# FORDING RIVER OPERATIONS

## SUMMARY REPORT

## 1979 COAL RESERVE DEVELOPMENT PROGRAM

## ON

## B.C. COAL LEASES #1 AND #2 AND COAL LICENCES

## 358, 511

| | |
|---|---|
| MINING DISTRICT: | Fort Steele |
| LAND DISTRICT: | Kootenay |
| N.T.S. LOCATION: | 82J2W |
| LATITUDE: | 50° 10' |
| LONGITUDE: | 114° 52' |
| OWNER: | Fording Coal Limited<br>Fording River Operations<br>Box 100<br>Elkford, B.C. V0B 1H0 |
| OPERATOR: | Fording River Operations<br>Box 100<br>Elkford, B.C. V0B 1H0 |
| AUTHOR: | K.A. Komenac, Exploration Geologist |
| DATE OF THE WORK DONE: | February to September, 1979 |
| DATE REPORT SUBMITTED: | October 30, 1980 |

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FOR ANALYSIS DATA, REFER TO CONFIDENTIAL COAL ANALYSIS FILE.

# LIST OF ILLUSTRATIONS

## Statement of Author's Academic and Professional Qualifications

The author of this report, K.A. Komenac, in 1973 received the degree of Bachelor of Science (Geology Major) from the University of British Columbia, and is registered as an Engineer-in-Training with The Association of Professional Engineers of the Province of British Columbia. The author has been an employee of Fording Coal Limited at the Fording River Operation since November of 1973, as Assistant Pit Geologist, Acting Pit Geologist, and since 1978, as Exploration Geologist.

# FORDING RIVER OPERATIONS

## SUMMARY REPORT

## 1979 COAL RESERVE DEVELOPMENT PROGRAM

## B.C. COAL LEASES #1 & #2 AND COAL LICENCES 358 & 511

## I. INTRODUCTION

### A. General Geography and History

The Fording Coal Property is located in the Fording River and Upper Elk River Valleys, approximately 25 kilometers north of Elkford, B.C. Access is by paved road north from Elkford along the Fording River Valley or north along the Elk River Valley via the Forestry Service gravel road or the Kan-Elk Powerline road.

The Fording River Minesite is situated within the medial range of the southern Canadian Rocky Mountains. At least eight major coal seams, generally greater than four meters thick are contained in the lower 500 meters of the Kootenay Formation.

The Elk River portion of the Property was actively explored by the Canadian Pacific Railway company in the period 1902-1908. Until 1947, the property was comprised of 10,276 hectares in 40 Crown Granted Lots. In that year, the holdings were reduced to 2,979 hectares in 15 Crown Granted Lots, which still form part of the Fording Coal Property. In 1967 and 1968, Canadian Pacific Oil and Gas re-acquired part of the coal lands which had been abandoned in 1947. At the present time, the Fording Coal Property consists of 19,646 hectares held on two Coal Leases, 15 Crown Granted Lots, and 70 Coal Licences.

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A. General Geography and History (cont'd)

Mining operations which commenced in 1972, have produced more than 18 million long tons of cleaned metallurgical medium-volatile bituminous coal, primarily for export to Japan.

Reference:

i) Illustration No. 1: Index Map - General Geology and Coal Properties

B. Summary of Work Done in 1979

Eighty-four vertical drillholes were completed in 1979 for a total of 13,899m/45,601 ft.; 4,370m/14,337 ft. in 16 HQ diamond core holes, 9,154m/30,023 ft. in 61, (123.8mm) 4 7/8" centre return rotary drill holes, and 376m/1,232 ft. in seven, (98.4mm) 3 7/8" conventional rotary drill holes. The HQ diamond core holes were drilled by Tonto Drilling Services (Thirty-Two Albert Crescent Limited), using two unitized Longyear 44 drilling rigs. The centre-return rotary drill holes were drilled by SDS Drilling, using one Cyclone TH70 drilling rig, and one Gardner-Denver 1700 drilling rig, both equipped with (114.3mm) 4½" reverse circulation drill pipe. The conventional rotary drill holes were drilled with Fording Coal Limited's Mobile B-50 drilling rig.

All contracted drill holes were geophysically logged by Roke Oil Limited, using the gamma-neutron method. Holes exceeding 215m/705 ft. in depth were also logged for downhole azimuth and inclination. The conventional rotary drill holes were logged by Fording technicians using a Widco gamma logger.

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B. Summary of Work Done in 1979 (cont'd)

All coal seams intersected in centre return rotary drill holes were sampled in two foot intervals. Representative composite samples for each major coal seam intersected in the hole were prepared at Fording's Process Plant laboratory, and each composite sample was tested for Proximate Analysis, FSI, % Sulphur, and calorific value. Diamond drill seam cores were tested for washability in addition to the aforementioned tests. Samples of the washed product from seam cores, and from selected washed seam composites, were sent to Cascade Coal Petrography for petrographic analysis, and to Birtley Engineering Limited for fluidity and dilatation tests.

Pre-logging of all access road rights-of-way and drillsite locations in timbered areas, was undertaken prior to their construction. All merchantable timber was recovered and sold. Non-merchantable material was slashed and buried. The pre-logging and road construction was done on contract by A. Latka Contracting and Rudy A. Johnston Contracting Limited, respectively.

Fording geologists and summer students mapped the various rock outcrops and seam exposures, did the geological and structural logging and colour photography of diamond drill core, and installed and monitored the piezometers on various drillholes. Staff surveyors provided the necessary mapping control and located the drillholes.

Eighty of eighty-four holes drilled in 1979 are located within B.C. Coal Leases #1 or #2. Two centre return rotary holes (RH #1180, 152m and RH #1182, 158m) are located on Coal Licence 358 and two centre return rotary holes (RH #1181, 158m and RH #1183, 170m) are located on Coal Licence 511.

Reference: Illustration No. 2
1979 Coal Reserves Development Program

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## II. INDIVIDUAL AREA PROGRAMS

### A. British Columbia Coal Leases #1 and #2

#### 1. Clode Pit

##### i) Objectives

The rotary drilling program in Clode Pit was a continuation of work done in 1977 and 1978. The primary objective was to further investigate the location, thickness, and continuity of seams below a major thrust zone which defines the present mining limit of the pit. Although the previous drilling had shown that it is not feasible to mine these "Repeat" seams by open-cut methods, the potential for underground mining had not been fully determined. The 1979 rotary drilling program was designed to aid in determining this potential.

##### ii) Summary of Work Done

Three centre-return rotary drill holes were completed (RH 1534, 1535 and 1536), for a total of 540m/1,771 ft. All three holes, which were collared on the mined out footwall of Seam #4 near the western limit of Clode Pit, intersected seam #1 and the basal sandstone unit before passing through the Major Thrust Fault zone and intersecting seam R-4.

##### iii) Results and Conclusions

Rotary holes #1534, 1535 and 1536 intersected 6.7m/ 22 ft., 9.8m/32 ft., and 6.2m/20 ft. of seam R4 respectively. Although the seam thickness is shown to be somewhat variable, seam R4 appears to be reasonably continuous from the mined out region (R-4 Pit) on the western outcrop edge down dip to the zones intersected by the 1979 drill holes, a horizontal distance of approximately 275m/1,900 ft.

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1. Clode Pit (cont'd)

iii) Results and Conclusions (cont'd)

Holes drilled in previous years show seam continuity is maintained even further down dip, at least in those areas investigated.

References:

i) Illustration No. 3a - Clode Pit Seam R-4 Exploration Map

ii) Illustration No. 3b - Geological Section 496,000 N

iii) Appendix 2 - Drillhole Logs

iv) Appendix 3 - Coal Analyses

2. Eagle Mountain - #12 and #13 Seam Area

i) Objectives

The primary objective of the 1979 rotary drilling program in this area was to investigate the open-pit mining potential for seams #13 and #12.

ii) Summary of Work Done

A total of 870m/2,854 ft. of rotary drilling was completed, 691m/2,267 ft. in four centre-return rotary holes and 179m/587 ft. in three conventional rotary holes.

Rotary holes #1558, 1559, 1560, 1563 and 1564 were collared stratigraphically above #13 seam and RH #1561 and #1562 were collared above #12 seam.

iii) Results and Conclusions

Seam #13 maintains a thickness throughout the program area, ranging from 4.9m/16 ft. in RH #1564 to 7.0m/23 ft. in RH #1560. Seam #12, however, has split into several widely spaced thin bands.

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2. Eagle Mountain - #12 and #13 Seam Area (cont'd)

iii) Results and Conclusions (cont'd)

Additional drilling will be required to establish the western limits and overall potential.

References:

i) Illustration No. 4a - Eagle Mountain North Face Seam #12 & #13 Area - Exploration Map

ii) Illustration No. 4b - Geological Section 494,000 N

iii) Appendix 2 - Drillhole Logs

iv) Appendix 3 - Coal Analyses

3. Eagle Mountain - South Face

i) Objectives

The east limb of the Eagle Mountain Syncline, although relatively unexplored, has good potential for providing a significant contribution to metallurgical coal reserves. Exploration prior to 1979, although extremely limited, had encountered encouraging seam thicknesses in selected areas on the South Face of Eagle Mountain.

The objective of the 1979 drilling program was to investigate the entire stratigraphic section by drilling three widely spaced deep diamond drillholes collared above the #13 seam horizon. In addition, three centre-return rotary holes collared near the #5 seam horizon, were designed to penetrate seams #4, #2, #1 and the basal sandstone unit.

ii) Summary of Work Done

A total of 2457m/8,061 ft. were drilled; 1748m/5,736 ft. in three HQ diamond core holes and 709m/2,325 ft. in three centre-return rotary drill holes.

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3. Eagle Mountain - South Face (cont'd)

ii) Summary of Work Done (cont'd)

Diamond drill holes #1568, 1569 and 1570, all collared above seam #13, were drilled to depths of 539m/1,770 ft., 764m/2,505 ft., and 445m/1,461 ft. respectively.

Rotary drill holes #1565, 1566 and 1567, collared near the #5 seam horizon, were drilled to depths of 228m/747 ft., 231m/779 ft., and 224m/799 ft. respectively.

Geological field mapping was completed on all new access road exposures.

iii) Results and Conclusions:

The three diamond drill holes intersected a reasonably intact stratigraphic section down to the #7 seam horizon. Seam thicknesses and rock intervals are easily correlated with the west synclinal limb where much more information is available.

The section below #7 seam, however, has been severely affected by thrust faulting, and bears no resemblance to the equivalent section on the west synclinal limb. Seam correlations are virtually impossible based on present information.

The three rotary drill holes collared in the #5 seam horizon, approximately 800m/2,600 ft. south of the diamond holes show the section to be severely affected by thrust faulting in this area as well.

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3. Eagle Mountain - South Face (cont'd)

iii) Results and Conclusions (cont'd)

Rock exposures on the rotary hole access roads show several occurences of fault zones, drag folds, reversed bedding attitudes and other features commonly associated with major thrust faults. The thrust fault system below #7 seam, is, therefore, near horizontal in attitude because it occurs at the same elevation and stratigraphic level over a very extensive area. Large lateral displacement along the fault planes is evidenced by the large increase in section below seam #7.

An extensive program of surface mapping and drilling will be required before the stratigraphic and structural complexities of this area can be clearly understood.

References:

i) Illustration No. 5a - Eagle Mountain South Face Exploration Map

ii) Illustration No. 5b - Geological Section 148,400N

iii) Illustration No. 5c - Section 490,000 N (149,352m N)

iv) Appendix 2 - Drillhole Logs

v) Appendix 3 - Coal Analyses

4. Eagle Mountain Blackwood (K-4) Pit Area

i) Objectives

The objective of the Blackwood Pit drilling program was to provide information required for final pit design.

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4. Eagle Mountain Blackwood (K-4) Pit Area (cont'd)

ii) Summary of Work Done

Four conventional rotary holes were drilled along the subcrop of #4 seam in the central and eastern areas of the proposed pit. Two centre-return rotary holes were drilled near the western pit limit, on the upthrown side of a minor reverse fault. A total of 354m/1,163 ft. of drilling was completed.

iii) Results and Conclusions

The rotary drilling program in Blackwood Pit provided the necessary information for a final pit design. Subcrop and fault locations were accurately determined. R.H. #1556 indicated that with twelve feet of cover, the coal seam is slightly oxidized. The full extent of surface oxidation will be evaluated by auger sampling when the pit is in production and the #4 seam hanging wall is exposed.

References:

i) Illustration No. 6a - Blackwood Pit Exploration Map

ii) Illustration No. 6b - Geological Sections 26,000 E and 26,060 E

iii) Appendix 2 - Drill hole Logs

iv) Appendix 3 - Coal Analyses

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## 5. Turnbull R-4 Pit Area

### i) Objectives

The final design for Turnbull R-4 pit highwall required additional geotechnical and hydrological information near the proposed highwall. To provide this information, two diamond core holes were drilled to penetrate the intersection of R-4 seam with the toe of the proposed highwall.

### ii) Summary of Work Done

Two HQ diamond core holes were completed. DDH #280, located near the southern pit limit, was drilled to a depth of 125m/411 ft. DDH #285, located near the northern pit limit, was drilled to a depth of 133m/436 ft. Stand-pipe piezometers were installed in both holes and ground water pressures measured. The core from each hole was logged for geotechnical as well as geological information.

### iii) Results and Conclusions

Hydrological and geotechnical data gained from the piezometer installations and core logs, allowed the R-4 pit highwall design to be completed. The "Major Thrust Fault" was accurately located, and adequate safety features were integrated into the highwall design to eliminate any possibility of highwall failure along this plane of weakness. These design features included safety berms at each bench level in the area of the fault.

References:

i) Illustration No. 7a - Turnbull Area Exploration Map
ii) Illustration No. 7b - Geological Section 151,700 N
iii) Appendix 2 - Drillhole Logs
iv) Appendix 3 - Coal Analyses

## 6. North Greenhills "K" Seam Area

### i) Objectives

The objective of the 1979 drilling program was to a) determine the open-cut mining potential for "K" seam, (high volatile A bituminous); b) isolate several low stripping ratio areas for bulk sample test pits; and c) gather sufficient geotechnical and hydrological data for highwall stability studies.

### ii) Summary of Work Done

A total of 2,107m/6,914 ft. of drilling was completed; 361m/1,183 ft. in three HQ diamond core holes, and 1747m/5,731 ft. in seventeen centre-return rotary drill holes.

Stand-pipe piezometers were installed in the diamond drillholes and the drill cores were logged for geotechnical and geological information.

Surface mapping was limited by the scarcity of outcrop.

### iii) Results and Conclusions

The diamond and rotary drilling program provided sufficient geological, geotechnical and hydrological information for preliminary mine design. The designed open pit mine could produce approximately two million bank cubic yards of coal.

"K" seam maintains a fairly uniform thickness of 16 to 22 feet between sections 148,600 N and 150,000 N. Holes drilled to the south of 148,600N show that "K" seam begins to split into several thin bands. RH 1249, drilled 550 meters north of section 150,000 N, shows a similar splitting of the seam. However, several additional holes will be required to establish the northern limit of mineable "K" seam.

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6. North Greenhills "K" Seam Area (cont'd)

iii) Results and Conclusions (cont'd)

From information obtained during the 1979 program, a small (100,000 Long Tons) test pit was designed and completed during the fourth quarter.

References:

i) Illustration No. 8a - North Greenhills - Seam "K" Exploration Maps

ii) Illustration No. 8b - Geological Section 149,300 N

iii) Appendix 2 - Drillhole Logs

iv) Appendix 3 - Coal Analyses

7. Greenhills - Rejects Spoil Area

i) Objectives

The objective of the two rotary holes drilled in this area was to more accurately locate the Ericson fault and hence, the western limit for the rejects stockpile. The area to the east of this fault is underlain by non-coal bearing formations.

ii) Summary of Work Done

Rotary drillholes #1242 and #1243, both located near the south west corner of the rejects stockpile, reached depths of 152m/500 ft. and 91m/301 ft. respectively.

iii) Results and Conclusions

RH #1242, after penetrating 180 feet of glacial overburden, drilled to 500 feet in interbedded siltstones of the Spray River formation. RH #1243 was abandoned at 301 feet still in glacial overburden. RH #1242, therefore, is located on the upthrown eastern side of the Ericson fault.

...../13

7. Greenhills - Rejects Spoil Area (cont'd)

iii) Results and Conclusions (cont'd)

The drilling program in the rejects stockpile area determined that the stockpile has not encroached upon any potential coal reserves.

References:

i) Illustration No. 9a - Greenhills North Rejects Spoil Area Exploration Map
ii) Illustration No. 9b - Section 492,000 N
iii) Appendix 2 - Drillhole Logs

8. Greenhills Truck/Shovel Pit Areas

i) Objectives

The 1979 exploration program in the Greenhills Truck/Shovel Pit areas, was essentially a "fill-in" drilling program, with the following objectives:

a) to provide geotechnical and hydrological information for highwall stability studies;
b) to provide "fill-in" information on seam thickness, seam location and faulting patterns for final design of Truck/Shovel Pits #1 and #2, and "G & H", and the related dragline cuts, and
c) to provide coal quality, seam thickness and seam continuity information on seams "B", "D", and "E" for medium and long range planning in the #3, #4, and #5 Truck/Shovel Pit areas, and in the dragline cuts below these pits.

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8. Greenhills Truck/Shovel Pit Areas (cont'd)

ii) Summary of Work Done

A total of 6429m/21,093 ft. were drilled; 2003m/6,571 ft. in eight HQ Diamond core holes, and 4,426m/14,522 ft. in twenty-six centre return rotary drill holes. Of these totals, three diamond and nine rotary holes were in the #3, #4, and #5 Truck/Shovel pit areas. Four diamond and thirteen rotary holes were in the #1, and #2 Truck/Shovel pit areas, and one diamond and four rotary holes were in the "G & H" pit areas.

All diamond drill core was geologically and geotechnically logged, and piezometers were installed in DDH's 1250, 1254, 1255, 1256 and 1257.

Structural mapping for geotechnical data was completed on the existing highwalls of #1 and #2 pits, and along the #3 pit haulroad. Outcrop exposures along the new access roads to drill sites in the "G & H" pit area were geologically mapped.

iii) Results and Conclusions

Geotechnical and hydrological information gained from core logging, structural mapping, and piezometer monitoring, enabled the various stability parameters to be determined to a level of confidence sufficient for final highwall design.

"Fill-in" information on seam thickness, seam continuity, and fault patterns, gained from the drillholes in #1, #2, and "G & H" pits, permitted finalization of the pit designs. These final designs included an additional dragline cut to the west of the previous "B" seam reserves limit. The geology of #1 and #2 pit was shown to be severely complicated by numerous small thrust and normal faults.

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8. Greenhills Truck/Shovel Pit Areas (cont'd)

iii) Results and Conclusions (cont'd)

As production proceeds, additional shallow drilling on a bench-by-bench basis, will be required.

Information gained from the drilling program in the #3, #4, and #5 pit areas, shows that seams "D" and "E" are continuous and consistently thick (30'-40') throughout the program area. Seam "B", however, is highly irregular in thickness, ranging from seven feet in RH #1288 up to sixty-two feet in DDH #1256. A thickening trend to the west is generally true, but there are enough exceptions (i.e. DDH #1257 - nine feet, and RH #1198 - thirty-four feet), that any mine planning based on thickening trends would be very risky.

References:

i) Illustration No. 10a - T/S #1 and 2 Pit and Dragline "G" & "H" Seam Pit-South Greenhills Area Exploration Map

ii) Illustration No. 10b - Geological Section 480,500 N

iii) Illustration No. 11a - T/S #3, #4 and #5 Pit Pit Area Exploration Map

iv) Illustration No. 11b - Geological Section 488,000 N

v) Appendix 2 - Drillhole Logs

vi) Appendix 3 - Coal Analyses

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B. Coal Licences 358 and 511

1. Greenhills "G & H" Extension

i) Objectives

The objective of the 1979 rotary drilling program was to provide sufficient information to allow seam correlation between DDH #28 and the southern limit of "G & H" Pit.

ii) Summary of Work Done

Four centre-return rotary holes were drilled in the area, for a total of 639m/2,097 feet. The scarcity of outcrop allowed only a very minor amount of geological mapping along the road cuts accessing the drillholes.

iii) Results and Conclusions

Although several significant seams were encountered, any correlations between the 1979 drillholes is not readily apparent. Furthermore, the results do not easily correlate with drillholes in the "G & H" pit area to the north or with DDH #28 to the south.

This correlation problem could possibly be due to structural complexities caused by proximity of the Ericson Fault to the east, and the axial region of the Greenhills Syncline to the west.

Several additional drillholes will be required before seam identifications and correlations will be possible.

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1. Greenhills "G & H" Extension (cont'd)

References:

i) Illustration No. 12a - Greenhills "G & H" Extension Exploration Area

ii) Illustration No. 12b - Longitudinal Section "G & H" Extension Area 1:2,000 Scale

iii) Appendix 1 - Cost Details for Work Done on Coal Licences

iv) Appendix 2 - Drillhole Logs

v) Appendix 3 - Coal Analyses

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1. Greenhills "G & H" Extension (cont'd)

iv) Itemized Cost Statement

Schedule B

| Category of Work | Dimensions (where applicable) | Unit Cost (where applic.) | Cost |
|---|---|---|---|
| **Geological Mapping** | | | |
| Reconnaissance | NIL | NIL | NIL |
| Detail - Surface | NIL | NIL | NIL |
| - Underground | NIL | NIL | NIL |
| - Other (specify) | NIL | NIL | NIL |
| **Geophysical/Geochemical Surveys** | | | |
| Method | NIL | NIL | NIL |
| Grid | NIL | NIL | NIL |
| Topographic | NIL | NIL | NIL |
| Other (specify) | NIL | NIL | NIL |
| **Road Construction** | | | |
| On licences nos. | NIL | NIL | $11,622.61 |
| Access to | NIL | NIL | NIL |
| **Surface Work** | | | |
| Trenching | NIL | NIL | NIL |
| Seam tracing | NIL | NIL | NIL |
| Crosscutting | NIL | NIL | NIL |
| Other (specify) | NIL | NIL | NIL |
| **Underground Work** | | | |
| Test adits | NIL | NIL | NIL |
| Other workings | NIL | NIL | NIL |
| **Drilling** | | | |
| Core - Diamond | NIL | NIL | NIL |
| - Wireline | NIL | NIL | NIL |
| Rotary - Conventional | NIL | NIL | NIL |
| Reverse Circulation | NIL | NIL | $26,150.00 |
| Other (specify) | NIL | NIL | NIL |
| Contractor | SDS DRILLING LIMITED | | |
| Where core stored | NOT APPLICABLE | | |
| **Logging** | | | $1,595.11 |
| **Sampling** - N/A | | | |
| **Testing** - N/A | | | |
| **Other Work: (specify)** | See attached list - $3,362.60 | | |
| Reclamation Work - (Permit No.) | C-102 | | |
| **On Property Costs** | $42,730.32 | | |
| **Off Property Costs** | NIL | | |
| **Total Expenditures** | $42,730.32 | | |

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Attachment to Itemized Cost Statement

| Other Work | Cost |
|---|---|
| a) Geological supervision, including drill expediting, site locating, surveying, etc. (Pro-rated from total program costs). | $ 306.80 |
| b) Camp Costs - Room & Board @ $40.00/man day for drill crew and geophysical logger. | $3,055.80 |
| | $3,362.60 |

October 30, 1980
Date

Ken Komenac

K.A. Komenac
Exploration Geologist
Fording Coal Limited

KAK:pp

# APPENDIX I

## COST DETAILS FOR WORK DONE ON COAL LICENCES

i) List of Invoices
ii) Copies of Invoices
iii) Pro-rated Cost per Individual Licence

APPENDIX 1

i) LIST OF INVOICES

## i) LIST OF INVOICES

| Contractor | Invoice Numbers |
|---|---|
| Rudy A. Johnson Contracting Ltd. | #151, #152 |
| Latka Contracting | #149056, #149062, #049072, #049073, #049074, #049075 |
| Roke Oil Enterprises Ltd. | #1630 |
| SDS Drilling Ltd. | #787 |

APPENDIX 1

ii) COPIES OF INVOICES

# BOBBY A. JOHNSON CONTRACTING LTD.

R.R. 1
SPARWOOD, B.C.
V0B 2G0

PHONE 425-2424

INVOICE

DATE

CUSTOMER'S ORDER NO.

TERMS

Fording Coal Ltd.,
Box 100,
Elkford, BC

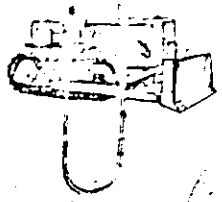
| | |
|---|---|
| Rental D7H Serial # 77U2420 @ $75.00 per hour | |
| South Greenhills — 75½ hrs. | 1,162.50 |
| Greenhills — 60 hrs. | 4,500.00 |
| Eagle Mtn. — 109 hrs. | 8,175.00 |
| Total owing | 13,837.50 |

per P.M. Raymond
79-07-03

| | Code | Dr. | | Cr. | |
|---|---|---|---|---|---|
| Inter-Office Account | 08-15100 | $ | | $ | |
| B.C. Sales Tax Payable | 08-15930 | | | | |
| | 06 C3880200 | $ 6975. | 00 | | |
| | 05 C3870200 | $ 1200. | 00 | | |
| | 05 C3920200 | $ 1200. | 00 | | |
| | 05 C3730200 | $ 2587. | 50 | | |
| | 05 P3920200 | $ 1875 | 00 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total | $ 13,837 | 50 | | |

Posted

8082—H.P.



RUDY A. JOHNSON CONTRACTING LTD.

R.R. 1
SPARWOOD, B.C.
V0B 2G0

PHONE: 425-2424

INVOICE 1...

DATE Aug. 6 '07

CUSTOMER'S ORDER

EC 32419

TERMS

Fording Coal LTD,
Box 100,
ELKford, BC

| | |
|---|---|
| Rental D8K Serial No. 77U2420 @ $82.55 per hr. | |
| Green Hills — 25 hrs. | $ 2,072.00 |
| Eagle MTN. — 58 hrs. | $ 4,807.01 |
| TOTAL | $ 6,879.04 |

| | Code | Dr. | | Cr. | |
|---|---|---|---|---|---|
| Inter-Office Account | 08-15100 | $ | | $ | |
| B.C. Sales Tax Payable | 08-15930 | | | | |
| | | | | | |
| | | | | | |
| | 05-C38802 | $4807 | 04 xx | | |
| | | | | | |
| | 05-C39200 | $2072 | 00 xx | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total | $ 6879 | 04 xx | | |

P. Th. Neugnault
29-08-07

Posted

8082—H.P.

LATKA CONTRACTING
BOX 475 562-2908
BLAIRMORE, ALBERTA
TOK 0E0

OUR NUMBER 049074
DATE June 13/79
CUSTOMER'S ORDER C 3920 700
SALESMAN
TERMS
F.O.B.

SOLD TO FORDING COAL LTD

SHIPPED TO

ADDRESS VIA

INVOICE

| | | | | | |
|---|---|---|---|---|---|
| 1 DAY | 3/4 TON 4X4 PICKUP | 37 | 00 | 37 | |
| 8 hrs | J.D. 540 SKIDDER | 29 | 00 | 232 | |
| 8 hrs | FALLER | 20 | 80 | 166 | 40 |
| 16 hrs | 2 BUCKER MEN | 16 | 80 | 268 | 80 |
| | | | | | |
| | PRELOGGING DRILLSITE SOUTH GREEN HILLS | | | $704 | 20 |
| | Cindy Latka | | | | |

D31

LATKA CONTRACTING
BOX 475 562-2908
BLAIRMORE, ALBERTA
TOK 0E0

OUR NUMBER 049075
DATE June 14/79
CUSTOMER'S ORDER C3920-700
SALESMAN
TERMS
F.O.B.

SOLD TO FORDING COAL LTD

SHIPPED TO

ADDRESS VIA

INVOICE

| | | | | | |
|---|---|---|---|---|---|
| 1 DAY | 3/4 TON 4X4 PICKUP | 37 | 00 | 37 | |
| 8 hrs | J.D. 540 SKIDDER | 29 | 00 | 232 | |
| 8 hrs | FALLER | 20 | 80 | 166 | 4 |
| 16 hrs | 2 BUCKER MEN | 16 | 80 | 268 | 80 |
| | | | | | |
| | | | | $704 | 20 |
| | Cindy Latka | | | | |
| | PRELOGGING DRILLSITE IN SOUTH | | | | |

D31

LATKA CONTRACTING
BOX 475 562-2908
BLAIRMORE, ALBERTA
TOK OEO

OUR NUMBER 049072
DATE June 11/79
CUSTOMER'S ORDER C-3920700
SALESMAN
TERMS
F.O.B.

SOLD TO FORDING COAL LTD

SHIPPED TO

ADDRESS VIA

INVOICE

| | | | | | |
|---|---|---|---|---|---|
| 1 DAY | 3/4 TON 4X4 PICKUP | 37 | 00 | 37 | 00 |
| 8 hrs | CAT D40 CRAWLER | 34 | 25 | 274 | |
| 8 hrs | CAT 518 SKIDDER | 32 | 00 | 256 | |
| 8 hrs | FALLER | 20 | 80 | 166 | 40 |
| 16 hrs | 2 BUCKER MEN | 16 | 80 | 268 | 80 |
| | PRELOGGING DRILL SITE IN SOUTH GREEN HILLS | | | $1002.20 | |
| | Lindy Latka | | | | |

D31

LATKA CONTRACTING
BOX 475 562-2908
BLAIRMORE, ALBERTA
TOK OEO

OUR NUMBER 049073
DATE June 12/79
CUSTOMER'S ORDER C-3920700
SALESMAN
TERMS
F.O.B.

SOLD TO FORDING COAL LTD

SHIPPED TO

ADDRESS VIA

INVOICE

| | | | | | |
|---|---|---|---|---|---|
| 1 DAY | 3/4 TON 4X4 PICKUP | 37 | 00 | 37 | |
| 8 hrs | J.D. 540B SKIDDER | 29 | 00 | 232 | |
| 4 hrs | CAT D40 CRAWLER | 34 | 25 | 137 | |
| 8 hrs | FALLER | 20 | 80 | 166 | 40 |
| 16 hrs | 2 BUCKER MEN | 16 | 80 | 268 | 80 |
| | PRELOGGING DRILL SITE IN SOUTH GREEN HILLS | | | $841.20 | |
| | Lindy Latka | | | | |

D31

LATKA CONTRACTING
BOX 475 562-2908
BLAIRMORE, ALBERTA
TOK 0E0

COPY ONLY

OUR NUMBER 149056
DATE June 25/79
CUSTOMER'S ORDER C3920 700
SALESMAN
TERMS
F.O.B.

SOLD TO FORDING COAL LTD
BOX 100 ELKFORD B.C.
SHIPPED TO
ADDRESS VIA

INVOICE

| | | | | | |
|---|---|---|---|---|---|
| 5 DAYS | 3/4 TON 4X4 PICKUP | 37 | 00 | 185 | 00 |
| 11 hrs | CAT D4D CRAWLER | 34 | 25 | 376 | 75 |
| 40 hrs | J.D. 440B SKIDDER | 29 | 00 | 1160 | 00 |
| 36 hrs | FALLER | 20 | 80 | 748 | 80 |
| 80 hrs | 2 BUCKERMEN | 16 | 80 | 1344 | 00 |
| | INVOICE # 149051 - 149052 - 149053 | | | 3814 | 55 |
| | 149054 - 149055 | | | | |
| | Cindy Latka | | | | |
| | OK J Paine. | | | | 3814 55 |
| | charge C3920 700 | | | | |

D32

475 562-2908
[illegible]

149052

DATE
CUSTOMER'S ORDER
SALESMAN
TERMS
F.O.B.

SOLD TO [illegible]
[illegible]
SHIPPED TO
ADDRESS VIA

INVOICE

| | | | | | |
|---|---|---|---|---|---|
| 2 DAYS | 3/4 TON 4X4 PICK UP | 37 | 00 | 74 | 00 |
| 16 hrs | J D 540 SKIDDER | 29 | 00 | 464 | 00 |
| 30 hrs | BUCKER MEN | 16 | 80 | 403 | 20 |
| 5 hrs | FALLER | 20 | 80 | 41 | 0 |
| | INVOICE # [illegible] - 149058 | | | 982 | 0 |
| | [illegible] | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Charge to 05-C3920 700 | | | | |
| | [illegible] | | | 982 | 00 |

ROKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: Fording Coal Limited,
Box 100,
Elkford, B.C.

INVOICE № 1630

DATE August 10, 1979

Your P.O. #FC-33091

SERVICES RENDERED Re: Fording Field - Service Orders #3905, #3906, & #3907 - 6 days rental

| | | |
|---|---|---|
| Total Footage Logged | 14,556.96 | |
| Rental: 6 days - $11.80.00 from 14,556.96 = $2,626.96 | | |
| Discount: 20% of $2,626.96 | 525.39 | |
| | | $ 14,031.57 |

FORDING ENGINEERING
DIST. AS LISTED BELOW

AUG 28'79.

INVOICE

| | Code | Dr. | | Cr. | |
|---|---|---|---|---|---|
| Inter-Office Account | 08-15100 | $ | | $ | |
| B.C. Sales Tax Payable | 08-15930 | | | | |
| | 05-3120017 | 239 | 51 | | |
| | 05-3110017 | 1389 | 98 | | |
| | C3920500 | 1595 | 11 | | |
| | C3890500 | 344 | 60 | | |
| | C3880500 | 7168 | 02 | | |
| | C3930500 | 2462 | 30 | | |
| | C3920500 | 832 | 05 | | |
| | | | | | |
| | | | | | |
| | Total | 14,031 | 57 | | |

Posted

8082—H.P.

SDS DRILLING

DIVISION OF [illegible]
[illegible]
CALGARY, ALBERTA
PHONE [illegible]

Invoice No. 787

Date July 5, 1979

Fording Coal Limited,
P. O. Box 130,
ELKFORD, B. C.,
V0B 1H0

Client - Project No. FC 33135

SDS - Job No. PROJECT NO. [illegible]

RIG NO. 6

Billing Period June 23, 1979 To June 30, 1979 Location Greenhills Area

| HOLE NO. | TOTAL DEPTH DRILLED | 0 - 550' FEET | 550 - 650' FEET |
|---|---|---|---|
| 1178 | 635 feet | 550 feet | 85 feet |
| 1185 | 689 (not T.D.) | 18 | 89 |
| 1186 | 432 | 432 | |
| 1186 | 679 | | 11 |
| 1177 | 459 | 459 | |
| 1183 | 559 | 550 | 9 |
| 1182 | 519 | 519 | |
| 1181 | 520 | 520 | |
| 1180 | 499 | 499 | |
| | | 3,547 feet | 194 feet |

DAYWORK

| | | |
|---|---|---|
| June 23 | Wait on cat - repair lease | 5.5 hours |
| 25 | Log No. 1178 | 2.5 |
| 25 | Log No. 1185 | 1.5 |
| 26 | Log No. 1186 | 1.5 |
| 27 | Condition No. 1186 & log - move to No. 1185 and condition Hole 1185 - drill 650 to 675 feet and log. | 12.0 |
| 28 | Wait on cat | 6.5 |
| 28 | Shutdown | 4.5 |
| | Log No. 1177 | 1.0 |
| July 1 | Log No. 1183 | 1.5 |
| 2 | Log No. 1182 | 2.5 |
| 3 | Move to No. 1180 | 1.5 |
| 4 | Log No. 1180 | 4.5 |
| | | 1.5 |
| | | 46.5 hours |

| | |
|---|---|
| Footage - 3,547 feet @ $12.00 per foot | $ 42,564.00 |
| 194 feet @ $16.00 per foot | 3,104.00 |
| Daywork - 46.5 hours @ $95.00 per hour | 4,417.50 |
| Bits or Daywork - Hole 1185 - 25 feet @ $1.45 per foot | 42.15 |
| TOTAL | $ 50,127.65 |

Terms:
*Payment due 30 days from receipt*
*Interest will be paid at 1½% per month over 30 days*
*Make cheques payable to above address*

| | Code | Dr. | | Cr. |
|---|---|---|---|---|
| Inter Office Account | 08-15100 | $ | | $ |
| B.C. Sales Tax Payable | 08-15330 | | | |
| | 08 [illegible] | 14,370 | 00 | |
| | | | | |
| | 08 [illegible] | 2,007 | 00 | |
| | | | | 26,150 00 |

APPENDIX 1

iii) PRO-RATED COST PER INDIVIDUAL LICENCE

iii) PRO-RATED COSTS PER INDIVIDUAL LICENCE

Total Costs - $42,730.32

| Coal Licence | Footage on Licence | % of Total | Costs per Licence |
|---|---|---|---|
| #358 | 1,018 (RH 1180, 1182) | 48.5 | $20,724.21 |
| #511 | 1,079 (RH 1181,1183) | 51.5 | $22,006.11 |

# LIST OF ILLUSTRATIONS