K-SHELL - LODGEPOLE 76(1) A

SECOND REPORT ON THE
COAL LICENCES 490 - 495
LODGEPOLE CREEK AREA K.D.

J.J. CRAIG

MAY 4TH/77

COAL FILE

pt 1 of 2 00 424

OPEN FILE

Fernie, British Columbia
Telephone: (604) 423-4464

CROWS NEST INDUSTRIES LIMITED

May 16, 1977

J. J. CRABB
VICE PRESIDENT -
EXPLORATION

Dr. James T. Fyles
Deputy Minister of Mines
Department of Mines and Petroleum Resources
Victoria, B. C.

Dear Sir:

RE: Coal Licences 490 - 495
Lodgepole Creek Area K.D.

We are pleased to submit the enclosed report entitled "Second Report Coal Licences 490 to 495 K.D." dated May 16, 1977 in support of our Application to Extend Term of Licence pursuant to Sections 19 and 21 of the Coal Act 1974.

It is our intention to undertake further field work of a similar nature this season which could provide us with a better basis for assessing the area's coal potential.

Yours very truly

J. J. Crabb, P. Eng.

GENERAL OFFICES
FERNIE, B. C.

MINERALS DIVISION
FERNIE, B. C.

FOREST PRODUCTS DIVISION
MAIN OFFICE
FERNIE, B. C.

ELKO OPERATIONS
ELKO, B. C.

JJC/em

Encl.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. J. CRABB

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SECOND REPORT COAL LICENCES

NOS. 490 TO 495 INCLUSIVE
KOOTENAY DISTRICT

MINING RECORDER
RECEIVED and RECORDED
MAY 25 1977
M.R. #.....
VICTORIA, B. C.

CROWS NEST INDUSTRIES LIMITED
FERNIE, B. C.

MAY 16, 1977

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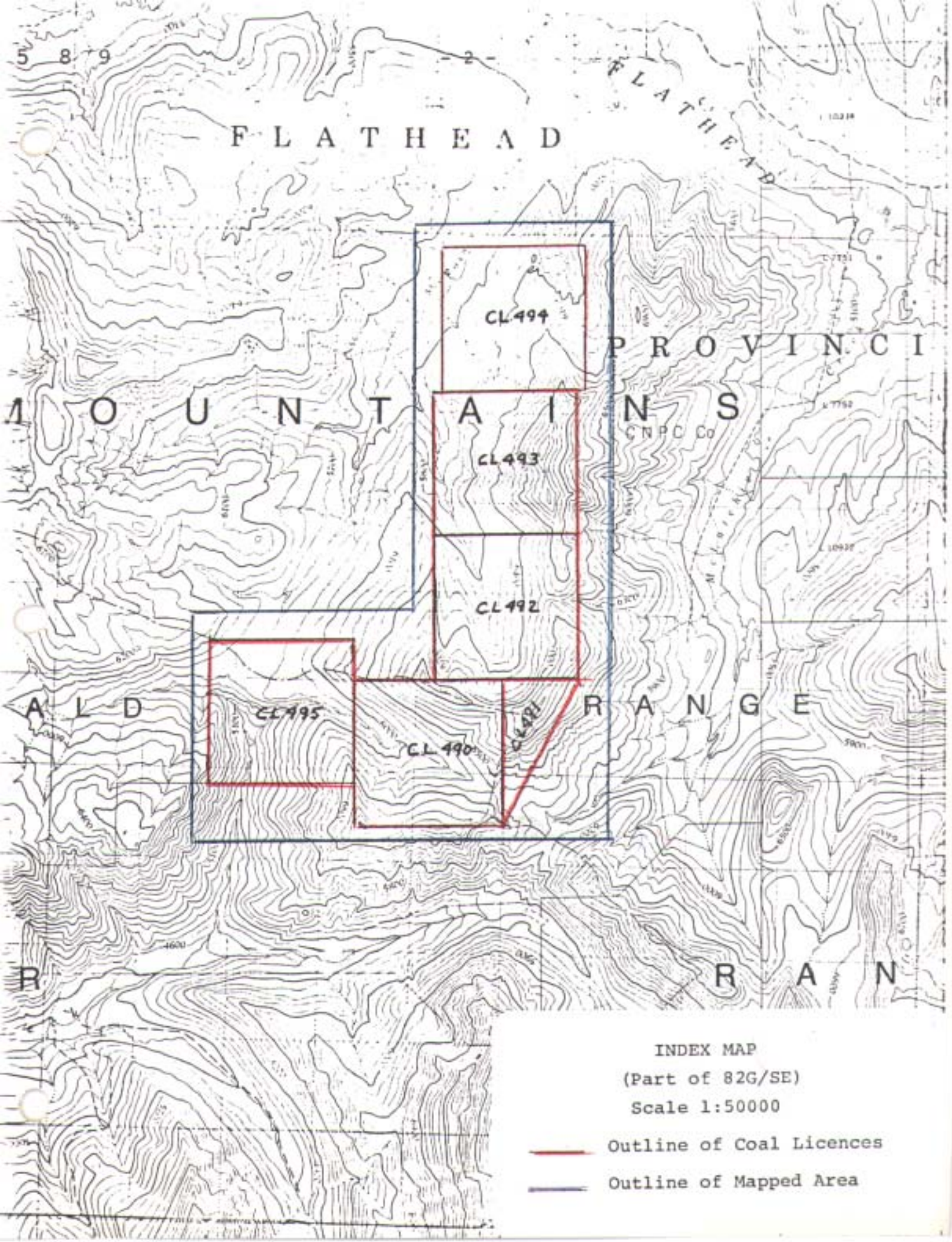
INTRODUCTION

Crows Nest Industries Limited (C.N.I.) of Fernie, British Columbia holds coal licences 490 to 495 inclusive near the headwaters of Lodgepole and McLatchie Creeks, some 18 miles southeast of Fernie, B. C. (Lat. 49° 20', Long. 114° 42', Map ref. 82G/SE). Total area of the 6 licences is 3345 acres.

During the 1976 summer season, exploration consisting of hand trenching only was undertaken on and adjacent to coal licences nos. 490, 492 and 493.


FLATHEAD
CL494
CL493
CL492
CL495
CL490
CL491
CNPC Co
INDEX MAP
(Part of 82G/SE)
Scale 1:50000
Outline of Coal Licences
Outline of Mapped Area

ACCESS

Access to the prospect area is via Lodgepole Forest Development Road (to mile 18 as measured from Morrissey station near Southern Trans Provincial Highway No. 3) and then via C.N.I.'s McLatchie Creek Logging road (3½ miles) where a Kaiser exploration road turns off to the west and proceeds to the summit at an elevation of about 6800'.

FIELD WORK

Aside from cleaning out Kaiser Resources access road to the ridge summit, no mechanical equipment was employed. All trenching and tracing of seams was accomplished by hand methods. Geologic mapping was confined to observing a few points along seam outcrops as shown on the accompanying map. Twenty-three hand trenches aggregating 754 feet in length and varying in depth from 3 feet to 7 feet exposed up to five separate coal seams. These were emplaced along five ridges where stratigraphic sections totalling over 2,000 feet were measured and described.

Detailed descriptions are provided in the appendix. These are keyed to an accompanying map (Scale 1":1000') and to the correlation table on page six.

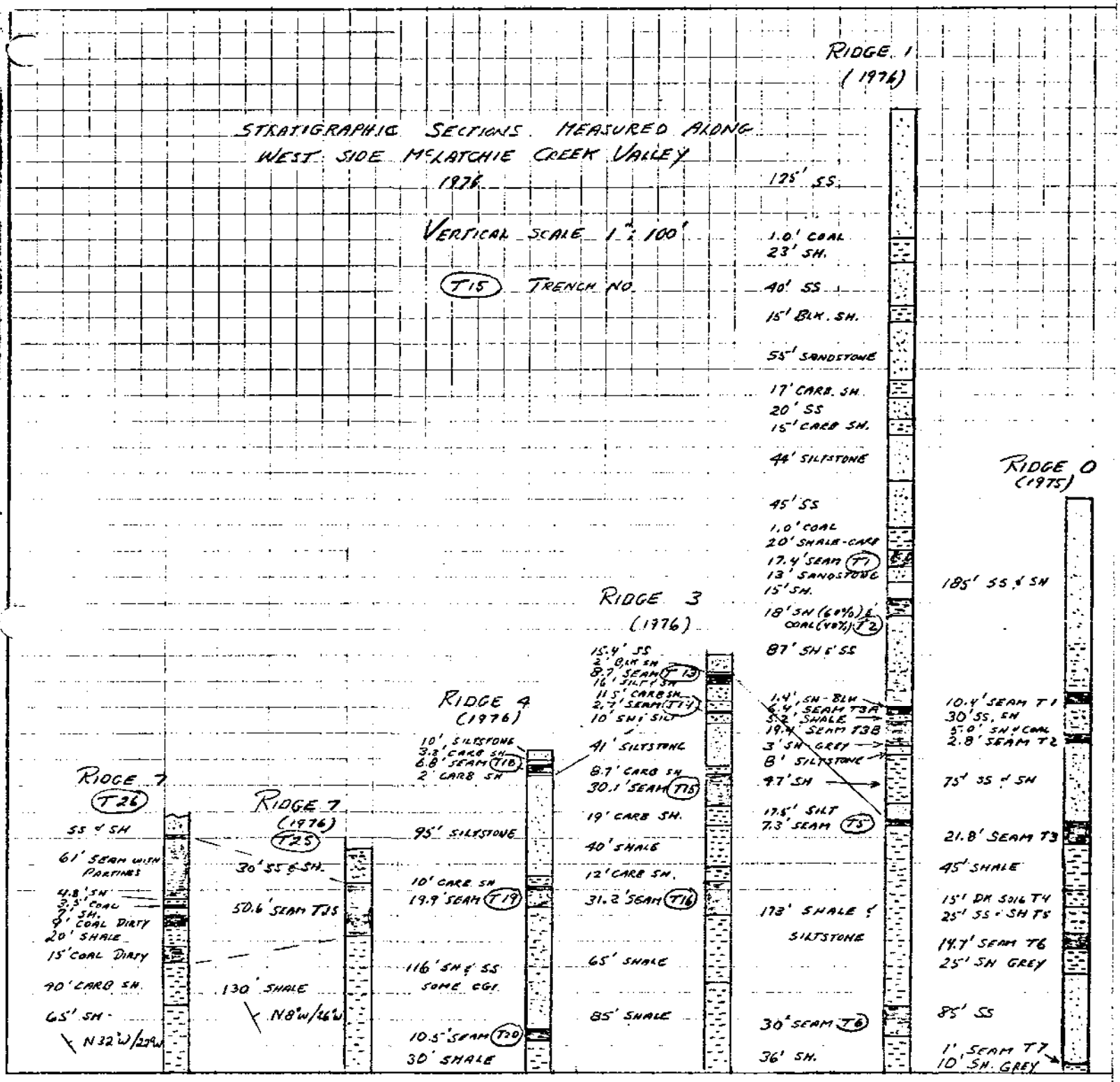
DISCUSSION

The area is now considered more geologically complex than previously thought. Positive correlation of the lower seam(s) is not yet possible. Faulting has undoubtedly resulted in duplication, cutting off and, thickening or thinning of seams. Stratigraphic sections which follow illustrate the difficulty in correlating the seams from ridge to ridge.

More intensive geologic mapping is required before a meaningful program of additional hand trenching can be determined for the area already investigated. No work has yet been done on coal licences 490, 491 and 495 on the south and easterly estension of coal measures.

Initially it would appear that underground mineability would be ruled out on the basis of adverse geologic structure, at least near the outcrop belt. However, an attractive alternative could be an open-pit potential of the low cover thick-seam area down dip (west) of Ridges six and seven. Should field mapping confirm reserves of coal over a reasonable area, then trench samples of coal could be taken for proximate analysis.

Results to date are considered sufficiently encouraging to justify a larger exploration program for 1977.



BASAL KOOTENAY SANDSTONE
(MOOSE MTN. MEMBER)

STRATIGRAPHIC SECTION MEASURED FROM TOP OF RIDGE DOWN TO BASAL SANDSTONE (MOOSE MOUNTAIN MEMBER) RIDGE 0

Thickness or Interval	Lithology
185'	Interbedded Shales and Sandstones
	Seam #7 (Trench #1, length 14 ft.)
	Roof - blocky brown shale
0'-11"	Blocky black shale
0'-4"	Friable, carbonaceous shale
0'-5"	Coal - soft and dirty
0'-4"	Friable, carbonaceous shale
9'-4"	Coal - clean and medium hard
	Floor - blocky gray shale
30'-0"	Sandstone underlain by blocky shale and siltstone.
	Seam #6 (Trench #2, length 12 ft.)
	Roof - Siltstone
5'-0"	Shale and coal stringers 75% and 25% respectively.
2'-8"	Coal - containing three - 2" shale stringers.
	Floor - dark shale
75'-0"	Sandstone underlain by shale.
	Seam #5 (Trench #3, length 40 ft.)
	Roof - blocky brown shale
1'-0"	Coal (75%) with shale stringers (25%)
0'-8"	Blocky black shale
1'-11"	Coal - medium hard
0'-4"	Shale lenses - friable gray
13'-8"	Coal - very clean, medium hard
0'-11"	Friable brown shale
1'-0"	Coal
0'-6"	Friable brown shale
1'-3"	Coal - soft, clean
0'-6"	Friable carbonaceous shale
	Floor - Siltstone
45'-0"	Shale

..... Cont.

Thickness & Interval	Lithology
	Trench #4, length 20 ft., depth 7 ft.
	Abandoned - appear to lie in fault zone
15'-0"	Soil - like material
	Trench #5, length 10 ft.
	Abandoned - also in faulted area - only small amounts of coal found.
25'-0"	Sandstone - forms a prominent mound above Trench #2 underlain by carbonaceous shale.
	Seam #4 (Trench #6, length 27 ft.)
	Roof - blocky gray shale
0'-10"	Mixture of finely banded shale and coal
0'-7"	Coal - soft
0'-9"	Friable gray shale
2'-6"	Shale with coal stringers (50% each)
2'-0"	Coal - clean, medium hardness
0'-2"	Rusty Siltstone
2'-8"	Coal - clean, hard
0'-1"	Rusty siltstone
2'-10"	Coal - clean, hard
0'-1"	Shale
0'-6"	Coal - clean, hard
0'-6"	Oolitic hematite
0'-8"	Coal and shale (50% each)
	Floor - shale
25'-0"	Blocky gray shale
85'-0"	Sandstone
	Seam #5 (Trench #7, length 3 ft.)
1'-0"	Coal
10'-0"	Shale - blocky gray
	Basal Kootenay (Moose Mountain) Sandstone
350.9'	Total section measured
40.8'	Total coal in section
126.0'	Total length of Trenches

STRATIGRAPHIC SECTION (MEASURED DOWN) RIDGE 1

Thickness Interval (ft.)	Lithology	
125	Sandstone	
1.0	Coal	
23	Shale - blocky	
40	Sandstone	
15	Shale - blocky, black, carbonaceous	
55	Sandstone - massive	
17	Shale - blocky, black, carbonaceous	
20	Sandstone	
15	Shale - carbonaceous	
44	Siltstone & shale	
45	Sandstone - blocky, grey	
1.0	Coal	
20	Shale - carbonaceous	
	Trench T1 (76 R1 T1 S1)	
12	Shale - blocky, brown weathered	
0.4	Shale - friable	
7.6	Coal - soft	
5.6	Shale - blocky	
3.8	Coal - soft	
13	Sandstone - f.g. grey	
15	Shale - blocky	Seam thickness 17.0' Coal thickness 11.4'
	Trench T2 (76 R1 T2 S1 A)	
18	Shale and coal stringers (60% & 40%)	
87	Shale and sandstone	
	Trench T3A (76 R1 T3 S2)	
1.4	Shale - friable	
6.0	Coal - Medium soft, fine bedded	

Thickness Interval (ft.)	Lithology	
	Trench T3B (76 R1 T3 B)	
5.2	Shale - blocky, carbonaceous	
0.3	Coal	
0.1	Shale	
3.9	Coal	
0.2	Shale - grey brown, soft	
2.8	Coal	
0.1	Shale - soft, grey-brown	
0.9	Coal	
0.2	Shale - soft, grey-brown	
10.9	Coal	
3	Shale F.W.	
8	Siltstone - grey-brown	
47	Shale - friable, carbonaceous	
17.5	Siltstone - blocky, grey-brown	Seam thickness - 19.4' Coal thickness - 18.8'
	Trench T4 (76 R1 T4 S3)	
1.7	Shale	
0.5	Coal	
0.8	Shale - grey, soft	
5.4	Coal	
173	Shale & siltstone	Seam thickness - 6.7' Coal thickness - 5.9'
	Trench T6 (76 R1 T6 S4 A)	
0.7	Coal	
0.1	Shale - brown, soft	
1.5	Coal	
0.1	Shale - brown, soft	
1.0	Coal	
0.3	Shale	
1.3	Coal - soft, dirty	
1.2	Iron oxide & coal (70% - 30%)	
0.1	Gumbo - (clay)	
2.3	Coal	
0.9	Iron oxide & coal (50% - 50%)	
1.0	Coal	
0.2	Iron oxide	

Thickness Interval (ft.)	Lithology
	Trench T6 (76 R1 T6 S4 A) - (cont'd)
0.6	Coal
0.7	Iron Oxide
3.1	Coal
0.7	Iron Oxide
2.0	Coal
0.2	Iron Oxide
6.0	Coal
0.1	Shale - brown, soft
4.3	Coal
0.7	Shale
0.9	Coal
	Seam thickness - 30.0'
	Coal thickness - 24.7'
36	Shale
-	Basal Kootenay Sandstone

STRATIGRAPHIC SECTION RIDGE 2
(MEASURED DOWN)

Thickness Interval (ft.)	Lithology
	Trench T8 (76 R2 T8 S3 C)
9	Sandstone - fine grained, dark brown
1.5	Shale - friable, carbonaceous
0.6	Coal
1.2	Shale - friable, carbonaceous
3.8	Coal
1.7	Shale - strained rust
3.8	Coal
	Shale F.W.

Seam thickness - 11.1'
Coal thickness - 8.2'

STRATIGRAPHIC SECTION RIDGE 3
(MEASURED DOWN)

Thickness Interval (ft.)	Lithology
5	Sandstone - fine grained, brown
6	Sandstone - fine grained, black
4	Sandstone - fine grained, buff to black
0.4	Sandstone - very thin - bedded
1.2	Shale - black
0.4	Shale - carbonaceous - platy
0.4	Shale - highly carbonaceous
	Trench T13 (76 R3 T13 S3)
0.4	Coal
0.3	Shale - carbonaceous
0.6	Coal - soft
0.5	Shale - fine bedded, carbonaceous
0.5	Coal - soft
0.9	Shale - dark brown
0.6	Shale - friable carbonaceous
1.1	Coal
0.2	Gumbo (clay) - carbonaceous
3.6	Coal - soft
	Seam thickness - 8.7'
	Coal thickness - 6.2'
1.1	Shale - brown strike N 12° W dip 31° SW
15	Siltstone & shale - weathers buff - good marker
11.5	Shale - carbonaceous
	Trench T14 (76 R3 T14)
0.3	Coal
1.0	Shale - carbonaceous, friable
1.4	Coal - soft, clean
10	Shale - carbonaceous & silty
41	Siltstone
8.7	Shale - carbonaceous

Thickness Interval (ft.)	Lithology
	Trench T15 (76 R3 T15)
1.8	Coal
0.2	Shale
0.7	Coal - soft
1.0	Coal - very hard & brittle
1.2	Shale - hard, carbonaceous
0.9	Coal
0.3	Shale
9.5	Coal
2.7	Shale & Coal - (90% - 10%)
4.0	Coal - very hard & brittle
7.8	Coal - hard & flaky
	Seam thickness - 30.1'
	Coal thickness - 25.7'
19	Shale - carbonaceous, blocky
40	Shale - brown weathering
12	Shale - carbonaceous
	fault contact
	Trench T16 (76 R3 T16)
0.4	Coal
0.3	Bone
0.9	Coal
0.1	Shale
1.2	Coal
0.1	Shale
24	Coal - 8 small shale stringers ¼" or less
2	Coal with iron ore (bog iron)
1.5	Coal
0.1	Shale
0.6	Coal
	Seam thickness - 31.2'
	Coal thickness - 28.6'
85	Shale
	Basal Kootenay Sandstone

STRATIGRAPHIC SECTION (MEASURED DOWN) RIDGE 4

Thickness Interval (ft.)	Lithology
	Trench T17 (76 R4 T17)
	Exposed carbonaceous shale
	Trench T18 (76 R4 T18)
10	Siltstone
3.3	Shale - friable, carbonaceous
4.7	Shale & coal (60% - 40%)
2.1	Coal
2	Shale - friable, carbonaceous
95	Siltstone - mass - buff weathering
10	Shale - friable, carbonaceous
	Trench T19 (76 R4 T19)
2.0	Coal - dirty
0.8	Shale
1.0	Coal
0.2	Shale - brown
3.5	Coal
0.1	Shale
1.0	Coal
0.5	Shale
0.5	Coal
1.4	Shale
6.6	Coal - hard, clean
1.1	Coal - brittle, stained
1.0	Coal
0.1	Shale
0.1	Coal
	Seam thickness - 19.9'
	Coal thickness - 16.8'
116	Shale & sandstone with lenses of conglomerate

Thickness Interval (ft.)	Lithology
	Trench T20 (76 R4 T20)
5.1	Coal
0.1	Gumbo
0.6	Coal
0.1	Shale - strike N 38° W, dip 25° SW
0.7	Coal
0.6	Shale & Coal (70% - 30%)
2.5	Coal - soft
0.8	Shale - friable, soft, carbonaceous
	Seam thickness - 10.5'
	Coal thickness - 8.9'
30	Shale - blocky
	Basal Kootenay Sandstone

STRATIGRAPHIC SECTION (MEASURED DOWN) RIDGE 7

Thickness Interval (ft.)	Lithology
30	Sandstone & blocky shale
	Trench T25 (76 R7 T25)
1.0	Shale - friable, carbonaceous
2.2	Coal - friable, soft
1.4	Shale - yellow - brown stained
0.4	Coal - soft
0.2	Shale
0.4	Coal
0.1	Shale
0.3	Coal
0.2	Shale
2.1	Coal - hard, clean
0.1	Shale
2.0	Coal - hard, clean
0.1	Shale - yellow
0.2	Coal
0.1	Shale
3.0	Coal - hard, clean
0.1	Shale
3.6	Coal - hard, clean
0.3	Gumbo
1.0	Coal
0.1	Shale
1.2	Coal
0.2	Shale
0.4	Coal
0.2	Shale - yellow
2.5	Coal - soft
0.2	Shale
0.3	Coal
0.1	Shale
0.3	Coal
0.1	Shale
2.0	Coal - soft, clean
1.0	Gumbo - carbonaceous
11.0	Coal - medium hard, clean
0.4	Gumbo
1.0	Coal
0.3	Gumbo
5.0	Coal
2.0	Shale & coal stringers (50% - 50%)
2.6	Coal - soft, dirty
0.1	Iron band
1.8	Coal - soft, dirty
	Seam thickness - 50.6'
	Coal thickness - 43.3'
130	Shale - strike N 8° W, dip 26° W
	Basal Kootenay Sandstone

Thickness Interval	Lithology
	Sandstone & blocky shale
	Trench T26 (76 R7 T26)
0.8	Shale - friable & carbonaceous
2.5	Coal - soft, clean
0.1	Shale
2.8	Coal - soft
0.1	Shale - yellow
9.3	Coal - soft
0.1	Shale
3.0	Coal - moderately hard
0.2	Shale
15.0	Coal - moderately hard
0.2	Shale
0.8	Coal
3.0	Shale & coal (50% - 50%)
3.2	Coal
0.1	Shale - orange stained
1.4	Shale & coal (20% - 80%)
1.8	Coal
1.3	Coal & Shale (50% - 50%)
14.0	Coal
0.5	Iron band
0.2	Coal
0.6	Coal & shale (50% - 50%) strike N 30° W, dip 43° W
0.8	Coal
4.8	Shale
3.5	Coal
7.0	Shale - friable, carbonaceous
9.0	Coal - soft & dirty
20	Shale
3.0	Coal & shale stringers (50% - 50%)
12	Coal - very dirty, bloom
40	Shale - friable, carbonaceous
60	Shale - Blocky - strike N 32° W, dip 22° W

Seam thickness - 115.5'
Coal thickness - 79.3'

Basal Kootenay Sandstone

K-SHELL-LODGEPOLE 76/21A

COAL LICENCES 490-495
LODGEPOLE CREEK AREA K.D.
(MAPS)

J.B. CRABB, MAY 15TH 1977

OPEN FILE

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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2 of 2

LEGEND

- BUILDING
- ROADS — PAVED — LOOSE
- WAGON ROAD
- TRAIL
- TREE LINE
- SINGLE TREE
- STREAM
- RIVER — SAND
- CONTOURS — 6000
- SPOT ELEVATION — ·6292
- MINING AREA BOUNDARY
- HORIZONTAL CONTROL POINT — △ T-2
- PHOTO CENTRE — +54

NOTE: Horizontal and Vertical Information
Derived From N.T.S. 1:50,000 Maps
ARBITRARY GRID: No Fixed Origin

DATE: November 1975.

PREPARED FOR

CROWS NEST INDUSTRIES LIMITED

TOPOGRAPHIC MAP OF

LODGEPOLE COAL AREA

BRITISH COLUMBIA

SCALE 1"=1000' or 1:12,000

FEET 1000 500 0 1000 2000 3000 4000 5000 FEET

Contour Interval 50 feet
Contours in wooded areas are approximate only
Elevations in feet above Mean Sea Level

o o o o	PROMINENT CONGLOMERATE
— — —	SEAM OUTCROP APPROX. LOC.
— · — · —	" " ASSUMED "
R4	RIDGE NUMBER 4
xT3	TRENCH " 3
~~	FAULT APPROX. LOC.
.....	BASAL KOOTENAY SS. (APPROX.)
= = =	ACCESS ROAD

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K-SHELL LODGEPOLE 76(2)A.

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Produced by
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Ottawa, Ontario, Canada

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