark grey, minor mudstone and COAL interbeds. Stick, semi-stick.	
					Siltstone	186.20 - 186.80 = Rubble. 187.6 - 189.6 = fault zone. Weathered, highly fractured, quartz filled.	
190.0							
191.6	75°						
J	27/360			191.1			
						Fine grained medium grey to light grey. Stick.	
					Sandstone	Some interbedded siltstone. Abundant fractures, calcite filled.	
198.4	66°						
200.0						199.42 - 200.91 = grey, siltstone.	
				202.4	Siltstone	Medium to dark grey. Stick. Slickensides.	
				203.88	Sandstone	Medium grained, medium grey. COAL stringers. Stick.	
				206.04		206.04 - 206.86 = Siltstone, carbonaceous.	
		6				Dull, bright bands. Powder to rubble.	
					COAL	Dull, brittle. Semi-stick to rubble. Stick. 206.38 - 207.15 = bright, fine, Rubble, semi-stick. 207.15 - 208.32 = Dull, Rubble. 208.32 - 209.33 = brittle, shiny. 209.33 - 209.45 = dull with dull bands. Semi-stick. 209.4 - 209.86 = dull.	
210.0				208.86			
212.8	62°	7				Medium to dark grey. Stick. Massive. Slickensides. Weathered.	
					Siltstone	210.9 - 211.8 = high ash COAL. Fault zone (weathered) 211.8 - 213.4 = Siltstone, carbonaceous mudstone and COAL. 213.45 - 215.0 = rubble. Slickensides. Fine laminations. 220.34 - 220.50 = rubble. COAL stringers throughout. 216.44 - 218.10 = fine grained siltstone. Stick.	
		8					
220.0							
				221.47			
						Interbedded. Small scale ripple cross stratified. Dark grey siltstone.	
					Siltstone/ Sandstone	Fine grained sandstone. Stick. 228.20 - 228.89 = carbonaceous mudstone. 228.69 - sandstone, medium grained. siltstone medium grey to black, minor carbonaceous bands.	
230.0				234.5			
						Medium grey. Stick. Slickensides.	
236.48	62°					Calcite on joints and fractures, abundant jointing.	
J	35/010						
						236.72 - 237.49 = dark grey siltstone. Stick, semi-stick. 237.49 - 238.91 = interbedded siltstone. Stick.	
					Sandstone	- ripple cross stratification.	
240.0							
241.2	67°					242.1 - 242.80 = dark grey siltstone. 243.9 - 244.44 = carbonaceous dark grey. medium to coarse grained. finely laminated.	
						244.44 - abundant COAL wisps to end of the sandstone.	
		9					
250.0				249.75			
					Mudstone	Black. Small COAL bands. Rubble. Semi-stick.	
				251.10			
					Siltstone	Dark grey to black. 250.9 - 251.16 = rubble. Slickenides.	
				254.16			
					COAL	Bright with dull bands, blocky, fine. Semi-stick. 254.36 - 254.85 = high ash COAL. Rubble at 255.17.	
256.4	69°	9		255.3			
					Siltstone	Fine grained, dark grey to black. 256.30 to end of unit, interbedded sandstone, finely laminated. Stick. Ripple cross stratified.	
260.0							
				261.50			
						261.50 - 261.77 = brittle, bright, some ash. Semi-stick.	
		10				261.77 - 262.7 = dull, fine, powdery. Stick.	
					COAL	262.7 - 264.1 = dull, brittle. Semi-stick. 264.1 - 268.8 = dull, fine. Rubble.	
				268.8	Mudstone	268.8 - 269.36 = highly carbonaceous, fine COAL bands. 269.36 - 270.1 = high COAL, dull, powdery, fine. Semi-stick.	
270.0					Siltstone	270.1 - 271.38 = high carbonaceous siltstone, dark grey to black, honey COAL bands.	
		11		271.38	COAL	271.38 - 272.77 = dull, high ash. Semi-stick.	
				273.1		272.77 - 273.1 = fine, high ash. Rubble.	
					Sandstone	Fine grained, medium grey. Stick. Medium grained, light grey, ripple cross-stratified.	
278.3	56°					278.3 - 278.6 = rubble. 278.6 - 278.115 = rubble. Stick.	
J	38/005				Sandstone	Minor interbeds of siltstone.	
280.0							
						287.86 - 288.49 = rubble. 288.49 - 291.76 = finely laminated sandstone, minor carbonaceous bands. 289.40 - 289.90 = rubble. 289.90 - 290.40 = rubble. Slickenides. 291.76 - 293.6 = medium grey sandstone. abundant carbonaceous wisps.	
289.5	74°						
J	25/000						
290.0							
					Sandstone	293.6 - 298.82 = massive, medium grey, medium grained. 294.9 - carbonaceous wisps.	
						Zone of mudstone rip-up clasts.	
				298.82			
					Mudstone	Black, carbonaceous, minor COAL bands. Plant fragments. Slickenides.	
300.0					COAL	300.21 - 300.78 = dull, fine, shiny, brittle, powdery. 300.78 - 301.01 = dull, fine. 301.01 - 301.33 = rubble.	
				301.45		Mudstone is black, carbonaceous. Semi-stick, slickenides.	
				302.9		Finely laminated, ripple cross stratified. Weathered.	
				303.4	COAL	High ash, dull with bright bands. Rubble.	
						303.5 - 307.21 = mudstone, highly carbonaceous, black. Slickenides.	
310.0							
					Sandstone	Dark grey, medium grained. Semi-stick. Massive. Rubble. Stick.	
						312.37 - sandstone finely laminated, minor cross-bedding.	
						Stick. Semi-stick.	
315.3	62°						
J	38/355				Sandstone	318.2 - 318.51 = conglomerate. Medium to coarse grained. 320.79 - 321.13 = fine conglomerate. 321.58 - 321.82 = highly fractured zone.	
320.0				322.8			
330.0							
340.0							
350.0							

STRATIGRAPHIC SECTION

PROJECT: BUNG BUNG EXTENSION	DESIGNATION: DRILL HOLE #2	PART 1 OF 1	ENCLOSURE No. 19
AREA:	AUTHOR:	DATE: 18/11/	
LOCATION:	SOURCE OF DATA: D.P.		

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SAMPLE NO.	CONTROL POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	DESCRIPTION: MAIN	DESCRIPTION: AMPLIFIED	SAMPLE
NO CORE BEDDING (CUTTER & DITRIT)	COAL TABLE NUMBER						
					Casing		
5.0					Sandstone	Fine grained siltstone interbeds.	
						Finely laminated Iron stains. Brick.	
10.0 10.0 71°		12		17±3 13.51	COAL	Dull, brittle. Dull with bright bands. Minor mudstone interlamination. Semi-vitrik, rubble.	
15.0					Mudstone	Carbonaceous, COAL stringers. 15.82 = 15.73 = COAL. 16.1 = 19.9 = Semi-vitrik, rubble. 16.4 = 16.6 = Dull, dirty banding. 16.4 = 18.68 = COAL? seam. 19.9 = 22.21 = Dark grey to black. Carbonaceous. Iron stains. Iron staining.		
20.0				22.21	Sandstone	Fine grained with laminations of coarse sandstone, medium grey. Brick.	
25.0				23.6	Siltstone	Medium grey. Finely laminated. Brick. Plant fragments.	
28.8 65°				27.1		Fine grained. Medium grey. Finely laminated. Brick.	
30.0						35.33 = 36.95 = fracture zone.	
35.0						Iron stains.	
37.06 66°					Sandstone	37.06 = coarse grained, light grey. trough cross bedding, minor COAL stringers.	
40.0							
45.0							
47.5 50° 47.65 25°							
50.0						54.36 = 54.76 = mudstone zigzag clasts.	
				54.76			
55.0					Mudstone	Medium to dark grey Fine sandstone interbeds. Brick. Ripple cross stratified. Minor COAL, carbonaceous, COAL stringers. Minor siltstones. 56.3 = 56.55 = rubble. Leached calcite. 58.65 = 58.16 = rubble, leached calcite. Minor COAL stringers, iron staining.		
60.0					Siltstone		
65.0							
						67.8 = 68.8 = carbonaceous mudstone, COAL stringers, plant fragments, pyrite.	
69.5 55° 69.80	67180			68.8	Mudstone	Carbonaceous. 68.2 = 70.5 = finely laminated siltstone COAL stringers.	
70.0				71.8			
		13			COAL	Dull, blocky.	
75.0				75.8	Mudstone	Medium grey Carbonaceous. Brick.	
79.0 73° 80.0						Finely laminated, calcite on joints, COAL stringers.	
				82.6	COAL	Bright, blocky. Brick, semi-vitrik.	
85.0		14		86.4	Siltstone	86.4 = 85.2 = mudstone. Medium grey, finely laminated. Calcite on joints. COAL stringers.	
90.0 92.3 55°				90.2	Shale	Dark grey, highly carbonaceous. Finely laminated. Brick. Locally silty. Slickensides.	
95.0 96.5 66°				96.5	COAL	Dull, blocky. Some shiny bands. Semi-vitrik. 98.7 = 98.7 =	
100.0		15		100.4		98.7 minor mudstone. Rubble. COAL bands. Mudstone grades into siltstone at 104.0	
105.0 1 1.2 45°				105.4	COAL	Dull, blocky, dirty.	
107.0 45°		16		106.32	Siltstone	Finely laminated. Minor mudstone bands. Brick, semi-vitrik.	
110.0		17		108.42	COAL	COAL Dull with bright bands. Blocky. Semi-vitrik, rubble. 109.2 = 109.4 = COAL? seam. 112.6 = 113.05 = dirty band.	
114.9 77°				113.5	Siltstone	113.5 = 114.9 = mudstone, COAL bands. Massive, calcite on joints. Brick, semi-vitrik. 114.9 = 116.5 = mudstone 116.5 = 121.05 = mudstone 122.76 = 123.06 = sandstone. 125.06 = 125.6 = mudstone.		
120.0 124.6 71°							
125.0				126.3		Fine grained, finely laminated. Iron stains.	
129.5 58° 129.5 40° 2 18/000 130.0 2/190					Sandstone	127.72 = coarse grained. Brick, semi-vitrik. Iron stains. Slight jointed, calcite on joint planes. COAL stringers.	
135.0				131.9		Massive. 131.9 = grades into sandstone then becomes 60/40 siltstone/sandstone. Brick. Calcite filled joints.	
140.0					Siltstone	140.16 = 80/20 = siltstone/sandstone.	
145.0				145.75		Dark grey, COAL stringers. Massive. 146.16 = 150.5 = siltstone, finely laminated. Carbonaceous mudstone. Brick, semi-vitrik.	
148.4 70° 150.0					Mudstone		
155.0							
160.0						159.85 = 165.2 = siltstone grades into a fine grained sandstone, light grey, finely laminated.	
164.1 82° 165.0					Mudstone	Slickensides.	
						166.05 = 171.53 = siltstone, dark grey COAL stringers, minor sandstone.	
168.5 57° 170.0						Dark grey to black, 2 cm thick COAL bands. Semi-vitrik, slickensides.	
175.0							
180.0 181.9 66°	32/180			181.33		Some sandy bands. Dark grey to dark grey. Massive, silok, semi-vitrik. Slickensides. Minor fossils. Calcite filling on joints.	
185.0					Siltstone		
190.0 190.0 36° 195.0	32/180						
200.0						Grades into mudstone.	
204.78 58°						Dark grey, locally silty. Massive, blocky. 195.2 = 205.2 = COAL Rubble. Slickensides. Carbonaceous, COAL stringers. 201.4 = 204.35 = siltstone. Brick. Locally shaly band, fossiliferous. 205.22 = 205.78 = dirty COAL.		
205.0					Mudstone	205.78 = 208.5 = shaly, fossiliferous. 208.87 = 212.97 = COAL, mudstone interbands. Brick. Rubble.		
210.0							
				215.13		213.48 = 214.51 = siltstone, light grey shale.	
215.0 218.0 66° 2 5/180		18		217.15	COAL	Rubble.	
220.0						Mudstone to 221.15. Massive, dark grey. Slickensides. Shaly, some dirty COAL. Dark grey - black, some siltstone		
225.0					Siltstone	Sandstone = 221.15 = 224.66. Brick, semi-vitrik. Fine grained, light grey, slight cross stratified.	
230.0						Massive, dark grey - black.	
				230.4		230.4 = 230.5 = siltstone/sandstone 70/30 Laminated, grey. Brick.	
234.4 60° 235.0					Mudstone	Massive, dark grey-black, carbonaceous, COAL? bands. Semi-vitrik.	
					Siltstone		
240.0				240.9	COAL	Rubble.	
		19		241.2	Mudstone	Grey, COAL stringers. Semi-vitrik. 241.2 = 243.3 = mudstone. 243.45 = 244.15 = COAL		
245.0				246.9		Medium grey. Some fine sandstone bands. Locally massive. Brick.	
250.0					Siltstone		
252.7 65°						254.38 = 257.2 = mudstone. Dark grey to black. Carbonaceous, COAL stringers.	
255.0 256.2 62°							
260.0				258.5		Light grey, faint laminations. Fine grained, calcite filled fractures. Brick.	
264.7 62° 2 26/000						264.5 = 265.0 = Calcite filled joint. 264.0 = coarsely laminated.	
265.0 267.5 62°					Sandstone	266.95 = 267.5 = COAL stringers.	
270.0						269.0 = coarse grained. Slickensides.	
275.0				276.4	COAL	Shiny. Rubble.	
280.0				276.88		Black. Brick. 279.77 = 280.07 = COAL rubble. Carbonaceous. Semi-vitrik.	
					Mudstone	283.02 = 281.71 = Siltstone	
285.0		20		284.95		284.95 = 285.4 = shiny. Rubble. 285.4 = 286.0 = dull, dirty.	
					COAL	286.0 = 288.7 = shiny. 288.7 = 290.9 = dull, dirty. Rubble. 290.0 = 290.9 = shiny.	
290.0 291.2 66°				290.9		Dark grey, black. Semi-vitrik, slickensides.	
295.0 297.2 55° 2 37/180				295.4	Mudstone	296.05 = 296.4 = COAL rubble.	
				296.45	Siltstone	Grey, massive, minor sandstone.	
300.0				297.2	Sandstone/ Siltstone	Interbedded 50/50. Brick. Sandstone = coarse grained. Siltstone = fine grained cross stratified. Fine grained. Finely laminated.	
305.5 54°				303.3			
305.0					Sandstone	Fine grained. Medium grey. Finely laminated. Brick.	
310.0							
315.0				316.18			
320.0							
325.0							
330.0							
335.0							
340.0							
345.0							
350.0							
355.0							
360.0							
365.0							
370.0							
375.0							

N. West Burrt Bridge Sub Station

STRATIGRAPHIC SECTION

ENCLOSURE No. 19

DESIGNATION

PROJECT: WEST BURRT BRIDGE

AREA:

LOCATION:

HOLE NO.: 1

PART 1 OF 1

DATE: 1981

SOURCE OF DATA:

DRILL BIT

RL	DISTANCE POINT	INTERVAL	LITHOLOGY	STRIKE & DIP	MAIN	DESCRIPTION AMPLIFIED	SAMPLE
240							
5					Casing	" "	
		3.85			Siltstone	3.85 - 3.82 locally sandy, iron staining, stick, semi-stick, jointed	
	8.4m 40°				Sandstone	3.82 - 8.38 fine grained slight cross-stratified.	
10					Siltstone	8.38 -11.1 interbedded sandstone/Siltstone 11.1 -13.1 fine grained sandstone, slight cross stratif-n	
	14.5m 54°				Sandstone	13.1 -20.0	
15					Siltstone		
	20.0m 60° 23.5m 67°	20.0			Coal	20.0-20.1 carbonaceous mudstone; 20.1-21.45 coal; 21.45-21.7 shale; 21.7-22.1 coal; 22.1-22.3 shale; 22.3-22.5 coal	
		22.1			Mudstone	grey to dark grey, locally silty, locally carbonaceous	
20		24.9			Sandstone/ Siltstone	light grey iron staining, cable filled joints, stick, jointing	
25							
30					Mudstone	dark grey, carbonaceous, locally silty	
	34.5m 59°	31.35			COAL	shiny, brittle	
35		35.75			Siltstone	mudstone, abundant fossils	
		38.4			Siltstone	dark grey	
40		40.6			COAL	40.6 - 40.92;38.92 mudstone splits, 39.4-39.5 bands of coal; dirty, cubbly	
	40.5m 67°				Siltstone	iron staining, ripple cross stratified Silty mudstone	
45						49.4 -52.0	
	49.4m 68°						
50		52.0					
	52.4m 68°						
55					COAL	55.0 -55.0 dull; blocky. 55.0 -55.1 shale; 55.1 -55.3 bright; powdery 55.3 -55.4 shale; 55.4 -55.5 iron stained, ripple cross stratified 55.5 -56.0 dull;with bright bands semi-stick	
	53.0m 64° 56.7m 70°	56.5					
60	61.7m 76°				Siltstone	58.0 -58.8 carbonaceous mudstone 58.8 -60.0 carbonaceous mudstone	
	63.6m 76°						
65							
	68.1m 68°	68.25			Mudstone	68.25 -68.5 mudstone, shaley, carbonaceous	
70	70.8m 76°	70.4			COAL	70.4 -70.5 bright coal bands 70.5 -70.6 shale	
		71.42			Siltstone	70.6 -71.42 shale mudstone 71.42 -71.52 iron staining, cubbs-stick, semi-stick	
	74.8m 76°				Mudstone	shaley, minor needle coal, silty beds fossiliferous, semi-stick, cubbs, stick-cubbs	
75							
		78.17			Siltstone	massive, some sandy bands, light to medium grey, minor calcite filled veins, stick	
80							
	84.0m 71°						
85		82.87			Sandstone	fine to medium grey, massive to 83.0, minor ripple cross stratification to 84.0m; remainder is massive	
		87.5			Siltstone	iron staining, cubbs-stick, possible fault zone	
90		89.3			Sandstone	medium grained, ripple cross stratified iron staining, semi stick fault zone 94.7m	
	90.6m 62°						
	93.6m 56° / 93.0SD				Sandstone	94.82 -99.83 interbedded siltstone/sandstone zone 99.83-102.40 shale mudstone, dark grey, fossiliferous	
95	97.8m 64° / 97.0SD					medium to coarse grained, cool stringers, finely laminated, coal bands, minor ripple cross stratification stick	
100	100.4m 63°						
105							
110							
	112.5m 56°						
		113.8 113.5			COAL	good, bright shine - vitrinite, cubbs	
115					Mudstone	113.82-116.45 Coal bands 116.38-116.45	
						calcite on joints	
120						116.45-116.9 mudstone grey	
						mudstone grades into coal	
	121.7m 64°	121.75 122.05					
	124.5m 66°				Siltstone	shale, dark grey	
						calcite on joints	
						121.53-121.58 coal seams	
						121.75-123.96	
130							
						131.8 -133.1 white coal semi stick	
135		131.2			Siltstone	medium grey, sandy bands, stick	
140							
		145.5m					
					Sandstone	fine grained, interbedded with siltstone ripple cross stratified, stick	
145		145.2			Siltstone	fine grained, dark grey, stick	
	146.5m 75°						
150		150.5 151.8			COAL	dull	
						bright for last 70 cm, cubbs, powdery	
					Mudstone	dark grey, minor siltstone, stick	
155		156.25			COAL	155.8 -157.8 dull, mudstone splits 156.5 - 157.8 bright bands, powdery, finely laminated	
		159.16			Siltstone	157.8 -159.16 finely laminated coal cubbs, powder	
160						carbonaceous, coal stringers stick, semi-stick	
		164.4			COAL	dull, black, brittle-generally 163.7 -166.2 bright 166.2-166.35 shiny band 168.75-169.9 shiny band 169.9 -169.4 powder	
170	170.0m 85°	169.9			Mudstone	169.9 -170.4 mudstone 169.9 -170.4 black some sandstone bands minor coal bands stick, minor semi stick, siltstone/sha	
175							
180	180.1m 72° / 2x180	181.1			Sandstone	fine to medium grained, medium grey, finely laminated, some coal seams 181.1 -188. ripple cross stratified coarse grained thick, minor cubbs	
185							
190							
195		195.5			Siltstone	medium grey, massive a few mudstone bands carbonaceous, stick, semi-stick	
200		198.4			Siltstone/ Mudstone	192.00 Sandstone-medium grained, light grey, massive, cubbs, semi stick Siltstone medium grey Stick	
	203.8m 56°						
205		205.4			Sandstone	coarse grained, medium light grey, coalstringers, channel sand, laminated cubbs	
210		208.4			Siltstone	medium grey, massive, stick	
		212.5m			Siltstone	carbonaceous, coal stringers, black, brittle, semi stick	
215		217.7 218.82			Sandstone	fine - medium grained, finely laminated	
					Siltstone/ Mudstone	mudstone carbonaceous, coal stringers Stick, semi-stick	
220		220.7			Sandstone	medium grey medium grained	
	220.8m 56°				Siltstone/ Sandstone	220.7 -221.2 finely laminated 221.2-221.8 Medium grey massive	
225							
230							
					Siltstone	fine mudstone bands; fossiliferous, dark grey, massive, coal stringers	
235	237.5m 53°					236.2-236.8 carbonaceous mudstone, semi stick 236.9	
240						237.2 -237.5 medium grained sandstone, ripple cross stratified, semi stick	
					Siltstone	massive 241.92-242.45 mudstone-dark grey, coal stringers siltstone/sha, stick a few coal bands	
245							
250					Siltstone		
255						253.2 -253.5 coal; dirty, dull with shiny bands 254.7m-254.9 semi-stick	
260					Siltstone	259.0 mudstone bands, siltstone, dark grey, stick	
265						264.5 - 264.7 mudstone/coal 264.95-265.05 coal, bright, powdery, siltstone, fissile cubbs/	
270	268.8m 70°					Stick	
					Siltstone	270.0 -270.17 fossiliferous, mudstone/coal fusbbs/ stick 270.90-271.4 mudstone/siltstone	
275						275.08 -275.2 coal/mudstone fusbbs/ abundant cracks 275.2 - 275.4 276.85-277.05 coal - shiny 279.25-279.38 coal, mudstone	
280		278.5			Siltstone/ Sandstone	light grey interbedded, stick	
	281.4m 64°	281.48					
285					Siltstone/ Mudstone	dark grey to black, interbedded, massive coal,partings, siltstone/sha, stick	
	288.6m 69° 32/180	287.26					
290					Siltstone	light-medium grey, massive, sandy bands stick	
		291.7			Silty Mudstone	carbonaceous	
		294.37			Sandstone/ Siltstone	30/50 Stick	
		296.15			Silty Mudstone	dark grey, massive, fossiliferous	
		298.15			Mudstone	carbonaceous, cubbs	
300		300.15			COAL	mainly dull, powdery with bright hard bands	
	303.4m 56°						
		303.3			COAL	304.89-304.98 coal, dirty dull 305.03-305.08 coal 305.03-305.07 coal, dull with shiny strong 305.45-306.07 coal, dull	
310					Siltstone	306.07-306.15 semi-stick 306.15-306.25 semi-stick medium grey, mudstone bands, ripple cross stratified, semi stick	
		310.22			Sandstone		
315	316.0 52°	315.37					
320					Siltstone	finely laminated 324.76-324.98 shiny coal, medium grey	
325					Siltstone	light grey, massive	
330						stick	
		329.5 330.45			Siltstone/ Sandstone	40/60 some siltstone clasts, stick	
		330.45			Silty Mudstone	medium grey, semi stick	
335					Siltstone	cubbs/ stick/ dark grey, sandy bands, fossil-fusus semi stick	
		337.45			Siltstone	337.45-337.8m semi, cubbs	
340		338.5 340.85			COAL	338.5 -339.4 mudstone splits 340.85-340.7 bright with shiny bands	
	341.7m 68°	340.8			Siltstone	minor mudstone, minor sandstone	
345		343.4 344.4			COAL	dull with bright bands	
		344.4			Siltstone	generally dull, blocky with shiny bands 344.96-345.3m 345.3m-345.5m 345.5 -351.4 powder coal 351.4 -351.5 shiny coal 351.5-351.7 dull 351.7-352.15 dull; powdery, semi-stick 352.15-352.5 dull, powdery	
350							
		352.5			Mudstone	dark grey to black, carbonaceous siltstone/sha	
355		354.35			COAL	dull with shiny bands, semi stick	
		355.7					
	358.0m 62° / 357.0SD						
					Sandstone	medium grained, ripple cross stratified, massive siltstone bands, thick, semi-stick	
360	363.0m 67°						
		365.7			Siltstone	massive, medium grey	
365		367.45					
					Sandstone	fine to medium grained, thick 368.2 -369.2m fine grained, massive 369.2m-370.4m ripple cross stratified 370.4m massive, medium grained, light to medium grey 371.7m finely laminated	
370	370.5m 62°						
375	375.7m 68°					374.7m-380.9 cubbs, siltstone/sha	
380							
						380.09 very coarse grained, coarsely laminated	
						Stick	
385					Sandstone	387.61-389.7 highly fractured 389.0 medium to coarse grained 389.92-390.25 siltstone ripple cheks	
390	392.8m 56° / 2x180						
		393.4			Siltstone	dark grey, finely laminated, Stick	
395	396.0m 56° / 2x180 396.0m 56° / 2x180	396.8					
					Sandstone	medium grained (channel) coal stringers, massive, semi stick 398.5 -399 finely laminated siltstone 400.60-400.7 siltstone and stringe, siltstone bands 400.9 -403.9 coal cubbs (channel) 403.9-403.95 siltstone (coal) Stick	
400	400.5m 55°						
405					Moore Mountain	massive fine grained light to medium grey finely laminated	
	408.0m 64°						
410	409.0m 68°				Sandstone	Stick	
415	413.0m 57°	413.8					
420							

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STRATIGRAPHIC SECTION

DESIGNATION: K-Shell Burnt Ridge Ext. 81(3)A Enclosure No. 23

PART 1 OF 1

PROJECT: BURNT RIDGE EXTENSION

AREA:

LOCATION:

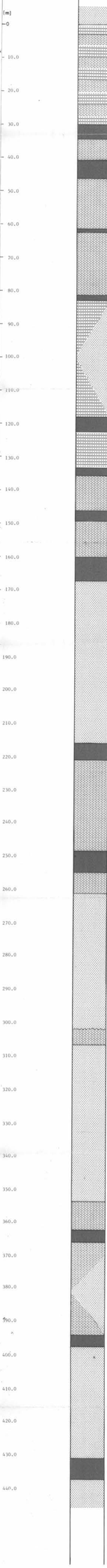
AUTHOR: B. RYAN

DATE: 1981

SOURCE OF DATA: COMPOSITE STRATIGRAPHIC SECTION

SCALE 1:400

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



MIST MOUNTAIN FORMATION 437 M.

(m)

0

Sandstone - Medium banded buff weathering

Elk Formation

10.0

Siltstone and Mudstone

20.0

30.0

COAL

Seam # 13
Average True Thickness 4.

Mudstone

40.0

COAL

Seam # 12
Average True Thickness 6.

50.0

Mudstone

60.0

COAL

Seam # 11
Average True Thickness 1.0

70.0

Mudstone

80.0

COAL

Seam # 10
Average True Thickness 1.6

90.0

100.0

Sandstone and Siltstone

- channel sand developed in south half of property

110.0

120.0

COAL

Seam # 9
Average True Thickness 4.1

Siltstone

130.0

COAL

Seam # 8
Average True Thickness 2.3

140.0

Mudstone

150.0

COAL

Seam # 7
Average True Thickness 2.9

Mudstone - dark grey often fine banded or containing ripple marks

160.0

COAL

Seam # 6
Average True Thickness 7.8

170.0

Sandstone - Medium to coarse grained fining upwards, abundant sedimentary structures in most places probably a channel sand

180.0

190.0

200.0

210.0

220.0

COAL

Seam # 5
Average True Thickness 4.92
In the south Seam # 5 consists of two seams

230.0

Mudstone

240.0

250.0

COAL

Seam # 4
Average True Thickness 6.5

Mudstone

260.0

270.0

Sandstone - grades upwards to mudstone appears to be channel sand

280.0

290.0

300.0

Thrust fault - An east dipping west directed minor thrust or appears to repeat some of the sandstone

Mudstone

310.0

320.0

Sandstone

330.0

340.0

350.0

360.0

Mudstone

COAL

Seam # 3
Average True Thickness 3.39

370.0

380.0

Mudstone and Sandstone

390.0

COAL

Seam # 2
Average True Thickness 3.38

400.0

410.0

Sandstone - channel sand abundant sedimentary structures

420.0

430.0

COAL

Seam # 1
Average True Thickness 6.12

440.0

Sandstone

Moose Mountain Member