

WOLF MOUNTAIN COAL LIMITED PARTNERSHIP
SUMMARY OF 1984 EXPLORATION WORK
(April 21 1984 to APRIL 20 1985)

COAL LICENCES 6084, 6085, 6086

DOUGLAS LAND DISTRICT

N.T.S. 92F/1(E)

LATITUDE 49 07 00

LONGITUDE 124 02 00

OWNER OF LICENCES: NETHERLANDS PACIFIC MINING LIMITED
105-1285 WEST PENDER STREET, VANCOUVER, B.C.

MINE OPERATOR: WOLF MOUNTAIN COAL LIMITED PARTNERSHIP
9807-196A STREET, LANGLEY, B.C.

AUTHOR OF REPORT:

CRAIG ROBERTS EIT, BASc (Mining)

SUBMITTED APRIL 1986

~~CONFIDENTIAL~~

Received April 15, 1986

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1.0 INTRODUCTION

The Wolf Mountain property is located approximately 10 kilometers southwest of Nanaimo, as described in Section 2.0 of this report. A summary of the exploration work conducted prior to April 21 1983 is included in the report "Geological Report of the 1982 Wolf Mountain Exploration Programme", submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources on July 15 1983. A summary of the exploration work conducted between April 21 1983 and April 20 1984 is included in the report "Wolf Mountain Coal Limited Partnership - Summary of 1983 Exploration Work" submitted the the British Columbia Ministry of Energy Mines and Petroluem Resources on July 15 1985.

The Wolf Mountain Property was acquired by Netherlands Pacific Mining Company Inc. as part of a much larger block of coal licences in 1979. This block plus another which lay a few kilometers to the north were optioned to Gulf Canada Resources Limited in January 1981. After some regional exploration, Gulf dropped its option: the Wolf Mountain reserves were not substantial enough to interest Gulf. The property returned to Netherlands Pacific who retained the coal licences around Wolf Mountain but allowed the rest to revert to the Crown. In early 1982 Wolf Mountain Coal Limited Partnership was formed by a group of investors to develop the Wolf Mountain Property

in a joint venture with Netherlands Pacific Mining Limited.

The Wolf Mountain mine has been in production since mid 1984. Currently, approximately 450 tonnes of run of mine coal are produced per working day. This coal is produced under a limited production permit which expires in November 1986. Wolf Mountain Coal Limited Partnership is presently seeking to transfer from the limited production permit to a long term coal lease, and by doing so, obtain approvals for a mine producing approximately 100,000 tonnes of coal per year over an estimated mine life of 16 years. A prospectus was submitted to the Mine Development Steering Committee in January 1986 as the first step in this application. Operations at the Wolf Mountain mine are currently under the direction of Mr, D. Manning P.Eng.

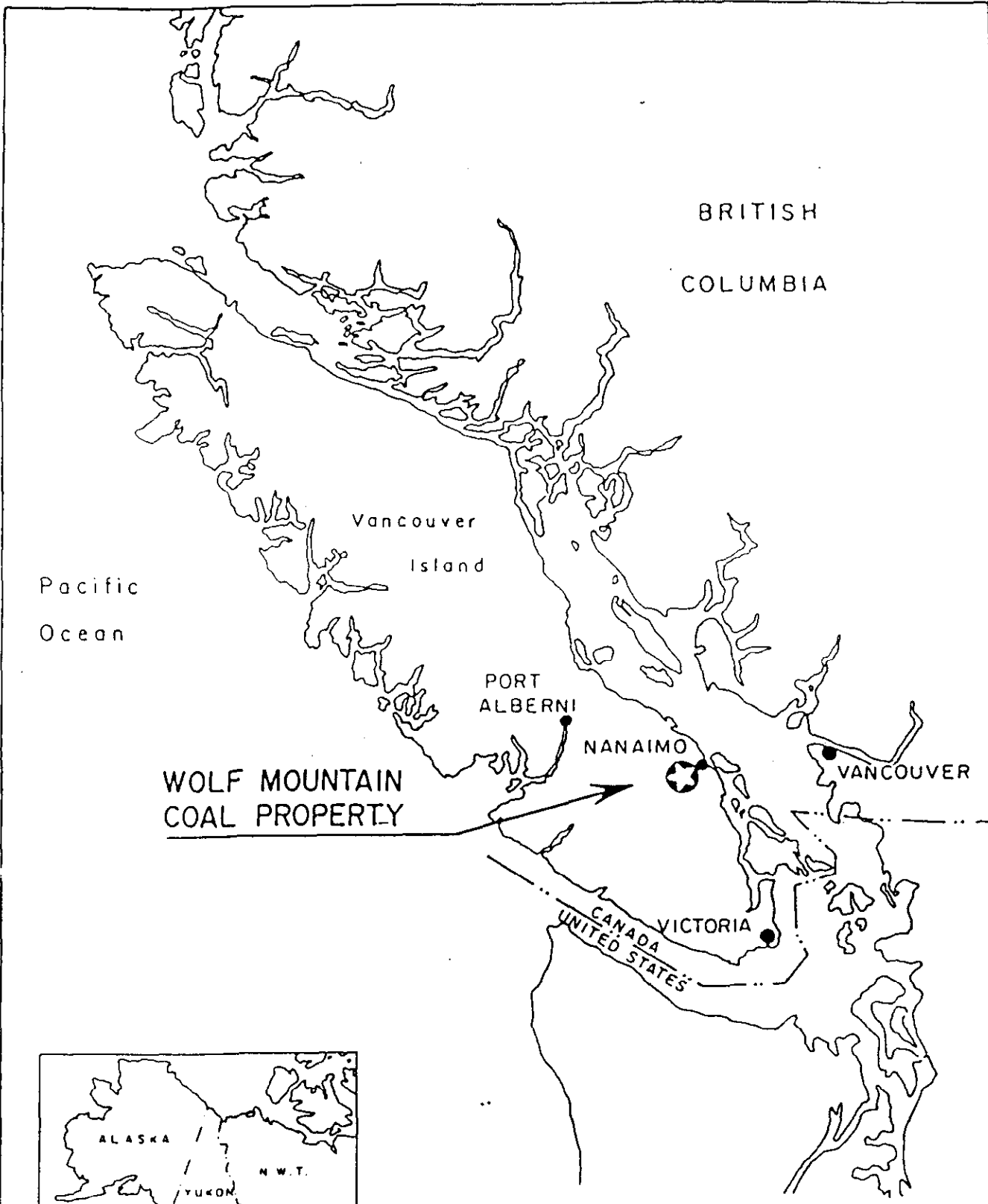
No exploration has been conducted on the Wolf Mountain property since full production began in mid 1984. No drilling has been conducted on the property since the 1982 exploration programme. This report will present a description of the current Wolf Mountain operations.

2.0 LOCATION AND ACCESS

The Wolf Mountain coal property lies close to the City of Nanaimo (population 47,000) and occupies part of the eastern coastal plain of central Vancouver Island, British Columbia. The location of the property is shown in Figures 1 and 2. The Wolf Mountain property is composed of three coal licences which are located along the western limits of the Nanaimo coalfield, approximately 10 kilometers southwest of Nanaimo. These are coal licences 6084, 6085 and 6086, shown in Figure 3. The property can be accessed either directly from the city of Nanaimo or from the Nanaimo River Road which parallels the north side of the Nanaimo River 8 kilometers south of Nanaimo.

The direct route from Nanaimo follows the Nanaimo Lakes Road past the DND military camp. A right turn is made onto the View Point road approximately five kilometers past the end of the pavement. The mine gate is on the left side of the View Point Road approximately 2 kilometers from the Nanaimo Lakes Road. The minesite is approximately .7 kilometers past this gate. Figure 3 shows the route from the Nanaimo Lakes Road.

To access the mine from the Nanaimo River Road, a right turn is made from the Nanaimo River Road onto South Forks Road. Two kilometers past the end of the pavement a left turn is made onto the Nanaimo Lakes Road, and the mine is accessed as described above.

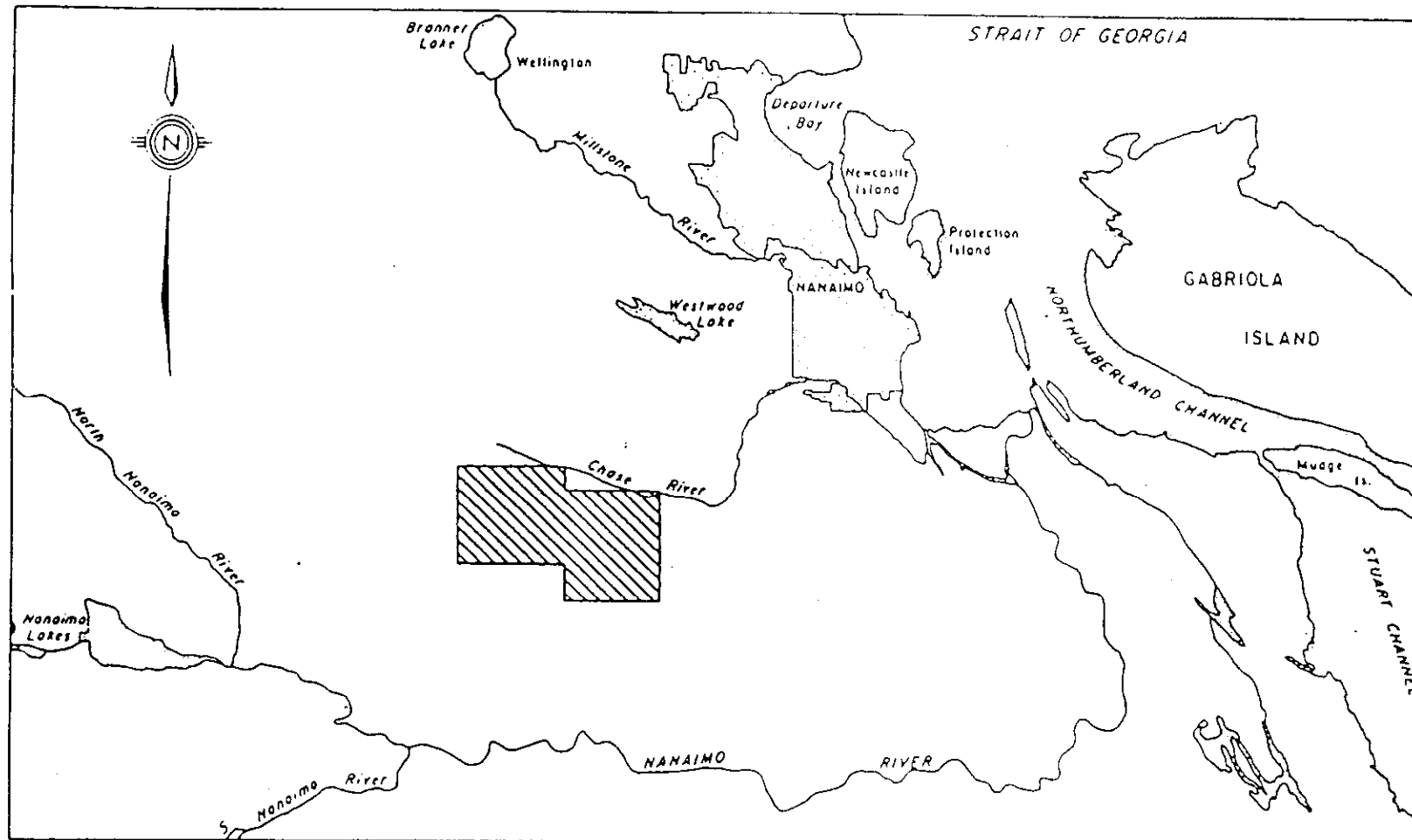


WOLF MOUNTAIN COAL LTD.
 VANCOUVER BRITISH COLUMBIA

FIGURE 1
WOLF MOUNTAIN COAL PROPERTY
 LOCATION MAP

PREPARED BY J. PERRY
 APPROVED BY J. PERRY

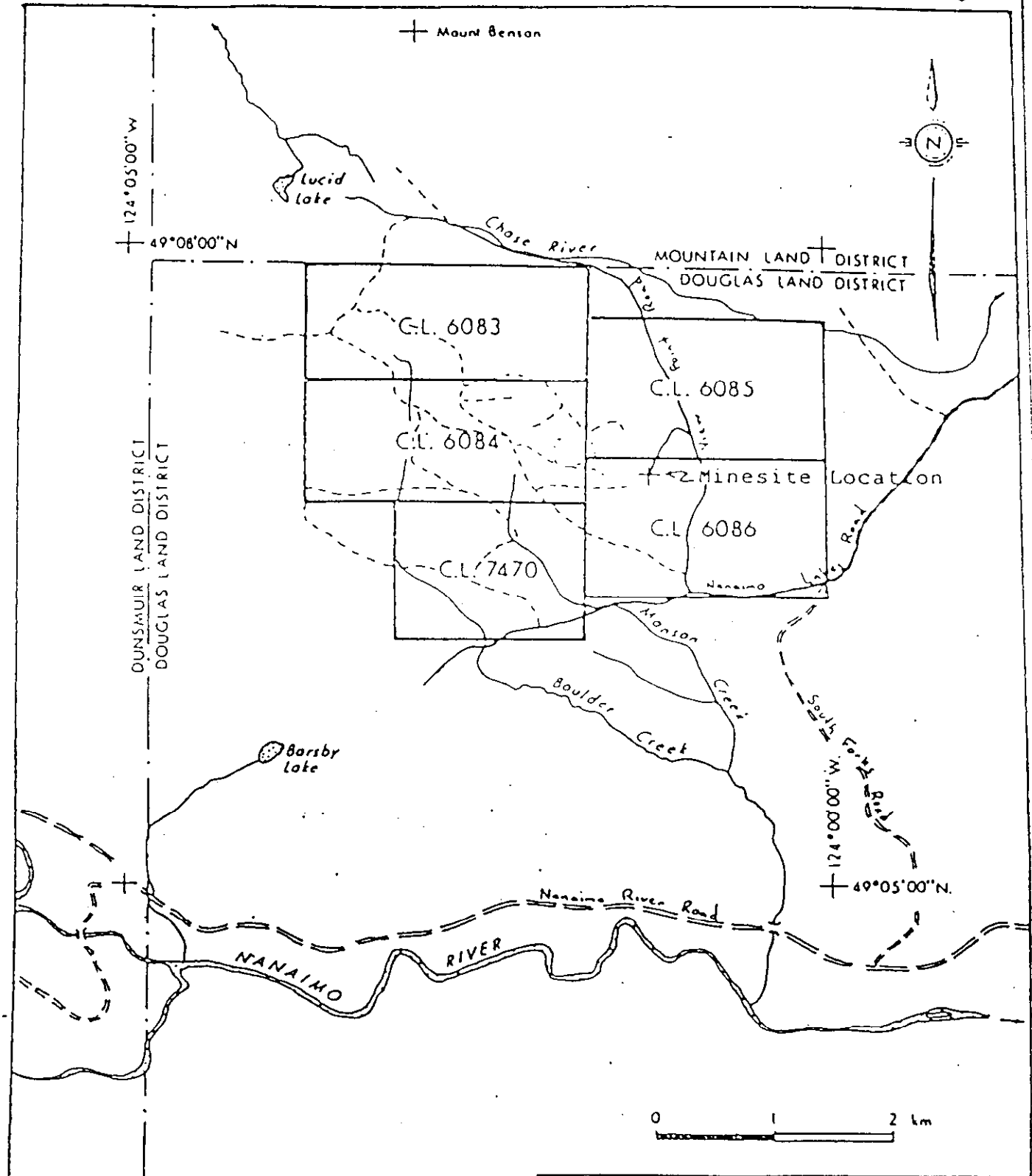
SCALE
 DATE NOV./81 DRAWING No



WOLF MOUNTAIN COAL LTD.
VANCOUVER BRITISH COLUMBIA

FIGURE 2
WOLF MOUNTAIN COAL PROPERTY
PROPERTY MAP

PREPARED BY: J. PERRY	SCALE: 1:12,500
APPROVED BY: J. PERRY	DATE: NOV./81 DRAWING NO.



WOLF MOUNTAIN COAL LTD.
 WOLF MOUNTAIN PROJECT
FIGURE 3
 COAL LICENCE LOCATION MAP

3.0 GEOLOGY AND COAL QUALITY

The Wellington seam has been geologically logged in 51 locations in the Wolf Mountain workings. These results are presented in Appendix A.

A comprehensive report on the geology of the Wolf Mountain property entitled "Geological Report of the 1982 Wolf Mountain Exploration Programme" prepared by JHP Coal-Ex Consulting Limited has been submitted to the Ministry of Energy Mines and Petroleum Resources. A brief summary of the geology is given below: excerpts have been taken from this report.

3.1 General Stratigraphy

The Wolf Mountain Coal Property is located to cover coal bearing strata within the Upper Cretaceous Nanaimo Group. The major coal seams are found within the Extension-Protection Formation located just above the base of the group. Strata of the Nanaimo Group unconformably overlie metasediments and igneous rocks of the Sicker and Vancouver Groups and Island Intrusions.

The sediments that comprise the Nanaimo Group have been shown to represent five sedimentary cycles. Four of the cycles are transgressive, each grading upwards from fluvial to deltaic and/or

lagoonal, through nearshore to offshore marine. The fifth cycle is only deltaic. Each of the first four cycles is comprised of two formations: the first is a non-marine sandstone conglomerate sequence which may contain lagoonal shale and coal; the second is an overlying, mainly marine, siltstone-shale sequence. Within the Nanaimo region, only the lagoonal Extension-Protection Formation is coal bearing.

The Extension Protection Formation conformably overlies the Haslam Formation and represents the lower part of the second depositional cycle. This formation contains the only coal seams of economic interest in the Nanaimo region. They are found in the lower half of the formation and are referred to as the Wellington, Newcastle and Douglas seams. These seams were extensively mined between 1852 and 1953; most of the production came from the Wellington and Douglas seams. The Wellington seam is currently being mined at the Wolf Mountain mine.

The roof and floor of the Wellington seam in this area is a coarse grained sandstone. Some old mine workings to the east exhibit a similar lithology in the roof, but in the Extension area the roof of the Wellington seam is a conglomerate. The floor in these old workings is usually reported to be a sandstone: the East Wellington Sandstone. Clapp (1914) reports the existence of sharp rolls,

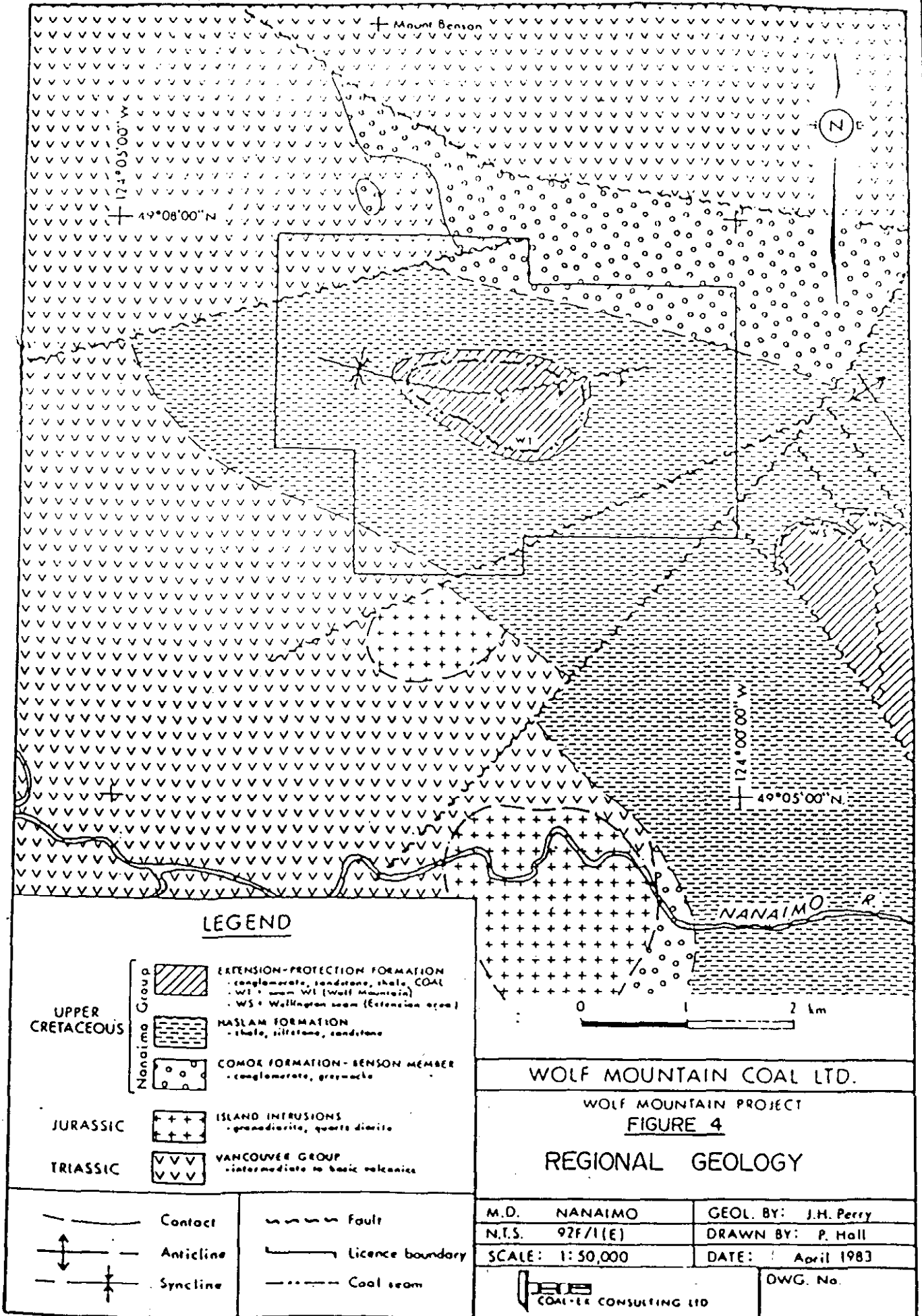
"pinches" and "swells" within the coal seams of the Nanaimo Basin.
Within the Wellington seam, most of the disturbances are found in
the roof.

3.2 Structural Geology

Sediments within the western portions of the Nanaimo coalfield are characterised by gentle, mainly easterly dipping strata within a number of gently warped and tilted fault blocks. The main structural features of the Wolf Mountain property are illustrated on the geology map (Figure 4).

The most prominent structural element within the area is a set of northeast trending faults. Whether these are normal or reverse faults is not known, but the downthrow side is always to the southeast.

The Wolf Mountain exploration data indicates that the coal bearing strata on the Wolf Mountain property are contained within a faulted syncline. This syncline exhibits a gently (approximately 2 degree) plunge to the east over most of the reserve area, but noses sharply to the west where it plunges approximately 20 degrees to the southeast. The syncline is disrupted by a high angle reverse fault contained within the hinge zone of the fold. This fault trends east-northeast across the central and eastern portions of the reserve area, is downthrown to the south and is hinged at its western extremity. The displacement associated with the fault increases to the east and on seam W.1 it reaches a maximum of approximately 20 meters. The displacement increases at higher stratigraphic levels.



3.3 Coal Quality

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The Wellington coal is classified as a high volatile bituminous A type, low in sulphur. The analyses of four run of mine coal samples is included in Appendix B. Also included in Appendix B is a screen analysis of two run of mine coal samples. These samples were taken before and after conical picks were installed on the Joy 6CM continuous miner. The "Fine Coal" sample is representative of the run of mine coal with the old style chisel type picks, and the "Coarse Coal" sample is representative of the run of mine coal with the conical type picks. Each size fraction was analysed for ash content on an air dried and dry basis. Both samples illustrate the relationship between the ash content and the friability of the partings in this seam. The high ash partings are soft and crumble as they are mined: the low ash coal is hard and goes largely to the coarse fractions.

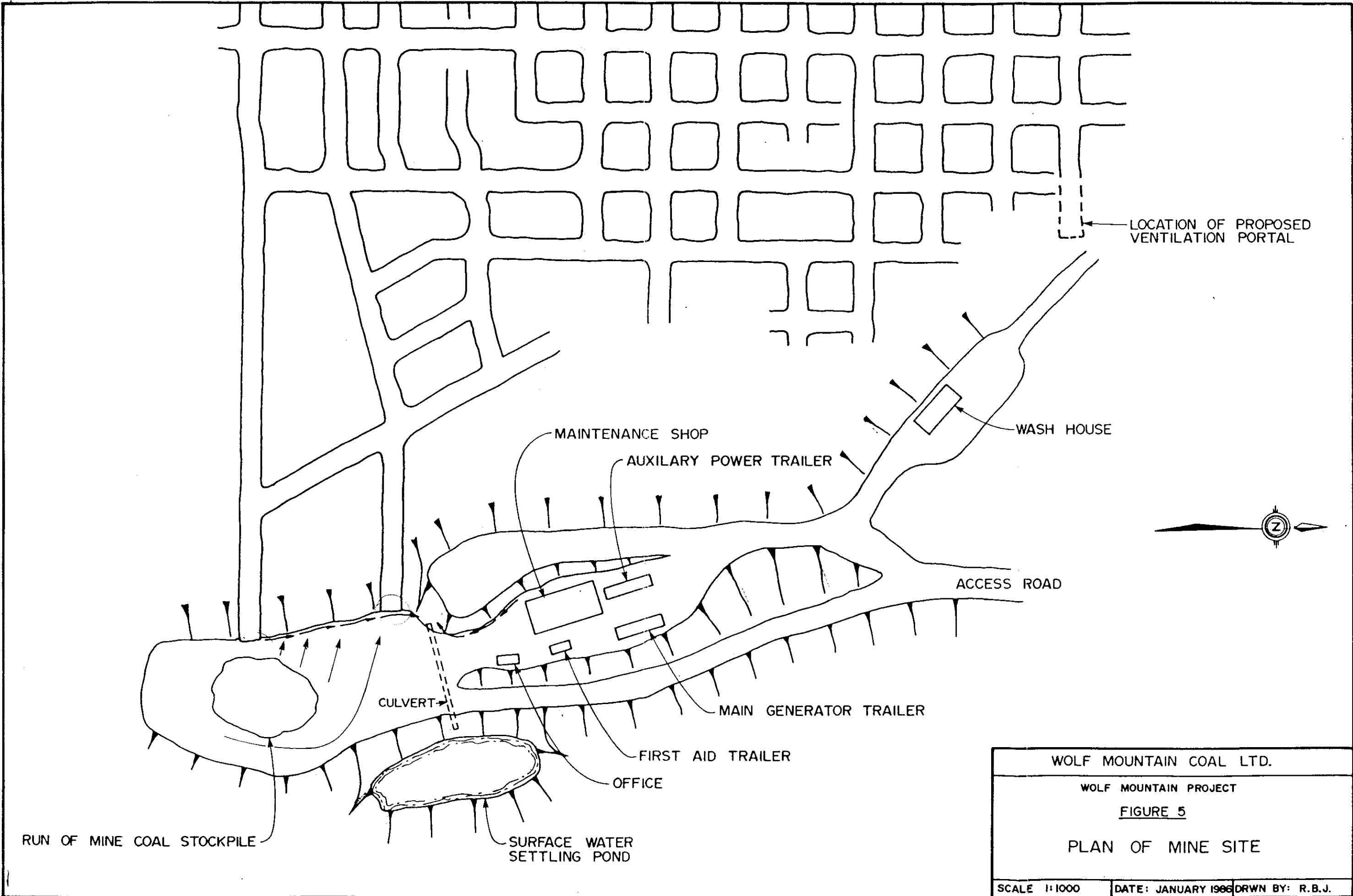
4.0 MINE DESIGN

4.1 Surface Minesite Design

The minesite surface facilities have been designed and constructed in compliance with government requirements, primarily those of the Ministry of Energy, Mines and Petroleum Resources and the Ministry of Environment. The total area of surface disturbance has been minimised. Surface water is directed to a retention pond where suspended solids are settled. The pH of this water has been found to be neutral or slightly alkaline. Negligible groundwater exists in the mine: water occasionally drips from the roof but does not accumulate. This water could not flow from the underground workings inbye of the two portals due to elevation barriers. A small amount of groundwater flows out of the ventilation portal after a heavy rainfall: this water comes from the overburden material covering the first several meters of the ventilation portal and is collected in the settling pond outside.

The coal is loaded into trucks by a front end loader from a small coal stockpile at the end of the mine conveyor belt. Any surface water on this area is either trucked away as the coal is loaded out or is directed into the settling pond.

There are currently two portals to the mine: a third portal will be developed in the near future in the location shown in Figure 5 to improve safety and ventilation in the mine.

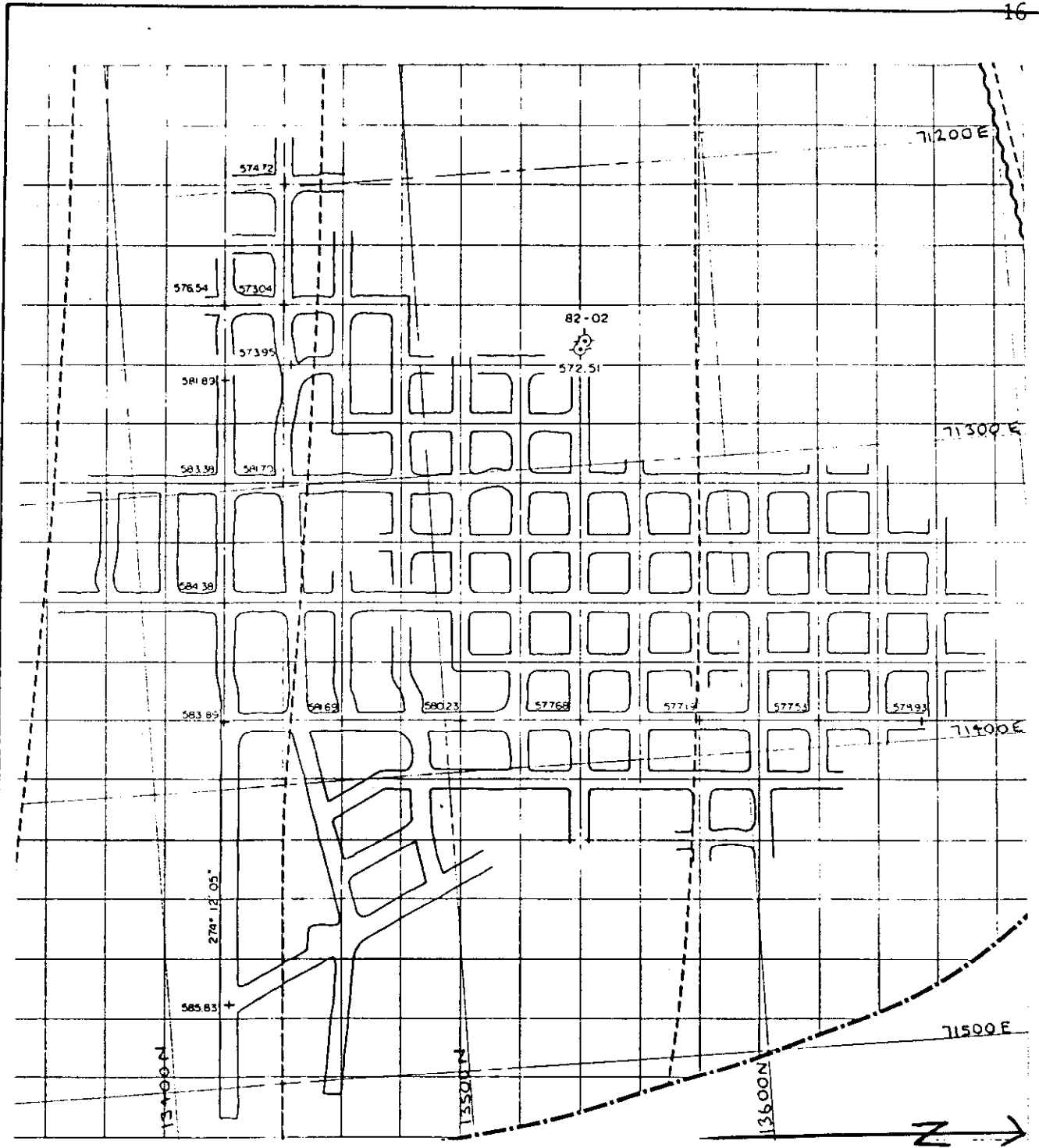


4.2 Surface Facilities

The surface facilities consist of a maintenance shop, an office trailer, a first aid trailer and a washhouse. Two diesel electric generators are housed in separate truck trailers: a 500 kilowatt generator to supply power to the mine and a standby 75 kilowatt generator for auxiliary equipment. Additional surface facilities include an electric air compressor and a well for water supply.

4.3 Underground Workings

A plan of the underground workings updated to November 4 1985 is included in Figure 6. Seven main headings are to be developed in a westerly direction from the mine portals, with the conveyor heading in the center. Panels will be developed north and south off this main development to recover the remaining reserves. Due to unexpected faults and partings in the seam, these seven headings have not yet been established: one panel has already been completed to the north of the main development and a second panel to the north is currently being developed. As already stated, a third ventilation portal will be developed in the near future in the location shown in Figure 5: this will improve mine ventilation and will provide an additional means of egress for the men working in the mine.



WOLF MOUNTAIN COAL LTD.
 WOLF MOUNTAIN PROJECT
FIGURE 6
 PLAN
 of the
 UNDERGROUND WORKINGS
 UPDATED TO NOVEMBER 4, 1985
 SCALE 1:2000 DRWN BY: R.B.J.

4.4 Levels of Production and Mine Life

The current production capacity of the mine is approximately 550 metric tonnes of run of mine coal per working day. At this rate the mine is capable of producing approximately 135,000 tonnes of run of mine coal per year, yielding approximately 100,000 tonnes of saleable coal per year. Total insitu reserves are currently estimated to be 3.16 million tonnes. Recoverable reserves are estimated at 2.2 million tonnes. At the current production capacity, the mine life would be approximately 16 years. Production of coal at this rate is dependent on Wolf Mountain Coal Limited Partnership transferring from the current limited production permit to a long term coal lease, and by doing so obtaining approval for this annual rate of production.

4.5 Mine Employment

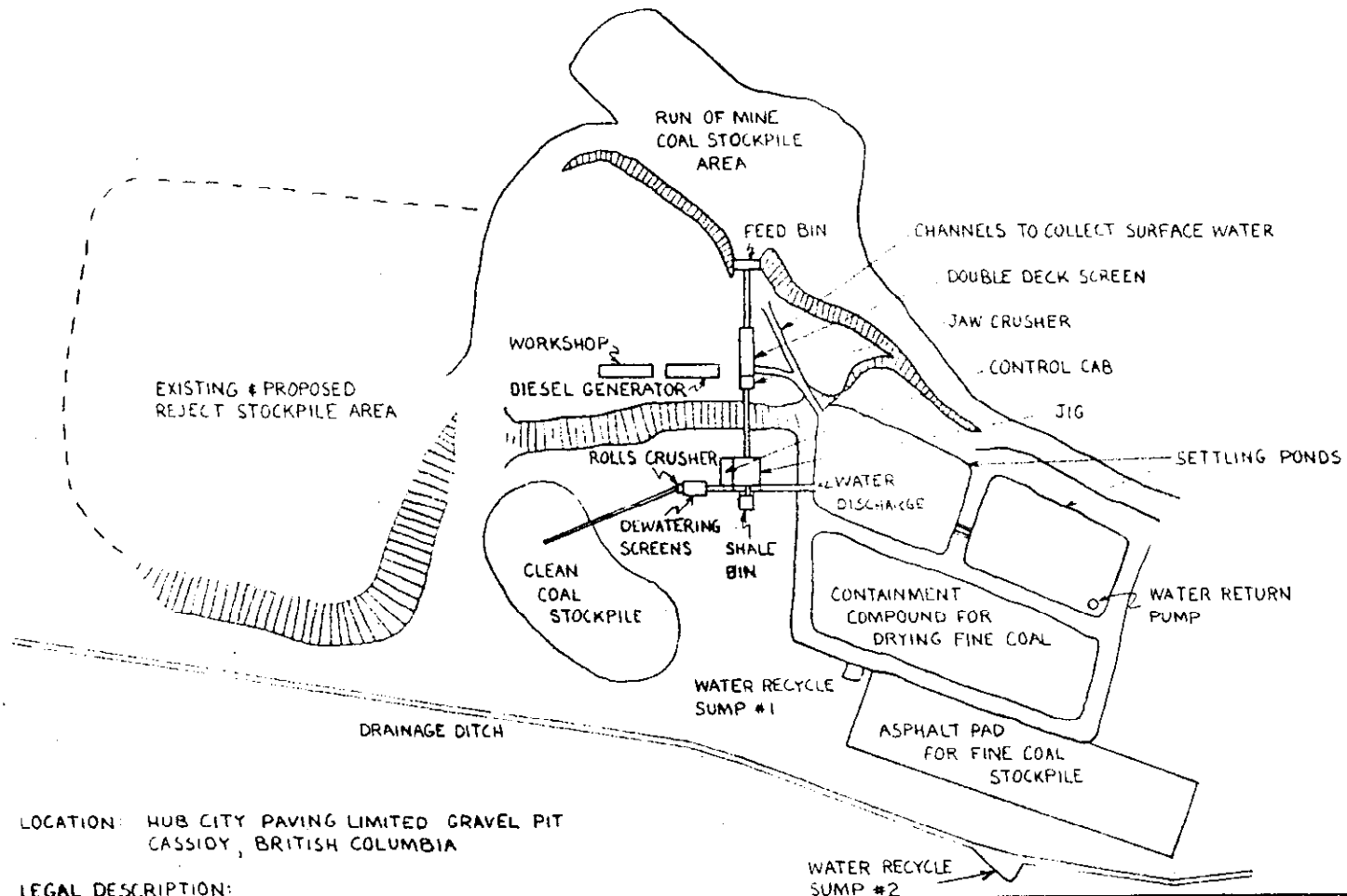
Direct employment is currently 19 men at the mine. In addition, an average of four truck drivers are continuously employed transporting the coal from the mine to the preparation plant. Three men are directly employed at the preparation plant. Approximately 15 additional men are employed on the day a barge is loaded, normally every second week.

At the present rate of production, sales of coal from the Wolf Mountain mine will bring in excess of four million dollars per year into the Nanaimo area, primarily from export sales to the United States. Numerous businesses and individuals in the Nanaimo area provide supplies and services to the mine and preparation plant, and a considerable amount of secondary employment is thus created in the Nanaimo area.

5.0 PREPARATION PLANT DESIGN

5.1 Site Design

The coal preparation plant is located in the Hub City Paving Limited gravel pit on the Nanaimo River Road, .5 kilometers off the Island Highway. Figure 7 is a site plan of the preparation plant, showing the stockpile locations and the surface water drainage system. No water is discharged from the preparation plant: surface water is recycled through the plant. Some water is lost in the product coal and by evaporation. The makeup water is obtained from an existing groundwater pond constructed by Hub City Paving Limited.



LOCATION: HUB CITY PAVING LIMITED GRAVEL PIT
CASSIDY, BRITISH COLUMBIA

LEGAL DESCRIPTION:
LOT 1 OF SECTIONS 4, 5, 6 & 7
RANGES 5, 6 & 7
CRANBERRY DISTRICT
PLAN 10168 EXCEPT PARCEL A (DD 81346-N) THEREOF.

LATITUDE: 49° 03' 40" N
LONGITUDE: 123° 53' 00" W

WOLF MOUNTAIN COAL LIMITED PARTNERSHIP
FIGURE 7. PREPARATION PLANT SITE PLAN

SCALE: 1:1500 ENGINEER: D. MANNING P. ENG.
DRAWN BY: CR DATE: JANUARY 1986

5.2 Stockpiles

There are currently four stockpiles at the preparation plant: the raw coal stockpile, the clean coal stockpile, the fine coal stockpile and the shale or reject stockpile.

Trucks bringing coal from the mine unload into the raw coal stockpile on the feed side of the preparation plant. The purpose of this stockpile is to provide a surge capacity between the trucking and the coal processing, thus allowing a continuous feed of coal to the preparation plant. Any surface water from this area is directed to the settling ponds through drainage ditches.

Coal from the raw coal stockpile is fed to the plant by a front end loader. The primary cleaning device in the plant is a jig. The reject from the jig is discharged into a bin and then trucked to the reject stockpile. The location of this stockpile is shown in Figure 7. This material may be saleable to cement companies, and marketing efforts are under way. If this material is not marketable, a permanent waste disposal site will be established in this area.

The clean coal from the jig is dewatered on screens and then stockpiled under a stacking conveyor. Once sufficient coal has been accumulated it is loaded out to a barge.

In the past, the minus 28 mesh material in the jig clean product passing through the dewatering screens has been lost into the settling ponds. Because the jig is ineffective in cleaning minus 28 mesh material, these fines have a high ash content. A system of cyclones and spirals has been installed at the preparation plant to clean and dewater these fines. This new circuit is currently being commissioned.

Fines that were dry screened out of the plant feed in the early stages of the plant operation are stored on an asphalt pad in the location shown in Figure 7. Minus 28 mesh material from the settling ponds has also been stockpiled in this area. Once the fine coal cleaning circuit has been commissioned and optimised, these fines will be cleaned and this stockpile will be eliminated.

5.3 Preparation Plant Facilities

Power for the preparation plant is supplied by a single diesel electric generator. This generator is housed in a truck trailer. A second truck trailer is used as a maintenance shop. The location of these trailers is shown in Figure 7. The location of the equipment utilised in the preparation plant is also shown in Figure 7.

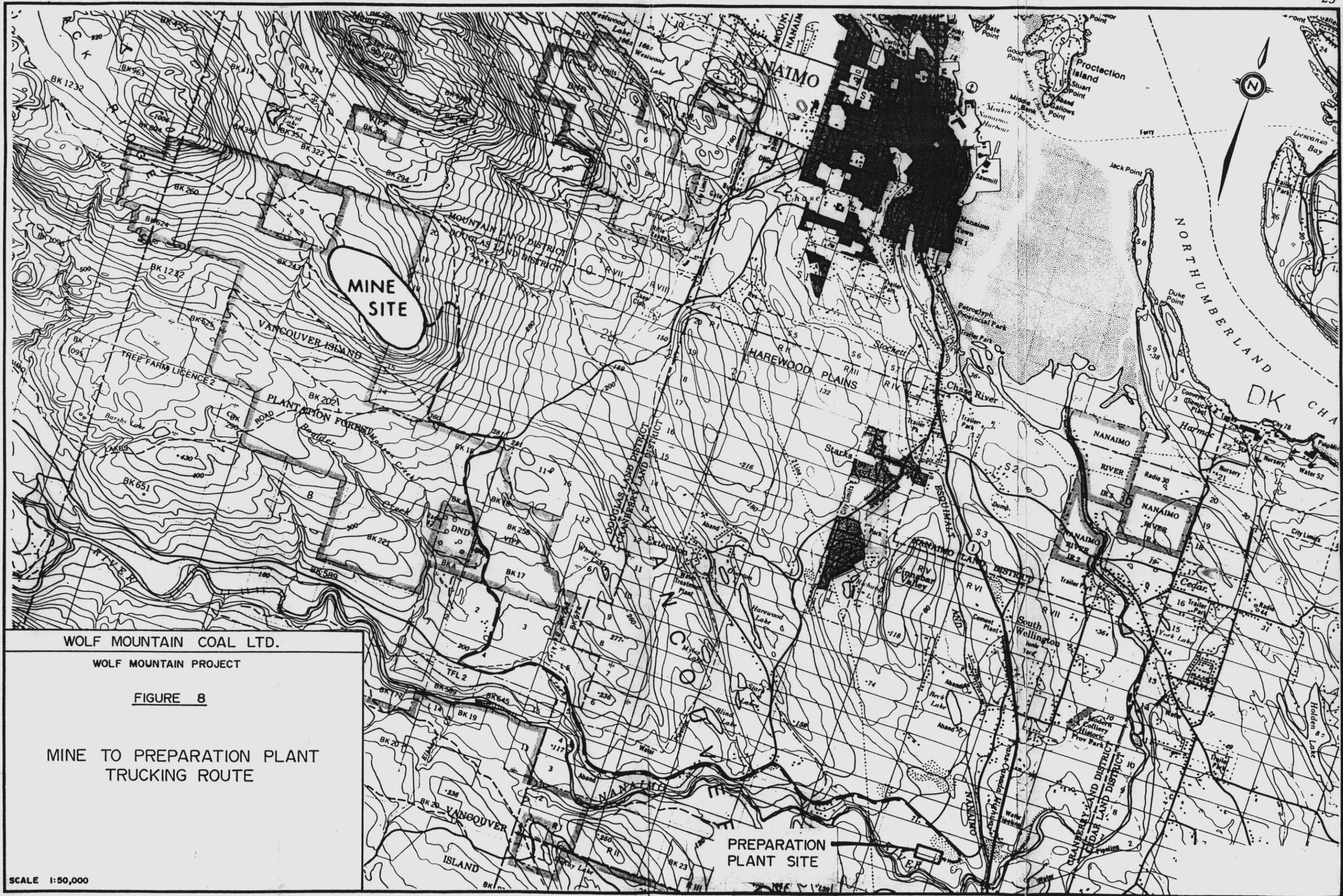
5.4 Preparation Plant Employment

As stated in Section 4.5 of this report, three men are permanently employed at the preparation plant. Additional maintenance and repair work is contracted to local businesses and individuals.

6.0 TRANSPORTATION ROUTES AND BARGE LOADING FACILITIES

The trucking route from the mine to the preparation plant is 18.6 kilometers in length and is shown in Figures 3 and 8. The route from the mine follows the View Point logging road to the Nanaimo Lakes Road, then right onto the South Forks Road and then left onto the Nanaimo River Road to the preparation plant in the Hub City Paving Limited gravel pit.

The barges are presently being loaded approximately every second week at the Ocean Construction Supplies Limited barge ramp at Brechin Point. The trucking route from the preparation plant is 12 kilometers in length and follows the Nanaimo River Road to the Island Highway, through the City of Nanaimo and then right onto Stewart Avenue and into the Ocean Construction Supplies Limited facility. This barge ramp is used to ship various other bulk commodities through the Nanaimo area.



WOLF MOUNTAIN COAL LTD.
 WOLF MOUNTAIN PROJECT
 FIGURE 8
 MINE TO PREPARATION PLANT
 TRUCKING ROUTE
 SCALE 1:50,000

VANICAL

7.0 STATEMENT OF COSTS

A copy of the application to extend the term of licences CL 6084, CL 6085 and CL 6086 dated April 18 1985 is included in the following two pages. The statement of costs is included in this application.



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

APPLICATION TO EXTEND TERM OF LICENCE

1. William H. Owen agent for Netherlands Pacific Mining Co. Inc.
(Name) (Name)
 1409 Chartwell Drive 105-1285 West Pender Street
(Address) (Address)
 West Vancouver, B.C. Vancouver, B.C. V6E 4B1
 Valid FMC No. 221608 Code NETPAM

hereby apply to the Minister to extend the term of Coal Licence(s) No(s). 6084, 6085, 6086
 for a further period of one year.

2. Property name Wolf Mountain Coal Property

3. I am allowing the following Coal Licence(s) No(s). to forfeit

4. I have performed, or caused to be performed, during the period April 22, 1984 to April 21, 1985, work to the value of at least \$ 86,000.00 on the location of coal licence(s) as follows:

CATEGORY OF WORK	Licence(s) No(s).	Apportioned Cost
Geological mapping		
Surveys: Geophysical		
Geochemical		
Other		
Road construction		
Surface work		
Underground work	6086	86,000.00
Drilling		
Logging, sampling, and testing		
Reclamation		
Other work (specify)		
Off-property costs		

5. I wish to apply \$ 86,000.00 of this value of work on Coal Licence(s) No(s). 6084, 6085, 6086

6. I wish to pay cash in lieu of work in the amount of \$ Nil on Coal Licence(s) No(s).

7. The work performed on the location(s) is detailed in the attached report entitled Report on the 1985 Work to be submitted later.

April 18, 1985
(Date)

William H. Owen
(Signature)

GEOLOGICAL MAPPING Yes No

Area (Hectares) _____ Scale _____ Duration _____

Reconnaissance _____
 Detail: Surface _____
 Underground _____
 Other* (specify) _____

Total Cost \$ _____

GEOPHYSICAL/GEOCHEMICAL SURVEYS Yes No

Method _____
 Grid _____
 Topographic _____
 Other* (specify) _____

Total Cost \$ _____

ROAD CONSTRUCTION Yes No

Length _____ Width _____
 On Licences/ No.(s) _____
 Access to _____

Total Cost \$ _____

SURFACE WORK Yes No

Length _____ Width _____ Depth _____ Cost _____

Trenching _____
 Seam Tracing _____
 Crosscutting _____
 Other* (specify) _____

Total Cost \$ _____

UNDERGROUND WORK Yes No

No. of Adits _____ Maximum Length _____ No. of Holes _____ Total Metres _____ Cost _____

Test Adits _____
 Other workings* Development through washout zone _____ 86,000.00

Total Cost \$ 86,000.00

DRILLING Yes No

Hole Size _____ No. of Holes _____ Total Metres _____ Cost _____

Core: Diamond _____
 Wireline _____
 Rotary: Conventional _____
 Reverse circulation _____
 Other* (specify) _____
 Contractor _____
 Where is the core stored? _____

Total Cost \$ _____

LOGGING, SAMPLING, AND TESTING Yes No

Lithology: Drill samples Core samples Bulk samples
 Logs: Gamma-neutron Density

Other* (specify) _____

Testing: Proximate analysis FSI Washability
 Carbonization Petrographic Plasticity

Other* (specify) _____

Total Cost \$ _____

RECLAMATION Yes No

Details _____

Total Cost \$ _____

OTHER WORK (Specify details) Yes No Cost _____

Total Cost \$ _____

OFF-PROPERTY COSTS Yes No

Details _____

Total Cost \$ _____

Total Expenditures \$ _____

April 17, 1985
 (Date)

M. H. G...
 (Signature)

President
 (Position)

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Pan Canadian Consultants Limited

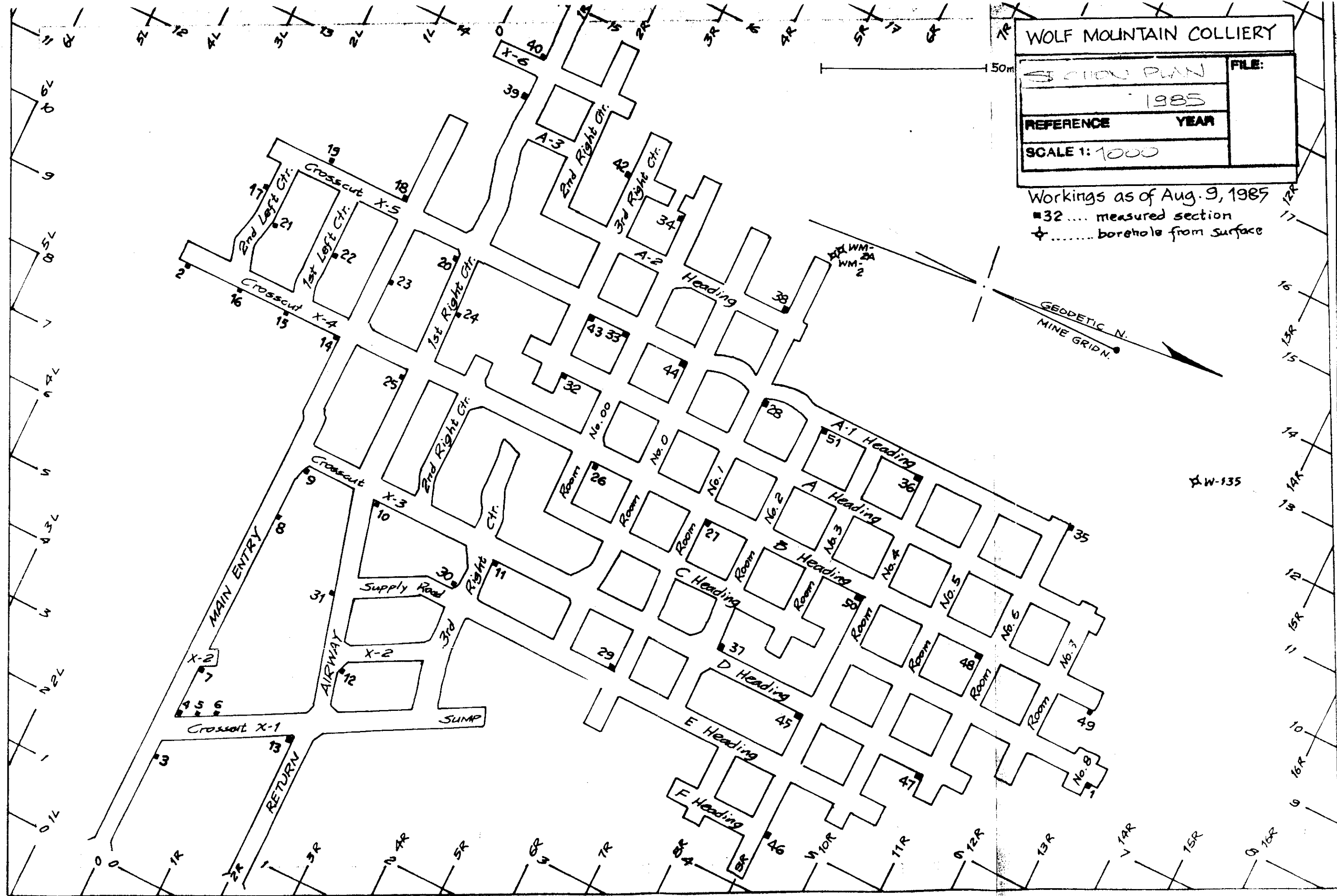
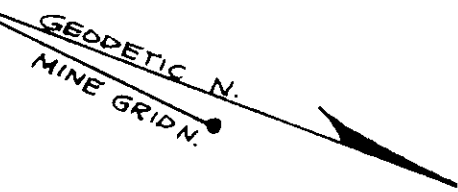
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APPENDIX A

WOLF MOUNTAIN COLLIERY	
SECTION PLAN	FILE:
1985	
REFERENCE	YEAR
SCALE 1:1000	

Workings as of Aug. 9, 1985
 ■ 32 measured section
 ✦ borehole from surface



SECTIONS OF WELLINGTON COAL BED, WOLF MOUNTAIN COLLIERY

Measured underground in workings, as part of a paleoenvironmental study of the Wellington coal bed and its enclosing strata.

SECTION 1

Location: at Junction of C Headings and Room No. 8, on NE corner

Coordinates:

Measured: June 16, 1985

Roof to floor: 7.7 feet

ROOF: SILTSTONE - shaly, brown, hard. At face of room No. 8, this bed is eroded and replaced by light creamy-grey, stony till, which cuts down into the coal below. At its lowest point, approximately 4 feet of coal remain.

1.7 ft. COAL

0.6 ft. SHALE - black, carbonaceous, sheared

1.1 ft. COAL - shaly, sheared

4.3 ft. COAL

FLOOR: SANDSTONE - hard

SECTION 2

Location: on left rib at face of Crosscut X-4, on June 16, 1985

Coordinates:

Measured: June 16, 1985

Roof to floor: 9.3 feet

ROOF: SILTSTONE

1.8 ft. COAL - bright, hard, lustrous, a consistent marker

1.0 ft. COAL - dull and bright, slightly sheared

0.8 ft. MUDSTONE - dark brown, carbonaceous, sheared at top

1.2 ft. SILTSTONE - grey, sandy, with a few carbonaceous laminae

0.6 ft. COAL - bright banded, lustrous, hard

0.65 ft. MUDSTONE - brown, coaly, sheared, soft

3.75 ft. COAL - bright banded, lustrous, hard

FLOOR: SANDSTONE

SECTION 3

Location: on right rib of Main Entry, at inbye end of arches, 20 feet outbye Crosscut X-1.

Coordinates:

Measured: June 16, 1985

Roof to floor: 3.2 feet (roof is Upper Partins)

ROOF: SANDSTONE - fine-grained, medium grey, silty, with fair porosity; grades upward to SANDSTONE / SILTSTONE (60:40) - interlaminated, rippled. This unit is at least 9 feet thick, and is a partins within the Wellington coal bed, here taken as the mine roof. Erosional base.

1.2 ft. COAL - bright banded, slightly sheared

0.5 ft. COAL - dirty, sheared

1.6 ft. COAL - dull and bright, lustrous, hard

FLOOR: SANDSTONE - coarse-grained, dark grey, carbonaceous

SECTIONS OF WELLINGTON COAL BED, WOLF MOUNTAIN COLLIERY

Measured underground in workings, as part of a paleoenvironmental study of the Wellington coal bed and its enclosing strata.

Measured by: Corey L. Bickford, Geologist, BP Resources Canada Limited

SECTION 1

Location: at Junction of C Heading and Room No. 8, on NE corner

Coordinates:

Measured: June 16, 1985

Roof to floor: 7.7 feet

ROOF: SILTSTONE - shaly, brown, hard. At face of room No. 8, this bed is eroded and replaced by light creamy-grey, stony till, which cuts down into the coal below. At its lowest point, approximately 4 feet of coal remain.

1.7 ft. COAL

0.6 ft. SHALE - black, carbonaceous, sheared

1.1 ft. COAL - shaly, sheared

4.3 ft. COAL

FLOOR: SANDSTONE - hard

SECTION 2

Location: on left rib at face of Crosscut X-4, on June 16, 1985

Coordinates:

Measured: June 16, 1985

Roof to floor: 9.3 feet

ROOF: SILTSTONE

1.8 ft. COAL - bright, hard, lustrous, a consistent marker

1.0 ft. COAL - dull and bright, slightly sheared

0.8 ft. MUDSTONE - dark brown, carbonaceous, sheared at top

1.2 ft. SILTSTONE - grey, sandy, with a few carbonaceous laminae

0.6 ft. COAL - bright banded, lustrous, hard

0.65 ft. MUDSTONE - brown, coaly, sheared, soft

3.75 ft. COAL - bright banded, lustrous, hard

FLOOR: SANDSTONE

SECTION 3

Location: on right rib of Main Entry, at inbye end of arches, 20 feet outbye Crosscut X-1.

Coordinates:

Measured: June 16, 1985

Roof to floor: 3.2 feet (roof is Upper Parting)

ROOF: SANDSTONE - fine-grained, medium grey, silty, with fair porosity; grades upward to SANDSTONE / SILTSTONE (60:40) - interlaminated, rippled. This unit is at least 9 feet thick, and is a parting within the Wellington coal bed, here taken as the mine roof. Erosional base.

1.2 ft. COAL - bright banded, slightly sheared

0.5 ft. COAL - dirty, sheared

1.6 ft. COAL - dull and bright, lustrous, hard

FLOOR: SANDSTONE - coarse-grained, dark grey, carbonaceous

SECTION 4

Location: at inbye corner of Junction of Main Entry and Crosscut X-1
Coordinates:
Measured: June 16, 1985
Roof to floor: 4.85 feet (roof is Upper Parting)

ROOF: SANDSTONE - very fine-grained, silty, medium grey, hard, with tiny plant fragments and ripples. Erosional base.
0.35 ft. MUDSTONE - dark grey, silty, hard, with carbonaceous laminae. Polished at top.
0.6 ft. MUDSTONE - black, coaly, sheared, soft
3.9 ft. COAL - bright banded, hard, minor shearing
FLOOR: SANDSTONE - dark brown, carbonaceous, hard

SECTION 5

Location: on left rib of Crosscut X-1, 20 feet inbye Section 4
Coordinates:
Measured: June 16, 1985
Roof to floor: 6.4 feet (roof is Upper Parting)

ROOF: SANDSTONE - very fine-grained, silty, medium grey, hard, with tiny plant fragments and a few ripples. Erosional base.
nil - 0.2 ft. COAL - bright banded, with calcite on cleats
0.5 ft. MUDSTONE - dark grey, carbonaceous, with abundant thin bright coal bands
0.4 ft. MUDSTONE - dark brownish-grey, silty, with minor plant fragments
0.5 ft. MUDSTONE - black, coaly, sheared, soft
2.5 ft. COAL - bright banded
0.9 ft. COAL - sheared; dirty?
1.7 ft. COAL - bright banded
FLOOR: SANDSTONE - dark brown, carbonaceous, hard.

SECTION 6

Location: on left rib of Crosscut X-1, 40 feet inbye Section 4
Coordinates:
Measured: June 16, 1985
Roof to floor: 8.4 feet (roof is Upper Parting)

ROOF: SANDSTONE - as at Sect. 5, with abundant imprints of leaves, bark and loss. Erosional base.
1.0 ft. COAL - bright, with abundant calcite on cleats
0.5 ft. MUDSTONE - dark brown, carbonaceous with abundant thick bright coal bands
-----At this horizon, small (0.1 ft. high) crumpled overthrusts, climbing toward east, striking near-parallel to rib-----
0.5 ft. MUDSTONE - brownish-grey, silty, with a few thin coal bands
0.4 ft. COAL - stony
0.4 ft. MUDSTONE - black, coaly, sheared
3.9 ft. COAL - bright banded, slightly contorted
0.2 ft. COAL - sheared
1.5 ft. COAL - bright banded, slightly contorted
FLOOR: SANDSTONE - dark brown, carbonaceous, hard

SECTION 7

Location: At Junction of Main Entry and stub of Crosscut X-2, on outside corner of Junction

Coordinates:

Measured: June 16, 1985

Roof to floor: 6 feet (roof is Upper Parting)

ROOF: SILTSTONE - medium to dark grey, with abundant plant debris; basal 2.65 feet contains 50% very fine to fine-grained sandstone as ripples and laminae

- 0.1 ft. COAL - bright, blocky, with stumps projecting up into roof; lenticular bed, varying from nil to 0.2 ft. thick
- 0.45 ft. MUDSTONE - black, carbonaceous, with abundant thin and thick bright coal bands
- 0.35 ft. MUDSTONE - dark grey, very silty
- 0.3 ft. COAL - bright banded
- 0.3 ft. MUDSTONE - black, coaly, sheared; rapidly pinching and swelling from 0.1 to 0.5 feet; cuts down 0.2 feet into underlying coal bed
- 2.6 ft. COAL - bright banded, slightly sheared and slabby throughout
- 0.2 ft. COAL - sheared
- 1.7 ft. COAL - bright banded, as above. Does not part from underlying sandstone.

FLOOR: SANDSTONE - black, coaly

SECTION 8

Location: on right rib of Main Entry, 170 feet inbye Section 7. Here top leaf of Wellington coal bed first appears in roof.

Coordinates:

Measured: June 16, 1985

Roof to floor: 12.6 feet

ROOF: SILTSTONE ?

- 2.0 ft. COAL - slabby, with some polished surfaces.
- 4.5 ft. SILTSTONE - medium grey, with abundant ripples and laminae of light grey, fine-grained sandstone, and abundant plant debris
- 0.1 ft. MUDSTONE - black, coaly, sheared
- 2.2 ft. COAL - bright banded, slightly sheared
- 0.4 ft. COAL - sheared, soft; dirty?
- 3.4 ft. COAL - bright banded, as above

FLOOR: SANDSTONE - hard

SECTION 9

Location: at Junction of Main Entry and Crosscut X-3, on NE corner

Coordinates:

Measured: June 16, 1985

Roof to floor: 9.6 feet

ROOF: SILTSTONE - brownish-grey, with abundant plant debris

- 1.2 ft. COAL - bright, lustrous, hard, a distinct bench.
- 0.5 ft. COAL - bright banded
- 0.4 ft. COAL - sheared, polished, soft
- 0.3 ft. MUDSTONE - black, carbonaceous, sheared, soft
- 0.8 ft. MUDSTONE - black, carbonaceous, slightly sheared
- 0.7 ft. SILTSTONE - brownish-grey, sandy, hard
- 0.2 ft. COAL - sheared
- 5.5 ft. COAL - bright banded, hard

FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 10

Location: at Junction of Crosscut X-3 and Return Airway, on NE corner

Coordinates:

Measured: June 16, 1985

Roof to floor: 8.85 feet

ROOF: SILTSTONE - brown, with abundant plant debris

0.5 ft. COAL - bright, lustrous, hard

0.7 ft. COAL - bright banded, sheared; gradational base

0.3 ft. MUDSTONE - black, carbonaceous, sheared; gradational base

0.6 ft. MUDSTONE - dark brownish grey, silty, hard, heavy (may be somewhat ferruginous); blocky

0.15 ft. MUDSTONE - black, carbonaceous, sheared

0.8 ft. COAL - dull lustrous, slightly sheared

1.2 ft. SHALE AND COAL - black carbonaceous mudstone with laminae, lenses and bands to 0.3 ft. thick of bright coal. Sheared in basal 0.3 feet

4.6 ft. COAL - bright banded, hard, slightly sheared

FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 11

Location: at Junction of Crosscut X-3 and 2nd Right Counter

Coordinates:

Measured: June 16, 1985

Roof to floor: 9.75 feet

ROOF: SILTSTONE - brown, hard, with abundant plant debris

1.75 ft. COAL - bright, lustrous, very hard; marker bed

0.65 ft. COAL - sheared and polished

0.35 ft. MUDSTONE - dark grey, silty, hard

1.0 ft. COAL - bright banded

0.9 ft. COAL - sheared

0.3 ft. MUDSTONE - dark brown, coaly, sheared

4.8 ft. COAL - bright banded

FLOOR: SANDSTONE - dark brown, carbonaceous

SECTION 12

Location: on NE corner of junction of X-2 and return airway

Coordinates:

Measured: June 16, 1985

Roof to floor: 7.8 feet

ROOF: SILTSTONE - brown, hard, abundant plant fragments

1.1 ft. COAL - bright, lustrous, very hard

0.8 ft. COAL - bright banded, hard; gradational base

1.2 ft. MUDSTONE - black, carbonaceous, sheared

4.7 ft. COAL - bright banded

FLOOR: SANDSTONE - hard, black, carbonaceous

SECTION 13

Location: at Junction of Crosscut X-1 and Return Airway, on SE corner

Coordinates:

Measured: June 16, 1985

Roof to floor: 12.1 feet

ROOF: SILTSTONE - brownish-grey, with abundant plant debris
1.1 ft. COAL - lustrous, hard, resistant bed
1.1 ft. COAL - bright banded
1.8 ft. MUDSTONE - brown, silty, blocky, with angular fracture
pattern; gradational base
1.7 ft. SILTSTONE - grey, hard, fines upward; blocky, with angular
fracture pattern
1.0 ft. COAL - dull, stony, hard
1.3 ft. COAL AND SHALE - sheared and contorted coal, with numerous
thin bands of black and brown, carbonaceous mudstone
4.1 ft. COAL - bright banded
FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 14

Location: at Junction of Main Entry and Crosscut X-4, on SE corner

Coordinates:

Measured: June 17, 1985

Roof to floor: 10.3 feet

ROOF: SILTSTONE - brownish-grey, with plant debris, stumps, and sandstone
dykes
1.95 ft. COAL - bright banded, hard
0.4 ft. MUDSTONE - black, carbonaceous, flaky, with abundant thin
bright coal bands; slightly sheared
0.4 ft. MUDSTONE - brown, silty, hard
0.15 ft. COAL - sheared; gradational base
0.75 ft. COAL - dull banded, contorted
0.4 ft. MUDSTONE - black, coaly, sheared
0.25 ft. COAL - dull banded
0.3 ft. MUDSTONE - black, coaly, sheared
3.5 ft. COAL - bright banded
0.15 ft. COAL - sheared
2.05 ft. COAL - bright banded
FLOOR: SANDSTONE - dark brown, carbonaceous, hard

SECTION 15

Location: at Junction of Crosscut X-4 and Left Counter Entry, on E side

Coordinates:

Measured: June 17, 1985

Roof to floor: 10.5 feet

ROOF: SILTSTONE - brownish-grey, with abundant plant debris, occasional
stumps and sandstone dykes
1.15 ft. COAL - bright, lustrous, hard, with calcite on cleats. A
distinct bench
1.05 ft. COAL - bright banded, slightly contorted
0.25 ft. MUDSTONE - brown, carbonaceous, with abundant thin bright
coal bands. Sheared at base
0.55 ft. MUDSTONE - black, coaly, intensely sheared and polished
0.45 ft. SILTSTONE - brown, soft
1.05 ft. COAL - bright banded, slightly contorted but hard

0.8 ft. COAL AND SHALE - interbanded sheared coal and black carbonaceous shale
2.4 ft. COAL - bright banded
0.6 ft. COAL - intensely sheared and polished; soft and flaky
2.2 ft. COAL - bright banded
FLOOR: SANDSTONE - light brown, carbonaceous, hard; irregular surface

SECTION 16

Location: at Junction of Crosscut X-4 and 2nd Left Counter, on E side
Coordinates:
Measured: June 17, 1985
Roof to floor: 10.2 feet

ROOF: SILTSTONE - brownish grey, with plant debris as before
1.1 ft. COAL - bright, hard, lustrous; a distinct bench. Pyrite on cleats at top.
0.8 ft. COAL - bright banded, hard
0.3 ft. MUDSTONE - black, coaly, sheared and pulverised
0.9 ft. MUDSTONE - black and carbonaceous at top, grading down to brown and silty at base
0.35 ft. SILTSTONE - brown, broken and blocky, soft; occasional egg-sized inclusions of powdery bright coal (probably large plant stems). Abrupt base.
0.9 ft. COAL - dull banded, contorted, hard
1.15 ft. MUDSTONE - black, coaly, sheared
2.7 ft. COAL - bright banded, hard
0.6 ft. COAL - intensely sheared and polished, soft
1.4 ft. COAL - bright banded, hard
FLOOR: SANDSTONE - black, carbonaceous, hard, polished surface

SECTION 17

Location: in 2nd Left Counter, between Crosscuts X-4 and X-5, on S side
Coordinates:
Measured: June 17, 1985
Roof to floor: 10.5 feet

ROOF: SILTSTONE - brownish-grey, medium-bedded, slabby but strong; abundant plant debris
1.2 ft. COAL - bright, lustrous, hard; stronger than coal below
1.5 ft. COAL - bright banded
0.65 ft. MUDSTONE - black, coaly, slightly sheared
0.5 ft. SILTSTONE - brown, soft
0.6 ft. COAL - dull lustrous, contorted, hard
1.3 ft. SHALE AND COAL - thin interbeds of black, coaly mudstone and bright banded coal
2.45 ft. COAL - bright banded, hard
0.4 ft. COAL - intensely sheared, soft and flaky
1.9 ft. COAL - bright banded, hard
FLOOR: SANDSTONE - black, carbonaceous, hard; irregular surface

SECTION 18

Location: at Junction of Main Entry and Crosscut X-5, on SW corner
Coordinates:
Measured: June 17, 1985
Roof to floor: 10.0 feet

ROOF: SILTSTONE - light brownish-grey, with abundant plant debris
1.3 ft. COAL - bright, lustrous, hard

0.7 ft. COAL - bright banded, not as hard as coal above -
1.0 ft. MUDSTONE - black, coaly, sheared, particularly at top
0.2 ft. MUDSTONE - brown, carbonaceous, tough
2.2 ft. COAL - dull and bright, slightly contorted, hard
0.75 ft. COAL AND SHALE - coal as above, with numerous lenses and
bands of black, coaly mudstone
0.6 ft. COAL - bright banded
0.3 ft. MUDSTONE - black, coaly, sheared
2.95 ft. COAL - bright banded
FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 19

Location: On W side of Crosscut X-5, between 1st and 2nd Left Counters
Coordinates: 1.5L, 11
Measured: June 25, 1985
Roof to floor: 10.35 feet

ROOF: SILTSTONE - brownish-grey, hard, with abundant plant debris
1.1 ft. COAL - bright, lustrous, hard; a distinct top bench
0.9 ft. COAL - bright banded
0.2 ft. MUDSTONE - black, coaly
0.6 ft. COAL - bright banded, slightly sheared
0.8 ft. MUDSTONE - dark brown, carbonaceous, with abundant thick
bright coal bands
0.65 ft. MUDSTONE - dark brown, very silty, carbonaceous, with
scattered bright coal bands
0.8 ft. COAL - bright banded, lustrous, hard
0.4 ft. COAL AND SHALE - thinly interbanded bright coal and brown
carbonaceous shale
0.35 ft. MUDSTONE - dark brown, carbonaceous, with abundant thin
bright coal bands
0.3 ft. COAL - bright banded, hard
0.35 ft. MUDSTONE - dark brown, carbonaceous, tough
3.9 ft. COAL - bright banded, hard
FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 20

Location: at Junction of Crosscut X-5 and Right Counter, on SE corner
Coordinates: 1R, 11
Measured: June 25, 1985
Roof to floor: 10.4 feet

ROOF: SILTSTONE - brown, hard, with abundant plant debris
0.8 ft. COAL - bright, lustrous, hard
1.05 ft. COAL - bright banded
1.05 ft. MUDSTONE - dark brown, carbonaceous, with abundant thin bright
coal bands
0.1 ft. COAL - intensely sheared, forming "cornflakes"
0.85 ft. COAL - bright banded, lustrous
1.15 ft. SHALE AND COAL - interbedded dark brown, carbonaceous mudstone
(30%), black coaly mudstone (30%) and sheared bright coal
(40%)
5.4 ft. COAL - bright banded, slightly sheared
FLOOR: SANDSTONE - black, coaly, very hard

SECTION 21

Location: 50 feet inbye of X-4, on north rib of 2nd Left Counter
Coordinates:

Measured: July 5, 1985

Roof to floor: >8.45 feet (leaving coal in floor)

ROOF: SILTSTONE - brownish-grey, hard, with abundant plant trash
1.2 ft. COAL - bright, lustrous, hard, with calcite and pyrite on cleats
0.75 ft. COAL - bright banded, not as hard
0.9 ft. MUDSTONE - dark brown, carbonaceous, with abundant lenses of
bright coal
0.5 ft. SILTSTONE - brown, soft, with listric surfaces
1.2 ft. COAL - bright banded
0.25 ft. MUDSTONE - black, coaly, sheared and flaky
4.65 ft. COAL - bright banded
FLOOR: COAL - as above

SECTION 22

Location: 50 feet inbye of X-4, on north rib of 1st Left Counter

Coordinates:

Measured: July 5, 1985

Roof to floor: >8.2 feet (leaving coal in floor)

ROOF: SILTSTONE - as before
1.2 ft. COAL - bright, lustrous, hard, with calcite on cleats
1.0 ft. COAL - dull and bright, slightly sheared
1.35 ft. MUDSTONE - brown and black, carbonaceous, with abundant lenses
of bright coal, some of which are recognisable as flattened,
coalified logs
0.2 ft. MUDSTONE - brown, silty
1.0 ft. COAL - dull lustrous
0.65 ft. MUDSTONE - black, coaly
0.4 ft. COAL - bright banded
0.3 ft. COAL - sheared and flaky
2.1 ft. COAL - bright banded
FLOOR: COAL - as above

SECTION 23

Location: 50 feet inbye of X-4, on north rib of Main Entry

Coordinates:

Measured: July 5, 1985

Roof to floor: 9.5 feet

ROOF: SILTSTONE - hard, brownish-grey, as before
1.05 ft. COAL - bright, lustrous, hard
0.75 ft. COAL - bright banded, not as hard
0.50 ft. MUDSTONE - black, coaly
0.60 ft. MUDSTONE - brown, silty, carbonaceous, hard
0.85 ft. COAL - bright, lustrous, hard
1.40 ft. MUDSTONE - black, carbonaceous and coaly
4.35 ft. COAL - bright banded, hard and clean
FLOOR: SANDSTONE - hard, black, carbonaceous

SECTION 24

Location: 50 feet inbye of X-4, on north rib of Right Counter

Coordinates:

Measured: July 5, 1985

Roof to floor: 7.6 feet

ROOF: SILTSTONE - as before
0.9 ft. COAL - bright, lustrous, hard

1.05 ft. COAL - bright banded, not as hard
0.35 ft. MUDSTONE - black, coaly, sheared
0.45 ft. MUDSTONE - brownish-grey, silty, hard
0.9 ft. COAL - bright, lustrous, hard
1.1 ft. MUDSTONE - black, coaly, sheared at base
2.85 ft. COAL - bright banded, hard, clean
FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 25

Location: 10 feet outbye X-4, on south rib of Right Counter

Coordinates:

Measured: July 5, 1985

Roof to floor: 8.9 feet

ROOF: SILTSTONE - dark brownish-grey, hard, with abundant plant trash at base
1.0 ft. COAL - bright, lustrous, hard, gradational base
0.95 ft. COAL - bright banded, hard
1.05 ft. MUDSTONE - black, coaly, slightly sheared, soft
0 to 0.6 ft. MUDSTONE - brown, silty, sheared, pinches and swells at base
0.35 to 0.95 ft. COAL - sheared and polished, glossy plates. Thin where the
mudstone above is thick.
0.95 ft. COAL - bright, slightly sheared
1.8 ft. COAL AND SHALE - slightly sheared interbeds of bright banded co
and black, coaly mudstone
2.2 ft. COAL - bright banded
FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 26

Location: at Junction of B Heading and Room No. 00, on NE corner

Coordinates: 4R, 9

Measured: July 5, 1985

Roof to floor: 10.4 feet

ROOF: SILTSTONE - as before
1.6 ft. COAL - bright, lustrous, hard
0.5 ft. MUDSTONE - black, coaly, intensely sheared, wet
2.4 ft. COAL - bright banded
0.35 ft. MUDSTONE - brown, carbonaceous, sheared
5.55 ft. COAL - bright banded
FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 27

Location: At Junction of B Heading and No.1 Room, on NE corner

Coordinates:

Measured: July 5, 1985

Roof to floor: 9.1 feet

ROOF: SILTSTONE - as before
1.8 ft. COAL - bright, lustrous, hard
0.1 ft. MUDSTONE - black, coaly, sheared, wet, soft
1.9 ft. COAL - bright banded, hard
0.35 ft. MUDSTONE - brown, carbonaceous, sheared, soft
2.5 ft. COAL - bright banded, hard
0.5 ft. MUDSTONE - brown, carbonaceous, sheared
0.3 ft. COAL - sheared
1.65 ft. COAL - bright banded, hard
FLOOR: SANDSTONE - as before

SECTION 28

Location: at Junction of A1 Heading and No. 1 Room, on NE corner
Coordinates:

Measured: July 5, 1985

Roof to floor: 8.3 feet

ROOF: SILTSTONE - as before

1.4 ft. COAL - bright, lustrous, hard

0.6 ft. MUDSTONE - black, coaly, sheared. Locally pinches to 0.2 feet,
on irregular surface below.

1.35 ft. COAL - bright banded, slightly sheared

0.35 ft. MUDSTONE - brown, carbonaceous, slightly sheared, soft

2.0 ft. COAL - bright banded

0.7 ft. MUDSTONE - brown, coaly, soft

1.9 ft. COAL - bright banded

FLOOR: SANDSTONE - black, carbonaceous, rooty, hard

SECTION 29

Location: at Junction of E Heading and No. 1 Room, on SW corner
Coordinates: 6R, 6

Measured: July 5, 1985

Roof to floor: 10.7 feet

ROOF: SILTSTONE - brown, as before

1.6 ft. COAL - bright, lustrous, hard

0.1 ft. MUDSTONE - black, coaly, sheared, soft

0.9 ft. COAL - sheared

2.4 ft. COAL - bright, lustrous, hard

0.45 ft. MUDSTONE - brown, carbonaceous, soft, with abundant thin bright
coal bands

5.25 ft. COAL - bright banded, clean

FLOOR: SANDSTONE - black, carbonaceous, hard

SECTION 30

Location: at Junction of Supply Road and 3rd Right Counter, on SW corner
Coordinates: 3.2R, 6

Measured: July 5, 1985

Roof to floor: 9.2 feet

ROOF: SILTSTONE - as before

1.0 ft. COAL - bright, lustrous, very hard

0.6 ft. COAL - bright banded

0.8 ft. MUDSTONE - black, carbonaceous, with abundant thin bright coal
bands

0.5 ft. MUDSTONE - brown, silty, hard

0.85 ft. COAL - bright, lustrous, hard

1.3 ft. COAL - bright banded, with 20% thin bands of black, coaly
mudstone

1.5 ft. COAL - bright banded

0.6 ft. COAL - dirty, sheared

2.05 ft. COAL - bright banded

FLOOR: SANDSTONE - brown, carbonaceous, hard, rolly

SECTION 31

Location: on rib of Return Airway at Supply Road, on S side
Coordinates: 1.2R, 5.2

Measured: July 5, 1985
Roof to floor: 8.4 feet

ROOF: SILTSTONE - as before
0.9 ft. COAL - bright, lustrous, hard
1.0 ft. COAL - bright banded
0.9 ft. MUDSTONE - black, coaly, sheared
5.6 ft. COAL - bright banded, clean
FLOOR: SANDSTONE - black, carbonaceous

SECTION 32

Location: At Junction of A Heading and 3rd Right Counter, on NE corner.
Coordinates: 3R, 10
Measured: July 19, 1985
Roof to floor: >8.15 feet (leaving coal in floor)

ROOF: SILTSTONE - brown, hard
1.05 ft. COAL - bright, lustrous, hard
0.65 ft. COAL - bright banded, hard
0.6 ft. MUDSTONE - black, coaly, sheared
0.55 ft. COAL - dirty, sheared and polished
0.3 ft. MUDSTONE - brown, slightly sheared
1.6 ft. COAL - bright, lustrous
0.45 ft. MUDSTONE - brown, carbonaceous, sheared
0.35 ft. COAL - sheared
0.3 ft. MUDSTONE - brown, carbonaceous, sheared
2.3 ft. COAL - bright banded
FLOOR: COAL - as above.

SECTION 33

Location: At Junction of A1 Heading and Room No. 00, on SE corner
Coordinates: 4R, 11
Measured: July 19, 1985
Roof to floor: >7.85 feet (leaving coal in floor)

ROOF: SILTSTONE - brownish-grey, hard
1.4 ft. COAL - bright, lustrous, hard
0.25 ft. COAL - bright banded
0.25 ft. MUDSTONE - black, coaly, sheared
0.45 ft. COAL - sheared and polished
0.2 ft. MUDSTONE - black, coaly, sheared
0.6 ft. COAL - bright banded
0.55 ft. MUDSTONE - brown, carbonaceous, sheared
0.45 ft. COAL - sheared
0.4 ft. MUDSTONE - brown, carbonaceous, sheared
3.3 ft. COAL - bright banded
FLOOR: COAL - as above

SECTION 34

Location: at Junction of A3 Heading and Room No. 00, on SE corner
Coordinates: 4R, 12.8
Measured: July 19, 1985
Roof to floor: >8.1 feet (leaving coal in floor)

ROOF: SILTSTONE - as before, with glossy slips at 45 degrees.
0.7 ft. COAL - bright, lustrous, hard
0.7 ft. COAL - bright banded, hard

0.5 ft. MUDSTONE - black, coaly, intensely sheared, wet
1.3 ft. COAL - intensely sheared and polished, forming sigmoidal plates
at 130 / 65 SW,
0.55 ft. COAL - bright banded, slightly sheared
0.05 ft. COAL AND SHALE - interlaminated bright coal and brown,
carbonaceous shale ("Coal and Bands" lithotype)
0.7 ft. COAL - dull banded, sheared
0.2 ft. MUDSTONE - black, coaly, intensely sheared
2.65 ft. COAL - bright banded, hard, slightly cracked
0.75 ft. COAL - intensely sheared and soft
FLOOR: COAL - hard

SECTION 35

Location: at Junction of A1 Headings and No.6 Room, on NW side

Coordinates:

Measured: August 1, 1985

Roof to floor: 6.8 feet

ROOF: SILTSTONE - brown, carbonaceous

0.65 ft. COAL - bright, lustrous, hard, with calcite and pyrite on cleat

1.2 ft. COAL - bright banded, with calcite and pyrite on cleat

0.2 ft. MUDSTONE - brown, coaly, sheared, soft

0.1 ft. COAL - sheared

0.8 ft. COAL - dull and bright

0.1 ft. MUDSTONE - brown, carbonaceous

1.45 ft. COAL - bright banded, slightly sheared

0.7 ft. MUDSTONE - brown, coaly, sheared, forming cornflakes

1.6 ft. COAL - bright banded

FLOOR: SANDSTONE - black, coaly, hard

SECTION 36

Location: at Junction of A1 Headings and No.4 Room, on SE corner

Coordinates:

Measured: August 1, 1985

Roof to floor: 8.4 feet

ROOF: SILTSTONE - as before

0.9 ft. COAL - bright, lustrous, hard

0.75 ft. COAL - bright banded

0.25 ft. MUDSTONE - black, coaly, sheared

0.25 ft. MUDSTONE - brown, carbonaceous, slightly sheared

0.45 ft. COAL - dull and bright, slightly sheared

0.2 ft. MUDSTONE - carbonaceous, sheared

0.65 ft. COAL - bright banded

0.35 ft. MUDSTONE - carbonaceous, sheared

1.2 ft. COAL - bright banded

0.2 ft. MUDSTONE - coaly, sheared

3.2 ft. COAL - bright banded

FLOOR: SANDSTONE - brown, hard

SECTION 37

Location: at Junction of D Headings and No. 2 Room, on NW corner

Coordinates:

Measured: August 1, 1985

Roof to floor: >9.65 feet (leaving coal in floor)

ROOF: SILTSTONE - as before

0.95 ft. COAL - bright, lustrous, very hard
0.6 ft. COAL - bright banded
0.5 ft. MUDSTONE - brown, carbonaceous, sheared
0.45 ft. COAL - sheared
0.35 ft. MUDSTONE - black, coaly, sheared
1.0 ft. COAL - bright banded
0.4 ft. COAL - bright banded, contorted, fold axes at 115
0.5 ft. COAL - bright banded
0.25 ft. MUDSTONE - coaly, black, sheared
4.65 ft. COAL - bright banded

FLOOR: COAL - as above

SECTION 38

Location: at Junction of A2 Headins and No. 1 Room, on SW corner

Coordinates:

Measured: August 1, 1985

Roof to floor: 7.8 feet

ROOF: SILTSTONE - as before

0.5 ft. COAL - bright, lustrous, hard

1.1 ft. COAL - bright banded, lustrous

1.3 ft. MUDSTONE - black, coaly, intensely sheared

0.5 ft. COAL - sheared

0.25 ft. MUDSTONE - brown, coaly, sheared

0.35 ft. COAL - sheared

0.3 ft. MUDSTONE - brown, coaly

3.5 ft. COAL - bright banded, locally sheared

FLOOR: SANDSTONE - black, coaly, hard

SECTION 39

Location: in south rib of Return Airway, 10 m outbye face on August 1, 1985

Coordinates: 1R, 13.5

Measured: August 1, 1985

Roof to floor: 11.9 feet

ROOF: SILTSTONE - as before

0.9 ft. COAL - bright banded, lustrous, hard

1.0 ft. COAL - bright banded

0.6 ft. MUDSTONE - coaly, sheared

0.2 ft. MUDSTONE - brown, silty

0.4 ft. COAL - dull

0.6 ft. MUDSTONE - black, coaly

1.0 ft. COAL - dull and bright

0.2 ft. MUDSTONE - black, coaly

1.2 ft. COAL - sheared

0.7 ft. MUDSTONE - black, coaly, sheared

5.1 ft. COAL - bright banded (basal 3.75 feet below working floor; this section established by drilling hole with air drill)

FLOOR: SANDSTONE

SECTION 40

Location: at Junction of Return Airway and Crosscut X-6, on SW corner

Coordinates: 1R, 14

Measured: August 9, 1985

Roof to floor: 10.7 feet

ROOF: SILTSTONE - brown, hard

0.8 ft. COAL - bright, lustrous, hard

0.05 ft. MUDSTONE - black, coaly
0.75 ft. COAL - bright banded, hard
0.95 ft. MUDSTONE - black, coaly, slightly sheared
0.6 ft. COAL - dull and bright
0.25 ft. MUDSTONE - black, coaly
0.6 ft. COAL - dull and bright
0.2 ft. MUDSTONE - black, coaly
0.8 ft. COAL - sheared and contorted
0.8 ft. MUDSTONE - black, coaly
4.9 ft. COAL - bright banded

FLOOR: SANDSTONE - black, coaly, hard

SECTION 41

Location: on S rib of Return Airway, at face on August 9, 1985
Coordinates: 1R, 15
Measured: August 9, 1985
Roof to floor: 9.7 feet

ROOF: SILTSTONE - dark brownish-grey, hard
0.7 ft. COAL - bright, lustrous, very hard
0.05 ft. MUDSTONE - black, coaly
0.75 ft. COAL - bright banded, lustrous
0.2 ft. MUDSTONE - black, coaly
0.2 ft. COAL - dull banded, lustrous
0.2 ft. MUDSTONE - black, coaly
0.5 ft. COAL - dull banded, lustrous
0.55 ft. MUDSTONE - dark brown, carbonaceous
0.6 ft. COAL - dull and bright
0.3 ft. MUDSTONE - dark brown to black, coaly
1.2 ft. COAL - bright banded, slightly sheared
0.3 ft. MUDSTONE - dark brown, carbonaceous
1.85 ft. COAL - bright banded
0.7 ft. MUDSTONE - dark brown to black, coaly
1.6 ft. COAL - bright banded

FLOOR: SANDSTONE - black, coaly, hard, rolls

SECTION 42

Location: at Junction of A3 Headings and 3rd Right Counter, on S side
Coordinates: 3R, 13
Measured: August 9, 1985
Roof to floor: 9.6 feet

ROOF: SILTSTONE - brown, as before
0.9 ft. COAL - bright, lustrous, very hard
0.05 ft. MUDSTONE - black, coaly, hard
0.65 ft. COAL - bright banded, lustrous, very hard
0.75 ft. MUDSTONE - black, coaly, sheared
0.5 ft. COAL - sheared, polished, contorted
0.4 ft. MUDSTONE - black, coaly
0.2 ft. COAL - bright, sheared
0.4 ft. MUDSTONE - black, coaly, sheared
0.65 ft. COAL - bright banded, slightly sheared
0.15 ft. MUDSTONE - dark brown, carbonaceous
1.3 ft. COAL - bright banded
3.65 ft. COAL ? - covered by debris and water

FLOOR: SANDSTONE - hard, under water and mud

SECTION 43

Location: at Junction of A1 Heading and 3rd Right Counter, on NE corner
Coordinates: 3R, 11
Measured: August 9, 1985
Roof to floor: 9.8 feet

ROOF: SILTSTONE - as before

- 0.8 ft. COAL - bright, lustrous, very hard
- 0.05 ft. MUDSTONE - black, coaly
- 0.6 ft. COAL - bright banded, lustrous, very hard
- 0.5 ft. MUDSTONE - black, coaly, slightly sheared
- 0.5 ft. COAL - bright, lustrous
- 1.1 ft. MUDSTONE - black, coaly
- 0.15 ft. MUDSTONE - brown, intensely sheared
- 3.3 ft. COAL - bright banded
- 0.7 ft. MUDSTONE - brown, carbonaceous, sheared, intensely so at base
- 2.1 ft. COAL - bright banded

FLOOR: SANDSTONE - coarse-grained, dark brown, carbonaceous, roots

SECTION 44

Location: at Junction of A1 Heading and Room No. 0, on SE corner
Coordinates: 5R, 11
Measured: August 9, 1985
Roof to floor: >7.65 feet (leaving coal in floor)

ROOF: SILTSTONE - as before

- 1.0 ft. COAL - bright, lustrous, very hard
- 0.05 ft. MUDSTONE - black, coaly, hard
- 0.5 ft. COAL - bright banded, lustrous, hard
- 0.1 ft. MUDSTONE - black, coaly, sheared
- 1.0 ft. COAL - dull banded
- 0.8 ft. MUDSTONE - black, coaly
- 0.35 ft. COAL - bright banded
- 0.15 ft. MUDSTONE - black, coaly
- 0.4 ft. COAL - intensely sheared
- 0.2 ft. MUDSTONE - black, coaly, intensely sheared
- 3.1 ft. COAL - bright banded

FLOOR: COAL - as above

SECTION 45

Location: at Junction of D Heading and Room No. 4, on SE corner
Coordinates: 9R, 7
Measured: August 9, 1985
Roof to floor: 6.75 feet

ROOF: SILTSTONE - brownish-grey

- 1.0 ft. COAL - bright, lustrous, very hard
- 0.6 ft. COAL - bright banded, lustrous
- 0.3 ft. MUDSTONE - black, coaly, sheared
- 0.15 ft. COAL - sheared
- 0.25 ft. MUDSTONE - black, coaly, slightly sheared
- 0.3 ft. COAL - sheared
- 0.35 ft. MUDSTONE - brown, intensely sheared
- 1.8 ft. COAL - bright banded
- 0.7 ft. MUDSTONE - brown, carbonaceous, sheared
- 1.3 ft. COAL - bright banded

FLOOR: SANDSTONE - coarse-grained, brown, carbonaceous

~~SECTION 46~~

Location: at Junction of F Headings and Room No. 4, on north side

Coordinates: 9R, 5

Measured: August 9, 1985

Roof to floor: 8.0 feet

ROOF: SILTSTONE - as before, with abundant plant trash; weathered and wet

0.85 ft. COAL - bright, lustrous, very hard

0.6 ft. COAL - bright banded, lustrous, very hard

0.15 ft. MUDSTONE - black, coaly

1.35 ft. COAL - bright banded

0.2 ft. MUDSTONE - dark brown, carbonaceous, sheared

0.25 ft. COAL - sheared

0.2 ft. MUDSTONE - dark brown, carbonaceous, sheared

4.4 ft. COAL - bright banded

FLOOR: SANDSTONE - as before

SECTION 47

Location: at Junction of D Headings and Room No. 6, on SE corner

Coordinates: 11R, 7

Measured: August 9, 1985

Roof to floor: 7.4 feet

ROOF: SILTSTONE - dark brown at base, with abundant finely-broken plant trash

0.8 ft. COAL - bright, lustrous, very hard

0.65 ft. COAL - bright banded, lustrous

0.25 ft. MUDSTONE - brown to black, coaly, sheared

0.35 ft. COAL - dull banded, slightly sheared

0.35 ft. MUDSTONE - brown, carbonaceous, slightly sheared

0.25 ft. COAL - dull banded, slightly sheared

0.35 ft. MUDSTONE - brown, carbonaceous, sheared, soft

2.2 ft. COAL - bright banded

0.55 ft. MUDSTONE - black, coaly, intensely sheared

1.65 ft. COAL - bright banded

FLOOR: SANDSTONE - brown, carbonaceous, hard

SECTION 48

Location: at Junction of B Headings and Room No. 6, on SE corner

Coordinates: 11R, 9

Measured: August 9, 1985

Roof to floor: 8.85 feet

ROOF: SILTSTONE - brown, as before

1.0 ft. COAL - bright, lustrous, very hard

0.05 ft. MUDSTONE - brown, coaly

0.55 ft. COAL - bright banded, lustrous, very hard

0.2 ft. MUDSTONE - black, coaly, intensely sheared

0.25 ft. COAL - dull and bright, slightly sheared

0.85 ft. MUDSTONE - black, coaly, sheared

1.05 ft. COAL - dull, sheared

0.35 ft. MUDSTONE - dark brown, carbonaceous, sheared

2.5 ft. COAL - bright banded

0.4 ft. MUDSTONE - dark brown, carbonaceous, sheared

1.65 ft. COAL - bright banded

FLOOR: SANDSTONE - coarse-grained, light brown, slightly carbonaceous

SECTION 49

Location: at face of B Heading, 42 feet inbye Room No. 7, on E rib
Coordinates: 12.8R, 9
Measured: August 9, 1985
Roof to floor: 8.05 feet

ROOF: SILTSTONE - as before

1.0 ft. COAL - bright, lustrous, very hard
0.85 ft. COAL - bright banded, hard
0.15 ft. MUDSTONE - brown, carbonaceous, sheared
0.15 ft. MUDSTONE - black, coaly, sheared
0.55 ft. COAL - dull and bright
0.35 ft. MUDSTONE - black, coaly
0.85 ft. COAL - dull banded
0.1 ft. MUDSTONE - black, coaly, sheared
0.3 ft. COAL - bright, slightly sheared
0.35 ft. MUDSTONE - brown, carbonaceous, slightly sheared
1.2 ft. COAL - bright banded
0.95 ft. MUDSTONE - coaly, sheared
1.25 ft. COAL - bright banded

FLOOR: SANDSTONE - as before

SECTION 50

Location: at Junction of B Heading and Room No. 4, on SE corner
Coordinates: 9R, 9
Measured: August 9, 1985
Roof to floor: 8.3 feet

ROOF: SILTSTONE - brownish-grey, as before

0.8 ft. COAL - bright, lustrous, very hard
0.85 ft. COAL - bright banded, very hard
0.1 ft. MUDSTONE - black, coaly, sheared, overthrust to 055
0.8 ft. COAL - sheared and polished, flaky
0.1 ft. MUDSTONE - black, coaly, sheared
1.0 ft. COAL - sheared, dull and bright
0.15 ft. MUDSTONE - dark brown, carbonaceous, sheared
2.15 ft. COAL - bright banded, slightly sheared at top
0.8 ft. COAL - sheared, cornflakes
1.55 ft. COAL - bright banded

FLOOR: SANDSTONE - as before

SECTION 51

Location: at Junction of A1 Heading and Room No. 2, on NE corner
Coordinates: 7R, 11
Measured: August 9, 1985
Roof to floor: 7.65 feet

ROOF: SILTSTONE - as before

0.65 ft. COAL - bright, lustrous, very hard
1.05 ft. COAL - bright banded, lustrous, hard
0.1 ft. MUDSTONE - black, coaly, intensely sheared
0.15 ft. COAL - intensely sheared
0.45 ft. MUDSTONE - black, coaly, sheared
0.3 ft. MUDSTONE - brown, carbonaceous, sheared
0.5 ft. COAL - dull and bright, slightly sheared
0.45 ft. MUDSTONE - brown, carbonaceous, sheared
1.9 ft. COAL - bright banded
0.2 ft. COAL - bright banded, sheared
0.25 ft. MUDSTONE - black, coaly, intensely sheared
1.65 ft. COAL - bright banded

FLOOR: SANDSTONE - as before

APPENDIX B



Chemex Labs Ltd.

Analytical Chemists

Geochemists

Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Phone: (604) 984-0221
Telex: 043-52597

TO: WOLF MOUNTAIN COAL LTD.
105 - 1285 WEST PENDER STREET
VANCOUVER, BC
V6E 4B1

CERTIFICATE NO.: A8611416
DATE : MARCH 24, 1986

We have received from you on March 19th, 4 run of mine coal samples for analysis and report the following results:

SAMPLE	BASIS	T.M. %	R.M. %	ASH %	CAL. VALUE BTU/LB
1	As Rec.	6.0		17.24	11,165
	Air Dry		1.61	18.04	11,687
	Dry			18.34	11,878
2	As Rec.	7.2		20.58	10,477
	Air Dry		1.63	21.82	11,106
	Dry			22.18	11,290
3	As Rec.	5.7		22.88	10,401
	Air Dry		1.66	23.86	10,847
	Dry			24.26	11,030
4	As Rec.	5.3		21.84	10,516
	Air Dry		1.75	22.66	10,911
	Dry			23.06	11,105

CERTIFIED BY.....*W. Santamarini*.....



Chemex Labs Ltd.

Analytical Chemists

Geochemists

Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Phone: (604) 984-0221
Telex: 043-52597

TO: WOLF MOUNTAIN COAL LTD.
105 - 1285 W. PENDER STREET
VANCOUVER, BC
V6E 4B1

CERTIFICATE NO.: A8611257
DATE: MARCH 18, 1986
P.O.: 1306

RUN OF MINE: FINE COAL

RUN OF MINE: COARSE COAL

Analysis of Screen Fractions

Analysis of Screen Fractions

FRACTION	R.M. %	ASH A.D. %	ASH DRY %
+ 2"	2.48	7.10	7.28
+ 1"	2.19	11.51	11.77
+ 3/8"	2.11	11.64	11.89
+ 1/4"	1.95	13.80	14.07
+ 8M	1.98	16.46	16.79
+ 16M	2.00	21.36	21.80
+ 28M	2.05	25.77	26.31
+ 48M	2.13	30.66	31.33
+ 100M	2.26	36.81	37.66
- 100M	2.40	41.43	42.45

FRACTION	R.M. %	ASH A.D. %	ASH DRY %
+ 2"	2.31	8.98	9.19
+ 1"	2.24	9.79	10.01
+ 3/8"	2.15	11.33	11.58
+ 1/4"	2.00	14.24	14.53
+ 8M	2.02	18.02	18.39
+ 16M	2.06	22.81	23.29
+ 28M	2.07	26.73	27.30
+ 48M	2.19	30.40	31.08
+ 100M	2.31	35.13	35.96
- 100M	2.40	40.18	41.17

Composite: 2.15 19.59 20.02

Composite: 1.99 16.96 17.30

BTU/lb: 11,280 a.d. 11,528 dry

BTU/lb: 11,758 a.d. 11,997 dry

CONFIDENTIAL

CERTIFIED BY: *W. St. Martin*

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