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GULF CANADA RESOURCES INC.

MOUNT KLAPPAN COAL PROJECT

1982

MINE ASSESSMENT

VOLUME 4

COAL PREPARATION FACILITIES

Coal Licence Number 7118 to 7177

7381 to 7392

and

7416 to 7432 inclusive

Cassiar Land District

NTS Map Number 104 H

Latitude Between $57^{\circ}11'$ and $57^{\circ}22'N$
Longitude Between $128^{\circ}39'$ and $129^{\circ}05'W$

BY

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Vancouver, B.C. Canada

DECEMBER 1982

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PBK Project No. 82054



MOUNT KLAPPAN COAL PROJECT

MOUNT KLAPPAN COAL PROJECT LOCATION MAP



MOUNT KLAPPAN COAL PROJECT

MINE ASSESSMENT

VOLUME 1 SUMMARY

VOLUME 2 GEOLOGY

VOLUME 3 MINING

▷ VOLUME 4 COAL PREPARATION FACILITIES

VOLUME 5 INFRASTRUCTURE

VOLUME 4

COAL PREPARATION FACILITIES

MOUNT KLAPPAN COAL PROJECT**VOLUME 4****COAL PREPARATION FACILITIES****TABLE OF CONTENTS****PART**

- 1 INTRODUCTION
- 2 DESIGN CRITERIA
- 3 PREPARATION PLANT - 5 Mtpy CASE
- 4 RAW COAL HANDLING FACILITY - 1 Mtpy CASE

MASTER TABLE OF CONTENTS**APPENDICES**

PART 1

INTRODUCTION

PART 1 - INTRODUCTION

CONTENTS

| | <u>Page</u> |
|--------------|-------------|
| 1.1 SYNOPSIS | 1-1 |

1.1 SYNOPSIS

This volume presents estimated product quality and a preliminary flowsheet design for coal preparation facilities for the Mount Klappan Coal Project. The assessment is based on two mine production alternatives:

- 5 000 000 tonnes of briquetting anthracite shipped per year with an ash content of 20% (dry basis) and a maximum total moisture (including inherent and surface moisture) of 8%.
- 1 000 000 tonnes of run-of-mine coal shipped per year.

The major items of this assessment are:

- Evaluate existing coal quality data in relation to the proposed mine area.
- Develop washability, size distribution and coal quality data in sufficient detail to evaluate washing circuit performance and estimate the coal product yield and quality characteristics.
- Develop a preliminary flowsheet design considering several washing circuits.
- Prepare preliminary preparation plant arrangement drawings.
- Evaluate and select a site for the facilities.

In developing this assessment, consideration is given to the particular characteristics of the coal to be treated, the geographic location of the property, and the experience of current producers in western Canada, specifically in British Columbia.

The findings are of sufficient detail to develop capital and operating cost estimates and to evaluate preliminary economic viability, however, the acquisition of additional samples from further exploration is required to confirm coal quality estimates and to detail proposed preparation plant circuitry more adequately.

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PART 2
DESIGN CRITERIA

PART 2 - DESIGN CRITERIA

CONTENTS

| | <u>Page</u> |
|-----------------------------------|-------------|
| 2.1 INTRODUCTION | |
| 2.2 PLANT CAPACITY | 2-1 |
| 2.3 OUT-OF-SEAM DILUTION | 2-1 |
| 2.4 RUN-OF-MINE SIZE DISTRIBUTION | 2-2 |
| 2.5 YIELD RANGE | 2-2 |
| 2.6 MOISTURE CONTENT | 2-3 |
| 2.7 YIELD AND QUALITY ESTIMATES | 2-3 |

2.1 INTRODUCTION

Part 2 presents design criteria used to size the preparation plant and related raw and clean coal handling systems. In addition, procedures for estimating coal quality are summarized.

2.2 PLANT CAPACITY (5 Mtpy Case Only)

Plant capacity is designed for 1 100 tonnes (residual moisture basis) per hour based on the following assumptions:

- Production of 5 000 000 clean tonnes per year (C tpy).
- 70% yield (air dried basis).
- 7.5% clean coal surface moisture (S.M.).
- 24 hour per day operation.
- Processing 350 days per year.
- 75% plant availability

$$\frac{5\,000\,000 \text{ C tpy} \times 0.925 \text{ (S.M.)}}{0.70 \text{ (Yield)}} = 1\,048 \text{ Raw Tonnes/Hr}$$

$$24 \text{ hrs/day} \times 350 \text{ days/yr} \times 0.75 \text{ (avail)}$$

1 100 raw tonnes per hour is utilized for flowsheet design.

2.3 OUT-OF-SEAM DILUTION

All data is corrected for 4.76% out-of-seam dilution added during mining operations. Per cent dilution is defined as:

$$\frac{\text{Dilution Weight}}{\text{Run-of-mine Weight (including dilution)}} \times 100$$

Out-of-seam dilution is assumed to contain (dry basis):

- 80% ash
- 3.5 MJ/kg
- same sulphur content as the in-seam material
- no recoverable product material

Because the preparation plant separating gravity ranges from 1.8 to 2.1, it is highly probable that a portion of the dilution material will be recovered with the clean coal. However, the effect on yield at a constant quality will be negligible. Since no dilution washability data is available, it is assumed that all dilution material reports to refuse.

2.4 RUN-OF-MINE SIZE DISTRIBUTION

The size consist utilized for design is:

| <u>Size Fraction</u> (mm) | <u>(%)</u> | | |
|------------------------------|----------------|-----------------------|----------------------|
| | <u>Average</u> | <u>Maximum Coarse</u> | <u>Maximum Fines</u> |
| 100 x 20 | 10 | 20 | 3 |
| 20 x 6 | 15 | 30 | 12 |
| 6 x 0.6 | 53 | 40 | 55 |
| 0.6 x 0.15 | 14 | 7 | 18 |
| 0.15x 0 | <u>8</u> | <u>3</u> | <u>12</u> |
| | <u>100</u> | <u>100</u> | <u>100</u> |

2.5 YIELD RANGE (5 Mtpy Case Only)

Based on producing a 20% dry ash product, the following yields are used for flowsheet balance and equipment sizing:

| <u>Size Fraction (mm)</u> | <u>Yield (%)*</u> | | |
|---------------------------|-------------------|----------------|----------------|
| | <u>Average</u> | <u>Maximum</u> | <u>Minimum</u> |
| 100 x 20 | 75 | 80 | 55 |
| 20 x 6 | 75 | 80 | 55 |
| 6 x 0.6 | 75 | 85 | 65 |
| 0.6 x 0.15 | 80 | 85 | 70 |
| 0.15x 0 | 75 | 80 | 60 |

* The yield values include residual moisture.

2.6 MOISTURE CONTENT

The following definitions apply to yield and quality moisture corrections:

- Dry basis - no moisture present either internal or surface
- Surface Moisture (S.M.) - moisture added during mining or processing.
- Residual Moisture (R.M.) - roughly estimates the bed moisture or moisture associated with the internal pore structure. Residual moisture of 1.5% is assumed.
- Total (T.M.) or As-Received Moisture estimates the moisture content including residual and surface moistures. Total moisture is calculated as follows:

$$T.M. = R.M. \left(\frac{100 - S.M.}{100} \right) + S.M.$$

Surface moisture of 3.6% is added to the run-of-mine material during mining resulting in 5.0% total moisture ($1.5 (.964) + 3.6 = 5.0$).

Thermal dryer product contains 6.1% surface moisture and a total moisture of 7.5% ($1.5 (.939) + 6.1 = 7.5$). Coal is overdried to allow for moisture increases, to a maximum of 8% total, during handling and shipping.

2.7 YIELD AND QUALITY ESTIMATES (5.0 Mtpy Case Only)

Coarse coal (plus 0.15 mm) yield and quality estimates are based on computer-simulations and were developed by the following procedures:

- The two total plant feed washabilities (10 mm x 0.6 mm and 0.6 mm x 0.15 mm size fractions) were inputted to the computer.
- Efficiency factors were developed based on the gravity of separation, feed size distribution and equipment cleaning characteristics.

- The efficiency factors were applied to the washability data at varying separating gravities and a series of yield vs. quality estimates developed.

The washability data, efficiency factors and computer results are detailed in Appendices A and B.

The following criteria are utilized to calculate froth flotation yield and quality:

- 90% plant efficiency (90% of the 120 second frothing recovery attained).
- Clean coal ash content increased by 1.0 percentage point from data for 120 second frothing.

Washability data shows yield, ash and thermal value results but no sulphur results. Sulphur results are estimated based on the coal quality characteristics summary - Table 3.6.

PART 3

PREPARATION PLANT

5 Mtpy CASE

PART 3 - PREPARATION FACILITY - 5 Mtpy CASE

CONTENTS

| | <u>Page</u> |
|--|-------------|
| 3.1 OVERVIEW | |
| 3.2 COAL QUALITY | 3-1 |
| 311 Data Base | 3-1 |
| 312 Compositing Procedures | 3-2 |
| 313 Preparation Plant Performance | 3-2 |
| 314 Raw and Clean Coal Quality | 3-3 |
| 3.3 COAL HANDLING AND PREPARATION PLANT | 3-4 |
| 321 Introduction | 3-4 |
| 322 Site Location | 3-4 |
| 323 Preparation Plant Circuit Alternatives | 3-5 |
| 324 Raw Coal Handling | 3-6 |
| 325 Preparation Plant | 3-7 |
| 326 Thermal Dryer | 3-8 |
| 327 Clean Coal Storage and Loadout | 3-9 |
| 328 Refuse Disposal | 3-9 |
| 329 Support Facilities | 3-10 |
| 3210 Equipment List | 3-10 |
| 3211 Labour | 3-10 |

Table

| | |
|-----|---|
| 3.1 | Theoretical Coal Quality, By Size and By Seam |
| 3.2 | Theoretical Coal Quality Summary, By Size and By Seam |
| 3.3 | Plant Feed Washability Composite, 10 mm x 0.6 mm Size Fraction |
| 3.4 | Plant Feed Washability Composite, 0.6 mm x 0.15 mm Size Fraction |

- 3.5 Estimated Clean Coal Yield and Quality, Jig-Water Only Cyclone-Flotation
- 3.6 Coal Quality Characteristics, Summary By Seam
- 3.7 Coal Quality Characteristics, By Seam
- 3.8 Estimated Clean Coal Yield and Quality, Partial Cleaning
- 3.9 Estimated Clean Coal Yield and Quality, H.M. Cyclone (plus 0.15 mm) - Flotation
- 3.10 Estimated Clean Coal Yield and Quality, H.M. Cyclone - W.O. Cyclone - Flotation
- 3.11 Estimated Clean Coal Yield and Quality, H.M. Vessel - H.M. Cyclone - W.O. Cyclone - Flotation
- 3.12 Estimated Clean Coal Yield and Quality, Jig-Water Only Cyclone - Flotation
- 3.13 Major Equipment List, 5 Mtpy
- 3.14 Labour Schedule

Figure

- 3.1 Estimated Yield and Quality, Jig-Water Only Cyclone - Flotation
- 3.2 Coal Processing Facility, Site Plan
- 3.3 Estimated Yield and Quality Jig Vs. Heavy Media Cleaning
- 3.4 Plant Organization Chart - 5 Mtpy Case

Plate

- 3.2 Preparation Facility Flowsheet
- 3.3 Proposed Preparation Plant Flowsheet
- 3.4 Partial Cleaning Flowsheet
- 3.5 H.M. Cyclone - W.O. Cyclone - Flotation Flowsheet
- 3.6 H.M. Vessel - H.M. Cyclone - W.O. Cyclone - Flotation Flowsheet
- 3.7 Preparation Plant Section, Sheet 1
- 3.8 Preparation Plant Section, Sheet 2

3.1 OVERVIEW

An 1100 tph preparation plant is selected to provide the coal product quality required for a briquetting anthracite. The cleaning circuitry consists of jigs, water only cyclones and flotation cells. Appropriate raw and clean coal handling systems are developed including raw and clean coal silo storage and a unit train loadout system.

Estimated run-of-mine and preparation facility product quality are shown below:

| | <u>Run-Of-Mine Coal</u> | | | <u>Clean Coal</u> | | |
|---------------------|-------------------------|------------------------|-----------------|-------------------|------------------------|-----------------|
| | <u>Dry</u> | <u>Air Dried Basis</u> | <u>As Rec'd</u> | <u>Dry</u> | <u>Air Dried Basis</u> | <u>As Rec'd</u> |
| Moisture (%) | - | 1.50 | 5.00 | - | 1.50 | 7.50 |
| Ash (%) | 32.71 | 32.20 | 31.07 | 20.00 | 19.70 | 18.50 |
| Volatile Matter (%) | 6.68 | 6.58 | 6.35 | 7.92 | 7.80 | 7.33 |
| Fixed Carbon (%) | 60.61 | 59.70 | 57.58 | 72.08 | 71.00 | 66.67 |
| Sulphur (%) | 0.75 | 0.74 | 0.71 | 0.75 | 0.74 | 0.69 |
| MJ/KG | 21.69 | 21.36 | 20.61 | 27.15 | 26.74 | 25.11 |
| Yield (%) | - | - | - | 70.00 | 70.00 | 71.90 |

3.2 COAL QUALITY

311 DATA BASE

During 1982, seven diamond drill holes were cored on the Mount Klappan property. Data from four cores samples (82001, 82002, 82003 and 82004) are used for this assessment since only these core holes influence the mine area.

The following tabulation shows which seams were intersected by the drill holes and the number of segments of each seam analyzed in the testing programme.

| Mineable Seam | Number of Segments | | | | Total |
|--|--------------------|-----------|-----------|-----------|-----------|
| | DDH-82001 | DDH-82002 | DDH-82003 | DDH-82004 | |
| K | 1 | - | 1 | - | 2 |
| J | 1 | - | 1 | - | 2 |
| I | 2 | - | 1 | - | 3 |
| H | 1 | - | 1 | - | 2 |
| G | 1 | 1 | 2 | - | 4 |
| F | - | - | 1 | - | 1 |
| E | - | 3 | 2 | 1 | 6 |
| Total Segments Per Drill Hole | 6 | 4 | 9 | 1 | 20 |

The core sampling and testing programme was developed by Gulf Canada Resources Inc. (Gulf) and samples were processed by Cyclone Engineering and Sales. The following summarizes the data results used for this study:

- Seam details
- Size distribution
- Washability data for 10 mm x 0.6 mm and 0.6 mm x 0.15 mm size fractions.
- Flotation tests for 0.15 mm x 0 size fraction
- Coal quality tests for specified coal sections including proximate and ultimate analysis, Hardgrove Grindability Index, chlorine, mineral analysis of ash, sulphur forms and ash fusion temperatures.

Coal quality findings should be considered preliminary in nature and must be confirmed by analysis of samples from additional exploration.

312 COMPOSITING PROCEDURES

The proposed mine plan details production from multiple seams. Washability data for the area of influence of the mine is available for 20 total segments located within seven seams.

To ensure a reliable estimate of the run-of-mine and product quality, the data was composited in the following manner:

- Weight factors were developed by seam for each coal segment based on seam thickness and area of influence.

- Area of influence by seam was determined by the polygon method of perpendicular bisectors. If less than three core holes penetrated a seam the weight factors were developed from seam thicknesses only.
- The weight factors were applied to the segment data to calculate weight averaged yield and quality for each seam. These weight factors are detailed in Table 3.1.

313 PREPARATION PLANT PERFORMANCE

Plant feed washabilities (excluding out-of-seam dilution) resulting from the compositing programme are summarized in Table 3.2 by size fraction. Details of 24 gravity fraction washabilities for 10 mm x 0.6 mm and 0.6 mm x 0.15 mm size fractions are shown in Tables 3.3 and 3.4, respectively.

These composite quality summaries represent the data utilized to select the preparation plant circuitry. The 10 mm x 0.6 mm size fraction data is utilized to estimate the performance for jig, heavy media vessel and heavy media cyclone circuits. The 0.6 mm x 0.15 mm size fraction data is used to estimate performance for fine heavy media cyclone and water only cyclone recycle circuits. These washabilities were processed in a computer and cleaning equipment efficiencies were simulated. Results are shown in Appendix A.

Flotation efficiency estimates are based on procedures outlined in the design criteria.

Yields are adjusted by a 0.9524 multiplier to allow for estimated out-of-seam dilution. Raw coal quality is adjusted for out-of-seam dilution based on criteria detailed in Part 2.

314 RAW AND CLEAN COAL QUALITY

Table 3.5 shows yield and quality estimates for the proposed jig, water only cyclone, flotation preparation plant. The following tabulations record estimates of the run-of-mine and product coal quality for the production of a 20% ash product (dry basis). The estimates are derived from an evaluation of the data plotted in Figure 3.1.

| | <u>Run-Of-Mine Coal</u> | | | <u>Clean Coal</u> | | |
|---------------------|-------------------------|--------------------|--------------|-------------------|--------------------|--------------|
| | | Air | As | | Air | As |
| | <u>Dry</u> | <u>Dried Basis</u> | <u>Rec'd</u> | <u>Dry</u> | <u>Dried Basis</u> | <u>Rec'd</u> |
| Moisture (%) | - | 1.50 | 5.00 | - | 1.50 | 7.50 |
| Ash (%) | 32.71 | 32.20 | 31.07 | 20.00 | 19.70 | 18.50 |
| Volatile Matter (%) | 6.68 | 6.58 | 6.35 | 7.92 | 7.80 | 7.33 |
| Fixed Carbon (%) | 60.61 | 59.70 | 57.58 | 72.08 | 71.00 | 66.67 |
| Sulphur (%) | 0.75 | 0.74 | 0.71 | 0.75 | 0.74 | 0.69 |
| MJ/KG | 21.69 | 21.36 | 20.61 | 27.15 | 26.74 | 25.11 |
| Yield (%) | - | - | - | 70.00 | 70.00 | 71.90 |

Table 3.6 presents a summary of, and Table 3.7 details, the clean coal quality characteristics by seam and for the estimated blend and indicates that the reserves are anthracite in rank. The results shown represent coal product contents ranging from 16.5% to 20% ash and should closely approximate quality characteristics for the estimated product quality shown above.

The run-of-mine and clean coal quality estimates are based on the washability data supplied for each drill core segment. Data detailed in Tables 3.6 and 3.7 are based on separate samples from the same core segments prepared without washing. Therefore, the two sets of data are similar but not directly comparable.

3.3 COAL HANDLING AND PREPARATION PLANT

321 INTRODUCTION

Figure 3.2 shows the conceptual site location, and Plates 3.2 and 3.3 show the preparation facility coal handling and the preparation plant circuitry, respectively.

322 SITE LOCATION

Two sites were evaluated, one due east and one due south of the mine area. Both sites are located along the Spatsizi River and allow sufficient area for the preparation facility, tailing ponds and ancillary buildings. The site directly south of the mine site was chosen because considerably less rail track is required. Figure 3.2 shows the layout of the preparation facilities.

323 PREPARATION PLANT CIRCUIT ALTERNATIVES

Several washing circuits were evaluated before the optimal system was determined.

- Alternative 1 (Table 3.8.)

Heavy media vessel processing of plus 6 mm material and the 6 mm x 0 size fraction shipped raw.

- Alternative 2 (Table 3.9)

Heavy media cyclone cleaning of plus 0.15 mm material and processing 0.15 mm x 0 size fraction by flotation. This flowsheet was not developed because it is similar to Alternative 3.

- Alternative 3 (Table 3.10)

Heavy media cyclone cleaning of plus 0.6 mm material, water only cyclone washing the of 0.6 mm x 0.15 mm size fraction and flotation processing of the fines (0.15 mm x 0).

- Alternative 4 (Plate 3.11)

Heavy media vessel processing of plus 12 mm material, heavy media cyclone cleaning of 12 mm x 0.6 mm size fraction, water only cyclone washing of 0.6 mm x 0.15 mm and flotation processing of 0.15 mm x 0.

- Alternative 5 (Table 3.12)

Jig washing of plus 0.6 mm material, water only cyclone cleaning of the 0.6 mm x 0.15 mm size fractions and flotation processing 0.15 mm x 0.

Normally, dry screening below 12 mm is considered inefficient. It is assumed, in Alternative 1, that dry screening at 6 mm will produce a significant amount of fines (6 mm x 0) carry over to the vessel. Fines pollute the separating media which adversely affects the vessel circuit performance. However, based on available coal quality characteristics, it is more advantageous to clean a larger portion of the plant feed inefficiently.

Size distribution is critical in determining the viability of partial cleaning. With a coarser size distribution, partial cleaning becomes more attractive. Drill core data indicates 75% of the plant feed is less than 6 mm. This is unusually fine for anthracite deposits. Generally, anthracite operations have a maximum of 55%

of the plant feed passing 6mm. Further testing is required to determine if the fine size distribution results from overcrushing the cores (crushing to 10 mm topsize) or if the friability of the coal is atypically high; the former seeming more likely.

Table 3.8 estimates product quality for two size distributions. In either case, a 20% ash content cannot be provided. Therefore, the partial cleaning alternate is discarded.

Figure 3.3 and Tables 3.9, 3.10, 3.11 and 3.12 detail estimates of yield vs ash for the remaining alternatives. Due to the large amount of near gravity material (± 0.1 specific gravity units from the separating gravity), the heavy media washing circuits are much more efficient than the jig circuitry. But the heavy media circuits cannot operate effectively at separating gravities above 1.70. The highest ash content which can be produced by the heavy media plants is 16% (dry basis) at 63.0% yield. The jig flow scheme can provide 70% yield at 20% ash. Based on the product quality requirements, the heavy media circuit alternatives have been rejected.

The jig, water only cyclone, flotation preparation plant is recommended based on product quality requirements. If product criteria is modified by lowering the product ash content, then heavy media circuitry must be re-evaluated.

324 RAW COAL HANDLING

Run-of-mine coal is transported from the mine area to a truck dump. Significant ground storage area is available to stockpile and blend the various seams. Coal quality data indicates that careful blending is not required. Proper pit scheduling and utilization of the 10 000 tonne raw coal silo should provide adequate blending.

Apron feeders recover material from the truck dump and feed scalping screens. These screens reduce the load to the rotary breaker by removing 100 mm x 0 raw coal.

The rotary breaker reduces the 600 mm x 100 mm run-of-mine material to 100 mm x 0 and removes rock and scrap material. The rock and scrap are discharged from the breaker and conveyed to an open stockpile. A rock bin is not recommended since it must be totally enclosed to prevent freezing.

Scalping screen underflow and rotary breaker crushed material are conveyed to the raw coal silo. A single 10 000 tonne silo allows slightly more than one shift storage capacity. This should be adequate considering the ground storage available at the truck dump.

Vibrating feeders reclaim anthracite from the raw coal silo and discharge onto the plant feed conveyor. These feeders have grizzlies at their discharge points to prevent large frozen lumps from entering the preparation plant and plugging chutes in the feed system.

325 PREPARATION PLANT

Raw anthracite is reclaimed from the raw coal silo and fed to the preparation plant's seven-cell, two-compartment mogul jigs. Parallel circuits are provided from jigging to flotation to ensure maximum plant availability. Batac jigs were considered in place of baum jigs because of higher cleaning efficiencies but were not selected for the following reasons:

- Capital and operating costs are greater
- Downtime requirements are greater because the decking must be cleaned every 8 to 10 shifts to prevent plugging.
- Efficiency cannot be effectively controlled. The efficiency reduces in direct relation to the number of hours the batac jig has operated since its last deck cleaning.

Primary elevator reject is dewatered by refuse screens and transported to an open refuse pile. Secondary elevator reject either reports to refuse screens or to the middlings circuit. Middlings are screened at 6 mm and the plus 6 mm material is crushed to 6 mm top size. Screen underflow and crushed middlings are combined and pumped to the jig for re-cleaning.

Sufficient data is not available to determine if middlings circuitry will improve the plant product. But available data does indicate that the high sulphur (plus 1.0% dry basis) anthracite core sections have an unusually high percentage of pyritic sulphur. Crushing could reduce the amount of pyritics in the product.

The amount of near gravity material in the 1.80 to 2.10 specific gravity range is extremely high. Therefore, crushing may also reduce the ash content at a given yield.

Clean anthracite is dewatered and screened at 20 mm and 6 mm on double deck vibrating screens. The plus 20 mm product is transferred to the clean coal silo conveyor. The 20 mm x 6 mm material is centrifugally dried and fed to the thermal dryer feed conveyor.

Clean coal screen underflow (6 mm x 0) is deslimed by sieve bends and screens. The plus 0.6 mm fraction is centrifuged and added to the coarse clean coal.

Fine coal (0.6 mm x 0) is washed by a water only cyclone recycle circuit. Water only cyclone product is sized at 0.15 mm by classifying cyclones and the 0.15 mm x 0 size fraction is recleaned in flotation cells. The 0.6 mm x 0.15 mm product is combined with flotation cell concentrate and dewatered by vacuum filters. Filter cake reports to the dryer feed conveyor.

Water only cyclone reject and flotation cell tailings are concentrated in a thickener. Clarified water is recycled to the plant, and thickener underflow is pumped to the tailings pond located on the opposite side of the Spatzizi River.

Water only cyclones are added to the fine coal circuitry to ensure maximum recovery. Recycle circuitry is utilized in place of a two stage system to maximize efficiency of the water only cyclone circuitry.

Plates 3.7 and 3.8 show preliminary general arrangement drawings for the proposed preparation plant.

326 THERMAL DRYER

The 20 mm x 0 cleaned product is conveyed to thermal dryers. Fluid bed type dryers have been selected for this service. Fluid bed units are used most prevalently in the coal industry since they are highly reliable and can provide a consistent moisture product.

The two dryers have a combined water evaporation rate of 50 tph. The furnace combustion equipment is fired by coal using a stoker arrangement. An ash handling system is provided.

An exhaust fan draws heated air through the constriction deck causing the coal to fluidize. The coal passes across the deck and discharges from the dryer to a transfer conveyor. Dust collection is provided at this point.

The moisture and fine particles of coal contained in the exhaust gas pass through large diameter cyclones where the majority of fines settle out from the air stream. Coal particles collected by the cyclones are added to the dryer discharge product. The gas and extreme fines pass through a high energy gas scrubber to remove the remaining super fine solids from the gas stream.

The gas is then passed through a mist eliminator and an exhaust fan before discharging to the atmosphere via a stack. The dryer scrubber system is designed to meet all existing environmental regulations.

The dryer is located in a totally enclosed insulated building.

327 CLEAN COAL STORAGE AND LOADOUT

Product coal is conveyed from the thermal dryers to the two clean coal silos. A bypass conveyor on top of one silo allows transfer of coal to the second silo.

Each silo has a capacity of 10 000 tonnes for a total capacity of slightly over one day's production. A stacking tube and considerable ground storage are provided to prevent stoppage of cleaning plant operations if unit train deliveries are interrupted.

Return feeders collect the silo and stacking tube discharge and transfer the material to the loadout conveyor. The loadout conveyor feeds a loadout bin positioned over the rail tracks. The bin is equipped with a batch loading system and a three-stage sampling circuit.

Two unit trains are required per day and each (9100 tonnes capacity) can be loaded in less than three hours.

328 REFUSE DISPOSAL

Coarse reject (plus 0.6 mm) feeds by reject conveyor to an open refuse pile. A front-end loader reclaims the material for loading 154 tonne coal trucks. Mine trucks carry the reject to the mine overburden disposal site.

Refuse thickener underflow is pumped to a tailings pond located on the opposite side of the Spatsizi River. The initial pond has a seven-year life.

The tailings pond starter dyke is constructed from material excavated from within the reservoir area. After plant startup, the remainder of the dam is built from coarse refuse material.

Seepage is collected in a sump and pumped back to the tailings pond. A decant pumping system pumps water from the pond back to the refuse thickener.

329 SUPPORT FACILITIES

Support facilities included here are for the preparation facility only. One building, separate from the preparation plant, contains warehouse, shop, office, laboratory and shower facilities.

Locker rooms are provided with both "clean" and "dirty" areas with separate showers and washrooms for supervisory and hourly personnel. Separate facilities are provided for women and men.

3210 EQUIPMENT LIST

Table 3.13 contains a listing of the major equipment for the proposed facility.

3211 LABOUR

Table 3.14 and Figure 3.4 detail the Labour Schedule for supervisory and hourly employees in the preparation facility. The Labour Schedule includes 36 salaried and 88 hourly employees considering that four crews are required for 24 hours per day, seven days per week operation.

TABLE 3.1
THEORETICAL COAL QUALITY
BY SIZE AND BY SEAM
(NO DILUTION, AIR DRIED BASIS)

| Sample I.D. | D.D.H. No. | Weight Factor | Plus 0.6 mm Size Fraction | | | | | 0.6 mm x 0.15 mm Size Fraction | | | | | Minus 0.15 mm Size Fraction - Froth Time | | | | | | | | |
|---------------|------------|---------------|---------------------------|------------|---------|-------------|---------|--------------------------------|---------------|------------|---------|-------------|--|---------|---------------|------------|---------|-------------|---------|---------|---|
| | | | Size Fraction | 1.60 Sp.Gr | | 2.00 Sp.Gr. | | Raw Ash | Size Fraction | 1.60 Sp.Gr | | 2.00 Sp.Gr. | | Raw Ash | Size Fraction | 30 seconds | | 120 seconds | | Raw Ash | |
| | | | Wt. (%) | Yield (%) | Ash (%) | Yield (%) | Ash (%) | (%) | Wt. (%) | Yield (%) | Ash (%) | Yield (%) | Ash (%) | (%) | Wt. (%) | Yield (%) | Ash (%) | Yield (%) | Ash (%) | (%) | |
| E SEAM | | | | | | | | | | | | | | | | | | | | | |
| 11 | 82002 | 0.06 | 54.8 | 56.4 | 13.5 | 86.0 | 21.0 | 28.1 | 23.8 | 62.0 | 8.5 | 88.8 | 15.4 | 21.2 | 21.4 | 77.0 | 10.2 | 96.5 | 11.8 | 19.0 | * |
| 12 | 82002 | 0.05 | 60.0 | 46.9 | 11.1 | 73.1 | 17.6 | 29.7 | 22.0 | 89.5 | 5.4 | 96.2 | 7.1 | 9.4 | 18.0 | 65.1 | 6.3 | 96.7 | 8.0 | 9.8 | * |
| 13 | 82002 | 0.09 | 74.4 | 17.0 | 12.1 | 44.1 | 30.1 | 60.1 | 14.7 | 59.5 | 7.3 | 74.4 | 13.0 | 11.0 | 11.0 | 77.8 | 14.5 | 91.3 | 19.5 | 25.0 | |
| 23 | 83003 | 0.63 | 76.8 | 49.3 | 12.7 | 65.1 | 18.7 | 37.4 | 15.3 | 71.3 | 8.1 | 82.7 | 11.5 | 22.6 | 7.9 | 73.3 | 16.2 | 83.9 | 21.2 | 30.6 | |
| 24 | 82003 | 0.93 | 83.2 | 55.6 | 9.4 | 80.9 | 16.7 | 24.0 | 11.7 | 78.5 | 5.9 | 86.8 | 8.6 | 16.4 | 5.1 | 79.6 | 12.8 | 88.4 | 15.7 | 23.3 | * |
| 26 | 82004 | 0.16 | 73.5 | 52.1 | 14.3 | 82.6 | 21.3 | 29.1 | 16.9 | 70.4 | 9.8 | 90.6 | 14.2 | 19.1 | 9.6 | 81.5 | 14.3 | 89.2 | 17.2 | 24.7 | |
| | | 1.92 | 78.4 | 51.4 | 11.0 | 74.3 | 18.2 | 30.5 | 14.0 | 73.8 | 7.2 | 85.6 | 10.7 | 19.5 | 7.6 | 76.4 | 13.6 | 88.3 | 17.0 | 24.3 | |
| F SEAM | | | | | | | | | | | | | | | | | | | | | |
| 22 | 82003 | - | 79.3 | 44.7 | 12.1 | 69.5 | 20.8 | 34.8 | 13.9 | 49.0 | 8.7 | 75.2 | 17.4 | 30.9 | 6.8 | 71.1 | 25.8 | 91.1 | 31.7 | 35.0 | |
| G SEAM | | | | | | | | | | | | | | | | | | | | | |
| 7 | 82001 | 0.82 | 77.0 | 58.1 | 10.2 | 74.0 | 15.3 | 30.5 | 15.4 | 54.7 | 7.4 | 70.3 | 12.0 | 31.1 | 7.6 | 52.3 | 16.6 | 67.7 | 24.4 | 39.5 | |
| 8 | 82002 | 0.12 | 77.4 | 62.2 | 9.7 | 80.1 | 15.5 | 27.2 | 14.6 | 73.0 | 6.3 | 84.6 | 9.9 | 19.9 | 8.0 | 72.4 | 10.6 | 83.3 | 14.2 | 23.8 | |
| 20 | 82003 | 1.36 | 86.1 | 52.9 | 14.6 | 77.5 | 21.6 | 32.9 | 9.5 | 52.1 | 11.8 | 66.0 | 16.5 | 37.9 | 4.4 | 75.1 | 21.7 | 84.7 | 27.3 | 36.0 | |
| 21 | 82003 | 0.49 | 88.0 | 32.7 | 10.9 | 48.6 | 19.9 | 48.8 | 8.7 | 56.4 | 5.3 | 71.5 | 12.0 | 31.2 | 3.3 | 53.6 | 22.7 | 79.8 | 35.7 | 45.2 | |
| | | 2.79 | 83.4 | 50.9 | 12.6 | 71.3 | 19.3 | 35.0 | 11.3 | 54.9 | 8.7 | 69.5 | 13.6 | 33.3 | 5.3 | 62.8 | 19.2 | 77.0 | 26.3 | 37.6 | |
| H SEAM | | | | | | | | | | | | | | | | | | | | | |
| 6 | 82001 | 1.54 | 82.9 | 35.0 | 12.3 | 70.4 | 23.2 | 39.1 | 11.5 | 40.3 | 8.7 | 66.5 | 18.2 | 38.7 | 5.6 | 50.8 | 23.1 | 65.5 | 31.5 | 47.2 | |
| 19 | 82003 | 2.57 | 78.9 | 33.7 | 12.6 | 68.7 | 24.6 | 38.3 | 14.5 | 57.4 | 8.3 | 72.6 | 13.8 | 31.4 | 6.6 | 75.3 | 19.8 | 84.7 | 24.7 | 33.7 | * |
| | | 4.11 | 80.4 | 34.2 | 12.3 | 69.4 | 24.1 | 38.6 | 13.4 | 51.9 | 8.4 | 70.6 | 13.1 | 33.8 | 6.2 | 67.0 | 20.6 | 78.2 | 26.6 | 38.2 | |
| I SEAM | | | | | | | | | | | | | | | | | | | | | |
| 3 | 82001 | 1.84 | 60.6 | 63.9 | 9.7 | 86.1 | 14.8 | 21.2 | 23.0 | 73.3 | 6.7 | 93.2 | 10.2 | 13.7 | 16.4 | 78.8 | 10.1 | 89.7 | 11.6 | 14.5 | |
| 5 | 82001 | 3.21 | 71.8 | 76.1 | 9.4 | 91.7 | 13.4 | 17.9 | 17.7 | 78.5 | 6.3 | 91.5 | 9.4 | 14.5 | 10.5 | 59.5 | 9.5 | 81.8 | 11.4 | 17.9 | |
| 18 | 82003 | 3.92 | 75.6 | 45.5 | 13.4 | 74.4 | 20.2 | 33.9 | 15.3 | 60.2 | 8.1 | 76.1 | 12.8 | 29.1 | 9.1 | 72.8 | 12.0 | 88.8 | 16.8 | 24.4 | |
| | | 8.97 | 71.2 | 61.2 | 10.7 | 83.3 | 16.2 | 25.1 | 17.7 | 71.0 | 6.9 | 87.0 | 10.7 | 19.0 | 11.1 | 70.0 | 10.6 | 87.0 | 13.4 | 19.2 | |
| J SEAM | | | | | | | | | | | | | | | | | | | | | |
| 2 | 82001 | 0.93 | 73.4 | 65.7 | 9.0 | 78.9 | 13.3 | 23.9 | 17.2 | 73.5 | 5.6 | 83.1 | 8.5 | 19.2 | 9.4 | 77.7 | 13.3 | 85.7 | 16.6 | 24.8 | |
| 17 | 82003 | 2.33 | 80.7 | 55.8 | 13.0 | 81.1 | 19.2 | 28.9 | 13.5 | 76.2 | 8.2 | 89.4 | 11.4 | 17.8 | 5.8 | 81.9 | 14.6 | 90.4 | 17.7 | 23.7 | |
| | | 3.26 | 78.6 | 58.4 | 11.8 | 80.5 | 17.6 | 27.5 | 14.6 | 75.3 | 7.3 | 87.3 | 10.5 | 18.3 | 6.8 | 80.3 | 14.1 | 88.7 | 17.3 | 24.1 | |
| K SEAM | | | | | | | | | | | | | | | | | | | | | |
| 1 | 82001 | 3.45 | 81.3 | 63.8 | 12.3 | 79.6 | 16.6 | 27.5 | 13.0 | 77.4 | 6.9 | 86.1 | 9.5 | 18.5 | 5.7 | 69.3 | 16.2 | 78.2 | 20.5 | 34.5 | |
| 16 | 82003 | 2.24 | 80.2 | 38.7 | 13.7 | 68.4 | 23.0 | 35.9 | 12.8 | 52.0 | 7.8 | 74.2 | 15.1 | 32.0 | 7.0 | 76.2 | 15.9 | 87.0 | 20.6 | 28.6 | |
| | | 5.69 | 80.9 | 54.0 | 12.7 | 75.2 | 18.8 | 30.7 | 12.9 | 67.5 | 7.3 | 81.3 | 11.6 | 23.8 | 6.2 | 72.2 | 16.1 | 83.3 | 20.3 | 31.9 | |

* Froth time of less than 120 seconds used for 120 second input due to lack of data.

TABLE 3.2
THEORETICAL COAL QUALITY SUMMARY
BY SIZE AND BY SEAM
(NO DILUTION, AIR DRIED BASIS)

| Seam | Wt (%) | Size Fraction Wt (%) | 1.60 Sp.Gr. | | 2.00 Sp.Gr. | | Raw Ash (%) |
|-------------------------|-------------|----------------------|--------------------------|-------------|----------------------------|-------------|-------------|
| | | | Yield (%) | Ash (%) | Yield (%) | Ash (%) | |
| <u>PLUS 0.6 mm</u> | | | | | | | |
| E | 12.2 | 78.4 | 51.4 | 11.0 | 74.3 | 18.2 | 30.5 |
| F | 10.2 | 79.3 | 44.7 | 12.1 | 69.5 | 20.8 | 34.8 |
| G | 16.1 | 83.4 | 50.9 | 12.6 | 71.3 | 19.3 | 35.0 |
| H | 12.4 | 80.4 | 34.2 | 12.5 | 69.4 | 24.1 | 38.6 |
| I | 25.5 | 71.2 | 61.2 | 10.7 | 83.5 | 16.2 | 25.1 |
| J | 8.8 | 78.6 | 58.4 | 11.8 | 80.5 | 17.6 | 27.6 |
| K | <u>14.8</u> | <u>80.9</u> | <u>54.0</u> | <u>12.7</u> | <u>75.2</u> | <u>18.8</u> | <u>30.7</u> |
| | 100.0 | 78.1 | 51.5 | 11.8 | 75.3 | 18.9 | 31.4 |
| <u>0.6 mm x 0.15 mm</u> | | | | | | | |
| E | 12.2 | 14.0 | 73.8 | 7.2 | 85.6 | 10.7 | 19.5 |
| F | 10.2 | 13.9 | 49.0 | 8.7 | 75.2 | 17.4 | 30.9 |
| G | 16.1 | 11.3 | 54.9 | 8.7 | 69.5 | 13.6 | 33.3 |
| H | 12.4 | 13.4 | 51.9 | 8.4 | 70.6 | 15.1 | 33.8 |
| I | 25.5 | 17.7 | 71.0 | 6.9 | 87.0 | 10.7 | 19.0 |
| J | 8.8 | 14.5 | 75.3 | 7.3 | 87.3 | 10.5 | 18.3 |
| K | <u>14.8</u> | <u>12.9</u> | <u>67.5</u> | <u>7.3</u> | <u>81.5</u> | <u>11.6</u> | <u>23.8</u> |
| | 100.0 | 14.3 | 64.7 | 7.5 | 80.7 | 12.2 | 24.5 |
| Seam | Wt (%) | Size Fraction Wt (%) | Flotation for 30 seconds | | Flotation for 120 Seconds* | | Raw Ash (%) |
| | | | Yield (%) | Ash (%) | Yield (%) | Ash (%) | |
| <u>0.15 mm x 0</u> | | | | | | | |
| E | 12.2 | 7.6 | 76.4 | 13.6 | 88.3 | 17.0 | 24.3 |
| F | 10.2 | 6.8 | 71.1 | 25.8 | 91.1 | 31.7 | 35.0 |
| G | 16.1 | 5.3 | 62.8 | 19.2 | 77.0 | 26.3 | 37.6 |
| H | 12.4 | 6.2 | 67.0 | 20.6 | 78.2 | 26.6 | 38.2 |
| I | 25.5 | 11.1 | 70.0 | 10.6 | 87.0 | 13.4 | 19.2 |
| J | 8.8 | 6.9 | 80.3 | 14.1 | 88.7 | 17.3 | 24.1 |
| K | <u>14.8</u> | <u>6.2</u> | <u>72.2</u> | <u>16.1</u> | <u>83.3</u> | <u>20.5</u> | <u>31.9</u> |
| | 100.0 | 7.6 | 70.8 | 15.2 | 85.2 | 19.3 | 27.2 |

* Seams E & H composite quality include several results at less than 120 second recovery time since 120 second recoveries were not run.

TABLE 3.3

PLANT FEED WASHABILITY COMPOSITE
 10 mm x 0.6 mm SIZE FRACTION
 (NO DILUTION, DRY BASIS)

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.40 | 0.24 | 35.79 |
| 1.275 - 1.300 | | 0.88 | 0.50 | 35.65 |
| 1.300 - 1.325 | | 1.69 | 1.04 | 35.36 |
| 1.325 - 1.350 | | 3.07 | 1.30 | 35.23 |
| 1.350 - 1.375 | | 5.44 | 1.72 | 35.04 |
| 1.375 - 1.400 | | 9.12 | 3.66 | 34.18 |
| 1.400 - 1.425 | | 14.17 | 5.06 | 33.56 |
| 1.425 - 1.450 | | 20.17 | 5.93 | 33.17 |
| 1.450 - 1.475 | | 26.32 | 6.78 | 32.80 |
| 1.475 - 1.500 | | 31.83 | 7.82 | 32.35 |
| 1.500 - 1.550 | | 42.34 | 10.06 | 31.38 |
| 1.550 - 1.600 | | 51.51 | 11.77 | 30.64 |
| 1.600 - 1.650 | | 57.97 | 13.24 | 30.01 |
| 1.650 - 1.700 | | 62.50 | 14.56 | 29.44 |
| 1.700 - 1.750 | | 65.51 | 15.50 | 29.03 |
| 1.750 - 1.800 | | 67.91 | 16.22 | 28.72 |
| 1.800 - 1.850 | | 69.96 | 16.93 | 28.41 |
| 1.850 - 1.900 | | 71.89 | 17.60 | 28.12 |
| 1.900 - 2.000 | | 75.31 | 18.89 | 27.56 |
| 2.000 - 2.100 | | 79.19 | 20.54 | 26.84 |
| 2.100 - 2.200 | | 80.91 | 21.30 | 26.51 |
| 2.200 - 2.300 | | 83.20 | 22.41 | 26.03 |
| 2.300 - 2.500 | | 90.36 | 26.36 | 24.33 |
| 2.500 - 2.700 | | 100.00 | 31.40 | 22.17 |

TABLE 3.4

PLANT FEED WASHABILITY COMPOSITE
 0.6 mm x 0.15 mm SIZE FRACTION
 (NO DILUTION, DRY BASIS)

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 2.83 | 0.77 | 35.20 |
| 1.275 - 1.300 | | 6.00 | 0.97 | 35.12 |
| 1.300 - 1.325 | | 9.62 | 1.16 | 35.04 |
| 1.325 - 1.350 | | 13.78 | 1.37 | 34.95 |
| 1.350 - 1.375 | | 18.42 | 1.81 | 34.76 |
| 1.375 - 1.400 | | 23.54 | 2.86 | 34.30 |
| 1.400 - 1.425 | | 30.13 | 3.82 | 33.88 |
| 1.425 - 1.450 | | 38.09 | 4.45 | 23.61 |
| 1.450 - 1.475 | | 45.74 | 4.93 | 33.39 |
| 1.475 - 1.500 | | 51.40 | 5.43 | 33.17 |
| 1.500 - 1.550 | | 59.00 | 6.53 | 32.69 |
| 1.550 - 1.600 | | 64.67 | 7.54 | 32.24 |
| 1.600 - 1.650 | | 68.68 | 8.37 | 31.68 |
| 1.650 - 1.700 | | 71.84 | 9.10 | 31.56 |
| 1.700 - 1.750 | | 74.37 | 9.84 | 31.23 |
| 1.750 - 1.800 | | 76.32 | 10.48 | 30.96 |
| 1.800 - 1.850 | | 77.63 | 10.95 | 30.75 |
| 1.850 - 1.900 | | 78.75 | 11.38 | 30.56 |
| 1.900 - 2.000 | | 80.66 | 12.22 | 30.20 |
| 2.000 - 2.100 | | 82.66 | 13.20 | 29.77 |
| 2.100 - 2.200 | | 83.40 | 13.69 | 29.56 |
| 2.200 - 2.300 | | 84.72 | 14.44 | 29.24 |
| 2.300 - 2.500 | | 90.72 | 18.57 | 27.46 |
| 2.500 - 2.700 | | 100.00 | 24.48 | 24.91 |

TABLE 3.5

**ESTIMATED CLEAN COAL YIELD AND QUALITY
JIG-WATER ONLY CYCLONE-FLOTATION
DRY BASIS
(DILUTION INCLUDED)**

| <u>SIZE (mm)</u> | <u>SP. GR. OF SEP.</u> | <u>WT (%)</u> | <u>YIELD (%)</u> | <u>ASH (%)</u> | <u>MJ/KG</u> |
|------------------|----------------------------|-------------------|----------------------|--------------------|--------------|
| 100 x 6 | 1.50 | 25.0 | 32.1 | 10.95 | 31.06 |
| 6 x 0.6 | 1.70 | 53.1 | 53.2 | 16.97 | 28.41 |
| 0.6 x 0.15 | 1.60 | 14.3 | 61.6 | 10.54 | 30.97 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 50.6 | 15.26 | 29.13 |
| 100 x 6 | 1.60 | 25.0 | 46.4 | 13.38 | 29.97 |
| 6 x 0.6 | 1.80 | 53.1 | 59.6 | 18.61 | 27.67 |
| 0.6 x 0.15 | 1.70 | 14.3 | 57.9 | 12.06 | 30.36 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 58.5 | 16.64 | 28.52 |
| 100 x 6 | 1.70 | 25.0 | 56.1 | 15.45 | 29.07 |
| 6 x 0.6 | 1.90 | 53.1 | 64.9 | 20.38 | 26.92 |
| 0.6 x 0.15 | 1.80 | 14.3 | 72.5 | 13.33 | 29.88 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 64.4 | 18.16 | 27.88 |
| 100 x 6 | 1.80 | 25.0 | 62.7 | 17.26 | 28.28 |
| 6 x 0.6 | 2.00 | 53.1 | 68.9 | 21.79 | 26.30 |
| 0.6 x 0.15 | 1.90 | 14.3 | 76.0 | 14.70 | 29.35 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 68.6 | 19.52 | 27.30 |
| 100 x 6 | 1.90 | 25.0 | 67.7 | 18.96 | 27.54 |
| 6 x 0.6 | 2.10 | 53.1 | 72.1 | 22.86 | 25.84 |
| 0.6 x 0.15 | 1.90 | 14.3 | 76.0 | 14.70 | 29.35 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 71.6 | 20.50 | 26.88 |
| 100 x 6 | 2.00 | 25.0 | 71.5 | 20.42 | 26.90 |
| 6 x 0.6 | 2.20 | 53.1 | 75.0 | 24.01 | 25.34 |
| 0.6 x 0.15 | 2.00 | 14.3 | 79.0 | 16.09 | 28.83 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 74.5 | 21.68 | 26.38 |
| 100 x 6 | 2.10 | 25.0 | 75.3 | 22.05 | 26.19 |
| 6 x 0.6 | 2.30 | 53.1 | 77.5 | 25.05 | 24.88 |
| 0.6 x 0.15 | 2.10 | 14.3 | 81.5 | 17.27 | 28.41 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 77.1 | 22.80 | 25.89 |

TABLE 3.6
COAL QUALITY CHARACTERISTICS
SUMMARY BY SEAM
(NO DILUTION)

| | <u>E</u> | <u>F</u> | <u>G</u> | <u>H</u> | <u>I</u> | <u>J</u> | <u>K</u> | <u>Composite</u> |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|------------------|
| Samples | 6 | 1 | 4 | 2 | 3 | 2 | 2 | |
| Weight Factor | 12.2 | 10.2 | 16.1 | 12.4 | 25.5 | 8.8 | 14.8 | 100.0 |
| <u>Proximate Analysis</u> | | | | | | | | |
| Res.Mois.(%) | 1.03 | 1.08 | 1.45 | 0.85 | 1.07 | 1.15 | 1.66 | 1.19 |
| Ash (%) | 17.00 | 18.81 | 17.10 | 20.20 | 16.52 | 17.35 | 18.58 | 17.74 |
| Volatile M.(%) | 9.15 | 8.09 | 7.51 | 8.02 | 7.69 | 7.68 | 8.58 | 8.05 |
| Fixed Carb.(%) | 72.81 | 72.03 | 73.95 | 70.94 | 74.73 | 73.82 | 71.20 | 73.02 |
| MJ/KG | 27.89 | 27.68 | 28.22 | 27.12 | 28.50 | 28.13 | 27.52 | 27.95 |
| CL(PPM) | 5205 | 6292 | 5202 | 4318 | 3105 | 6296 | 2295 | 4335 |
| HGI(Low,High) | 45-137 | 40.5 | 41-46 | 43-58 | 38-63 | 39-51 | 39-61 | |
| <u>Ultimate Analysis (%)</u> | | | | | | | | |
| Carbon | 67.42 | 62.73 | 66.05 | 62.36 | 71.83 | 73.34 | 66.98 | 67.67 |
| Hydrogen | 2.56 | 2.57 | 2.60 | 2.39 | 2.65 | 2.91 | 2.60 | 2.59 |
| Nitrogen | 0.81 | 0.79 | 0.85 | 0.81 | 0.93 | 0.96 | 0.85 | 0.86 |
| Oxygen | 4.56 | 4.41 | 4.06 | 3.46 | 3.90 | 3.03 | 3.77 | 3.91 |
| Sulphur | 0.47 | 0.42 | 0.56 | 1.21 | 0.64 | 1.81 | 0.58 | 0.75 |
| Ash | 24.28 | 29.08 | 25.88 | 29.77 | 20.05 | 17.95 | 25.22 | 24.22 |
| <u>Min. Analysis of Ash(%)</u> | | | | | | | | |
| SiO ₂ | 46.34 | 54.42 | 58.14 | 56.77 | 56.84 | 45.48 | 54.04 | 54.10 |
| Al ₂ O ₃ | 16.55 | 21.37 | 21.70 | 18.81 | 21.56 | 19.02 | 22.47 | 20.52 |
| Fe ₂ O ₃ | 10.83 | 7.57 | 4.63 | 5.66 | 4.77 | 11.71 | 7.12 | 6.84 |
| CaO | 10.17 | 4.00 | 3.51 | 3.30 | 4.25 | 7.13 | 4.09 | 4.94 |
| MgO | 4.07 | 2.02 | 1.74 | 1.94 | 1.98 | 2.66 | 2.34 | 2.31 |
| TiO | 0.60 | 0.85 | 0.81 | 0.71 | 0.62 | 0.74 | 0.86 | 0.73 |
| Na ₂ O | 0.91 | 1.41 | 1.58 | 1.59 | 1.08 | 1.36 | 1.66 | 1.35 |
| K ₂ O | 0.73 | 0.87 | 1.05 | 1.20 | 0.94 | 0.70 | 0.80 | 0.92 |
| SO ₃ | 3.65 | 1.98 | 2.10 | 2.74 | 3.11 | 5.25 | 2.63 | 2.96 |
| P ₂ O ₅ | 1.46 | 0.95 | 1.09 | 0.91 | 1.11 | 1.93 | 0.73 | 1.12 |
| <u>Sulphur Form (%)</u> | | | | | | | | |
| Pyrite | 8.91 | 13.33 | 18.45 | 65.93 | 17.22 | 54.45 | 30.68 | 27.32 |
| Sulphate | 2.43 | 2.33 | 2.39 | 2.00 | 2.00 | 1.76 | 2.39 | 2.19 |
| Organic | 88.66 | 84.34 | 79.16 | 32.07 | 80.78 | 43.79 | 66.93 | 70.49 |
| <u>Ash Fusion Temp.(°C)</u> | | | | | | | | |
| Oxid - I.D. | 1210 | 1240 | 1230 | 1260 | 1240 | 1230 | 1260 | 1240 |
| Oxid - Soft | 1250 | 1310 | 1320 | 1320 | 1310 | 1270 | 1360 | 1310 |
| Oxid - Hemi | 1260 | 1320 | 1340 | 1360 | 1350 | 1280 | 1400 | 1340 |
| Oxid - Fluid | 1280 | 1340 | 1380 | 1400 | 1400 | 1320 | 1420 | 1370 |
| Reduct - I.D. | 1190 | 1190 | 1210 | 1230 | 1220 | 1200 | 1210 | 1210 |
| Reduct - Soft | 1230 | 1260 | 1300 | 1300 | 1300 | 1250 | 1330 | 1290 |
| Reduct - Hemi | 1240 | 1290 | 1330 | 1340 | 1330 | 1260 | 1370 | 1320 |
| Reduct - Fluid | 1250 | 1310 | 1370 | 1370 | 1380 | 1290 | 1400 | 1350 |

TABLE 3.7
COAL QUALITY CHARACTERISTICS
BY SEAM
(NO DILUTION)

| Sample I.D. | DDH No. | Weight Factor | PROXIMATE ANALYSIS | | | | | ULTIMATE ANALYSIS | | | | | | | MINERAL ANALYSIS OF ASH | | | | | | | | | | SULPHUR FORM (%) | | | ASH FUSION TEMPERATURE (°C) | | | | | | | | |
|----------------|---------|---------------|--------------------|---------|---------------|----------------|--------|-------------------|-------|------------|--------------|--------------|------------|-------------|-------------------------|----------------------|------------------------------------|------------------------------------|---------|---------|----------------------|-----------------------|----------------------|---------------------|-----------------------------------|--------|----------|-----------------------------|-----------|---------|-----------|------|-------|---------|------|------|
| | | | Res. Mois. (%) | Ash (%) | Vol. Mat. (%) | Fixed Carb (%) | CL PPM | MJ/KG | HGI | Carbon (%) | Hydrogen (%) | Nitrogen (%) | Oxygen (%) | Sulphur (%) | Ash (%) | SiO ₂ (%) | Al ₂ O ₃ (%) | Fe ₂ O ₃ (%) | CaO (%) | MgO (%) | TiO ₂ (%) | Na ₂ O (%) | K ₂ O (%) | SO ₃ (%) | P ₂ O ₅ (%) | Pyrite | Sulphate | Organic | OXIDATION | | REDUCTION | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Initial | Soft | Hemi | Fluid | Initial | Soft | Hemi |
| E SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 82002 | 0.06 | 2.86 | 20.15 | 9.24 | 67.75 | 9811 | 26.06 | 137.0 | 67.83 | 3.06 | 0.90 | 5.07 | 0.50 | 22.60 | 53.33 | 27.27 | 3.31 | 4.34 | 1.92 | 0.80 | 1.14 | 0.98 | 2.40 | 1.95 | 6.00 | 2.00 | 92.00 | 1270 | 1340 | 1380 | 1420 | 1260 | 1320 | 1380 | 1400 |
| 12 | 82002 | 0.05 | 1.25 | 14.02 | 7.81 | 76.93 | 5210 | 29.59 | 95.5 | 74.15 | 3.11 | 0.96 | 3.96 | 0.66 | 17.16 | 46.09 | 18.97 | 8.89 | 11.07 | 3.61 | 0.75 | 1.10 | 0.51 | 3.64 | 2.23 | 18.33 | 1.67 | 80.00 | 1220 | 1250 | 1260 | 1300 | 1200 | 1240 | 1250 | 1270 |
| 13 | 82002 | 0.09 | 1.59 | 16.88 | 7.12 | 74.41 | 5943 | 27.88 | 86.0 | 59.32 | 2.56 | 0.70 | 2.42 | 0.41 | 34.61 | 59.58 | 26.32 | 3.24 | 1.51 | 1.52 | 0.89 | 1.67 | 0.67 | 1.06 | 0.73 | 8.50 | 2.50 | 89.00 | 1300 | 1450 | 1480 | 1500 | 1270 | 1420 | 1450 | 1490 |
| 23 | 82003 | 0.63 | 1.31 | 17.71 | 8.64 | 72.34 | 7502 | 27.71 | - | 65.41 | 2.62 | 0.83 | 4.06 | 0.44 | 26.66 | 52.43 | 14.30 | 8.85 | 10.21 | 4.19 | 0.55 | 0.88 | 0.56 | 2.77 | 0.80 | 5.33 | 3.00 | 91.67 | 1220 | 1260 | 1270 | 1300 | 1210 | 1240 | 1260 | 1230 |
| 24 | 82003 | 0.03 | 0.70 | 15.93 | 9.74 | 73.64 | 3000 | 28.22 | 45.0 | 68.97 | 2.42 | 0.79 | 5.27 | 0.47 | 22.09 | 39.60 | 16.08 | 14.03 | 11.81 | 4.63 | 0.58 | 0.80 | 0.82 | 4.57 | 1.83 | 9.33 | 2.00 | 88.67 | 1200 | 1220 | 1230 | 1240 | 1160 | 1190 | 1200 | 1220 |
| 26 | 82004 | 0.16 | 0.83 | 20.28 | 9.30 | 69.59 | 6837 | 26.80 | 62.0 | 68.61 | 2.74 | 0.84 | 3.58 | 0.52 | 23.72 | 51.53 | 17.92 | 7.72 | 7.25 | 2.68 | 0.66 | 1.05 | 0.79 | 3.71 | 1.87 | 19.00 | 3.00 | 78.99 | 1210 | 1250 | 1270 | 1300 | 1200 | 1240 | 1260 | 1290 |
| Weight Average | | 1.92 | 1.03 | 17.00 | 9.15 | 72.81 | 5205 | 27.89 | | 67.42 | 2.56 | 0.81 | 4.56 | 0.47 | 24.18 | 46.34 | 16.55 | 10.83 | 10.17 | 4.07 | 0.60 | 0.91 | 0.73 | 3.65 | 1.46 | 8.91 | 2.43 | 88.66 | 1210 | 1250 | 1260 | 1280 | 1190 | 1230 | 1240 | 1250 |
| F SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 82003 | - | 1.08 | 18.81 | 8.09 | 72.03 | 6292 | 27.68 | 40.5 | 62.73 | 2.57 | 0.79 | 4.41 | 0.42 | 29.08 | 54.42 | 21.37 | 7.57 | 4.00 | 2.02 | 0.85 | 1.41 | 0.87 | 1.98 | 0.95 | 13.33 | 2.33 | 84.34 | 1240 | 1310 | 1320 | 1340 | 1190 | 1260 | 1290 | 1310 |
| G SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 82001 | 0.82 | 1.78 | 14.63 | 6.98 | 76.62 | 6660 | 28.80 | 41.0 | 71.30 | 2.76 | 0.85 | 4.03 | 0.63 | 20.44 | 51.34 | 26.15 | 5.37 | 4.81 | 1.57 | 0.86 | 2.19 | 1.42 | 2.58 | 1.58 | 32.33 | 1.67 | 66.00 | 1250 | 1310 | 1340 | 1370 | 1230 | 1290 | 1310 | 1350 |
| 8 | 82002 | 0.12 | 1.81 | 18.92 | 7.20 | 72.07 | 5688 | 27.28 | 46.0 | 69.68 | 2.93 | 0.96 | 3.53 | 0.65 | 22.26 | 58.68 | 17.11 | 6.52 | 4.60 | 3.54 | 0.63 | 1.73 | 0.79 | 2.47 | 1.32 | 17.50 | 2.00 | 80.50 | 1210 | 1270 | 1300 | 1350 | 1180 | 1230 | 1270 | 1330 |
| 20 | 82003 | 1.36 | 1.34 | 18.36 | 7.70 | 72.60 | 4801 | 28.00 | 43.0 | 66.84 | 2.63 | 0.86 | 3.41 | 0.50 | 25.78 | 61.23 | 20.76 | 3.47 | 3.05 | 1.66 | 0.83 | 1.39 | 0.64 | 1.91 | 0.87 | 6.00 | 3.00 | 91.00 | 1230 | 1340 | 1350 | 1390 | 1200 | 1320 | 1350 | 1380 |
| 21 | 82003 | 0.49 | 1.13 | 17.27 | 7.93 | 73.69 | 3758 | 28.09 | 41.0 | 54.17 | 2.18 | 0.78 | 6.04 | 0.61 | 36.24 | 60.79 | 17.96 | 6.16 | 2.37 | 1.81 | 0.69 | 1.03 | 1.62 | 1.73 | 0.82 | 30.00 | 2.00 | 68.00 | 1220 | 1320 | 1350 | 1390 | 1190 | 1300 | 1330 | 1380 |
| Weight Average | | 2.79 | 1.45 | 17.10 | 7.51 | 73.95 | 5202 | 28.22 | | 66.05 | 2.60 | 0.85 | 4.06 | 0.56 | 25.88 | 58.14 | 21.70 | 4.63 | 3.51 | 1.74 | 0.81 | 1.58 | 1.05 | 2.10 | 1.09 | 18.45 | 2.39 | 79.16 | 1230 | 1320 | 1340 | 1380 | 1210 | 1300 | 1330 | 1370 |
| H SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 82001 | 1.54 | 1.19 | 20.63 | 6.78 | 71.40 | 4318 | 26.93 | 43.0 | 61.80 | 2.38 | 0.72 | 3.55 | 1.17 | 30.40 | 59.13 | 24.74 | 3.62 | 1.87 | 1.40 | 0.65 | 2.27 | 1.49 | 2.00 | 0.43 | 72.50 | 2.00 | 25.50 | 1290 | 1390 | 1420 | 1460 | 1260 | 1350 | 1400 | 1430 |
| 19 | 82003 | 2.57 | 0.64 | 19.94 | 8.76 | 70.66 | - | 27.24 | 58.0 | 62.70 | 2.40 | 0.87 | 3.41 | 1.23 | 29.41 | 55.36 | 15.25 | 6.89 | 4.16 | 2.26 | 0.75 | 1.18 | 1.02 | 3.18 | 1.20 | 62.00 | 2.00 | 36.00 | 1240 | 1280 | 1320 | 1360 | 1210 | 1270 | 1310 | 1330 |
| Weight Average | | 4.11 | 0.85 | 20.20 | 8.02 | 70.94 | 4318 | 27.12 | | 62.36 | 2.39 | 0.81 | 3.46 | 1.21 | 29.77 | 56.77 | 18.81 | 5.66 | 3.30 | 1.94 | 0.71 | 1.59 | 1.20 | 2.74 | 0.91 | 65.93 | 2.00 | 32.07 | 1260 | 1320 | 1360 | 1400 | 1230 | 1300 | 1340 | 1370 |
| I SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 82001 | 1.84 | 1.45 | 15.42 | 7.72 | 75.41 | 500 | 28.44 | 63.0 | 75.41 | 2.62 | 0.81 | 5.15 | 0.48 | 15.53 | 55.55 | 18.16 | 5.40 | 6.31 | 2.27 | 0.49 | 0.42 | 1.05 | 4.93 | 0.55 | 8.00 | 2.00 | 90.00 | 1220 | 1310 | 1330 | 1380 | 1210 | 1290 | 1310 | 1370 |
| 5 | 82001 | 3.21 | 1.06 | 14.60 | 6.91 | 77.43 | 275 | 29.30 | 38.0 | 79.52 | 2.81 | 0.99 | 2.84 | 0.50 | 13.34 | 54.66 | 23.61 | 5.49 | 3.92 | 2.33 | 0.81 | 1.29 | 0.89 | 3.05 | 1.46 | 2.00 | 2.00 | 96.00 | 1230 | 1310 | 1360 | 1390 | 1200 | 1290 | 1330 | 1370 |
| 18 | 82003 | 3.92 | 0.89 | 18.60 | 8.32 | 72.20 | 6645 | 27.88 | 63.0 | 63.85 | 2.54 | 0.94 | 4.17 | 0.83 | 27.69 | 59.22 | 21.47 | 3.89 | 3.55 | 1.60 | 0.53 | 1.27 | 0.92 | 2.31 | 1.08 | 34.00 | 2.00 | 64.00 | 1250 | 1320 | 1360 | 1420 | 1230 | 1310 | 1340 | 1400 |
| Weight Average | | 8.97 | 1.07 | 16.52 | 7.69 | 74.73 | 3105 | 28.50 | | 71.83 | 2.65 | 0.93 | 3.90 | 0.64 | 20.05 | 56.84 | 21.56 | 4.77 | 4.25 | 1.98 | 0.62 | 1.08 | 0.94 | 3.11 | 1.11 | 17.22 | 2.00 | 80.78 | 1240 | 1310 | 1350 | 1400 | 1220 | 1300 | 1330 | 1380 |
| J SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 82001 | 0.93 | 1.20 | 16.07 | 7.92 | 74.81 | 7031 | 28.43 | 39.0 | 75.75 | 2.78 | 0.92 | 4.43 | 0.60 | 15.52 | 46.80 | 20.70 | 8.71 | 9.10 | 3.29 | 0.64 | 1.35 | 1.26 | 4.26 | 1.84 | 6.33 | 2.00 | 91.67 | 1200 | 1260 | 1270 | 1320 | 1180 | 1240 | 1260 | 1300 |
| 17 | 82003 | 2.33 | 1.13 | 17.86 | 7.58 | 73.43 | 6003 | 28.01 | 51.0 | 72.38 | 2.96 | 0.97 | 2.47 | 2.29 | 18.94 | 44.95 | 18.35 | 12.91 | 6.35 | 2.41 | 0.78 | 1.37 | 0.47 | 5.64 | 1.97 | 73.66 | 1.66 | 24.67 | 1240 | 1280 | 1290 | 1320 | 1210 | 1250 | 1260 | 1280 |
| Weight Average | | 3.26 | 1.15 | 17.35 | 7.68 | 73.82 | 6296 | 28.13 | | 73.34 | 2.91 | 0.96 | 3.03 | 1.81 | 17.95 | 45.48 | 19.02 | 11.71 | 7.13 | 2.66 | 0.74 | 1.36 | 0.70 | 5.25 | 1.93 | 54.45 | 1.76 | 43.79 | 1230 | 1270 | 1280 | 1320 | 1200 | 1250 | 1260 | 1290 |
| K SEAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 82001 | 3.45 | 1.56 | 16.70 | 8.14 | 73.60 | 6966 | 28.22 | 39.5 | 72.99 | 2.76 | 0.93 | 4.18 | 0.56 | 18.58 | 50.43 | 22.03 | 8.42 | 5.86 | 3.06 | 0.82 | 1.83 | 0.51 | 3.46 | 1.05 | 23.33 | 2.00 | 74.67 | 1220 | 1320 | 1345 | 1380 | 1200 | 1300 | 1330 | 1350 |
| 16 | 82003 | 2.24 | 1.81 | 21.47 | 9.22 | 67.50 | 5829 | 26.45 | 61.0 | 57.73 | 2.35 | 0.72 | 3.14 | 0.60 | 35.46 | 59.59 | 23.14 | 5.13 | 1.37 | 1.23 | 0.93 | 1.39 | 1.24 | 1.36 | 0.23 | 42.00 | 3.00 | 55.00 | 1330 | 1430 | 1480 | 1490 | 1220 | 1370 | 1440 | 1480 |
| Weight Average | | 5.69 | 1.66 | 18.58 | 8.58 | 71.20 | 2295 | 27.52 | | 66.98 | 2.60 | 0.85 | 3.77 | 0.58 | 25.22 | 54.04 | 22.47 | 7.12 | 4.09 | 2.34 | 0.86 | 1.66 | 0.80 | 2.63 | 0.73 | 30.68 | 2.39 | 66.93 | 1260 | 1360 | 1400 | 1420 | 1210 | 1330 | 1370 | 1400 |

TABLE 3.8

ESTIMATED CLEAN COAL YIELD AND QUALITY
 PARTIAL CLEANING
 H.M. VESSEL (PLUS 6 mm) - RAW (6 mm x 0)
 ALTERNATIVE 1, DRY BASIS
 (DILUTION INCLUDED)

| <u>SIZE (mm)</u> | <u>SP. GR. OF SEP.</u> | <u>WT (%)</u> | <u>YIELD (%)</u> | <u>ASH (%)</u> | <u>MJ/KG</u> |
|------------------|----------------------------|-------------------|----------------------|--------------------|--------------|
| 100 x 6 | 1.40 | 25.0 | 11.0 | 5.73 | 33.30 |
| 6 x 0.6 | Raw | 53.1 | 100.0 | 33.97 | 21.22 |
| 0.6 x 0.15 | Raw | 14.3 | 100.0 | 27.38 | 23.83 |
| 0.15 x 0 | Raw | 7.6 | <u>100.0</u> | <u>29.85</u> | <u>22.45</u> |
| | | | 77.8 | 31.36 | 22.25 |
| 100 x 6 | 1.50 | 25.0 | 30.2 | 8.89 | 31.93 |
| 6 x 0.6 | Raw | 53.1 | 100.0 | 33.97 | 21.22 |
| 0.6 x 0.15 | Raw | 14.3 | 100.0 | 27.38 | 23.83 |
| 0.15 x 0 | Raw | 7.6 | <u>100.0</u> | <u>29.85</u> | <u>22.45</u> |
| | | | 82.6 | 30.16 | 22.76 |
| 100 x 6 | 1.70 | 25.0 | 58.4 | 14.48 | 29.49 |
| 6 x 0.6 | Raw | 53.1 | 100.0 | 33.97 | 21.22 |
| 0.6 x 0.15 | Raw | 14.3 | 100.0 | 27.38 | 23.83 |
| 0.15 x 0 | Raw | 7.6 | <u>100.0</u> | <u>29.85</u> | <u>22.45</u> |
| | | | 89.6 | 29.39 | 23.09 |
| 100 x 6 * | 1.50 | 45.0 | 30.2 | 8.89 | 31.93 |
| 6 x 0.6 | Raw | 40.0 | 100.0 | 33.97 | 21.22 |
| 0.6 x 0.15 | Raw | 9.0 | 100.0 | 27.38 | 23.83 |
| 0.15 x 0 | Raw | 6.0 | <u>100.0</u> | <u>29.85</u> | <u>22.45</u> |
| | | | 68.6 | 27.78 | 23.79 |
| 100 x 6 * | 1.70 | 45.0 | 58.4 | 14.48 | 29.49 |
| 6 x 0.6 | Raw | 40.0 | 100.0 | 33.97 | 21.22 |
| 0.6 x 0.15 | Raw | 9.0 | 100.0 | 27.38 | 23.83 |
| 0.15 x 0 | Raw | 6.0 | <u>100.0</u> | <u>29.85</u> | <u>22.45</u> |
| | | | 81.3 | 26.63 | 24.27 |

* Size distribution has been adjusted to estimate the impact of a coarser plant feed to the product quality.

TABLE 3.9

**ESTIMATED CLEAN COAL YIELD AND QUALITY
H.M. CYCLONE (PLUS 0.15 mm) - FLOTATION
ALTERNATIVE 2, DRY BASIS
(DILUTION INCLUDED)**

| <u>SIZE (mm)</u> | <u>SP. GR. OF SEP.</u> | <u>WT (%)</u> | <u>YIELD (%)</u> | <u>ASH (%)</u> | <u>MJ/KG</u> |
|------------------|----------------------------|-------------------|----------------------|--------------------|--------------|
| 40 x 0.6 | 1.50 | 78.1 | 30.0 | 8.85 | 31.95 |
| 0.6 x 0.15 | 1.80 | 14.3 | 70.1 | 10.54 | 30.94 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 39.0 | 10.91 | 31.00 |
| 40 x 0.6 | 1.60 | 78.1 | 47.6 | 12.07 | 30.54 |
| 0.6 x 0.15 | 1.90 | 14.3 | 73.4 | 11.60 | 30.48 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 53.2 | 12.83 | 30.17 |
| 40 x 0.6 | 1.70 | 78.1 | 58.4 | 14.48 | 29.49 |
| 0.6 x 0.15 | 2.00 | 14.3 | 75.7 | 12.54 | 30.07 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 62.0 | 14.66 | 29.38 |

TABLE 3.10

ESTIMATED CLEAN COAL YIELD AND QUALITY
H.M. CYCLONE - W.O. CYCLONE - FLOTATION
ALTERNATIVE 3, DRY BASIS
(DILUTION INCLUDED)

| <u>SIZE (mm)</u> | <u>SP. GR. OF SEP.</u> | <u>WT (%)</u> | <u>YIELD (%)</u> | <u>ASH (%)</u> | <u>MJ/KG</u> |
|------------------|----------------------------|-------------------|----------------------|--------------------|--------------|
| 40 x 0.6 | 1.50 | 78.1 | 30.0 | 8.85 | 31.95 |
| 0.6 x 0.15 | 1.50 | 14.3 | 52.4 | 8.94 | 31.62 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 36.4 | 10.60 | 31.15 |
| 40 x 0.6 | 1.60 | 78.1 | 47.6 | 12.07 | 30.54 |
| 0.6 x 0.15 | 1.60 | 14.3 | 61.6 | 10.54 | 30.97 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 51.5 | 12.69 | 30.24 |
| 40 x 0.6 | 1.70 | 78.1 | 58.4 | 14.48 | 29.49 |
| 0.6 x 0.15 | 1.80 | 14.3 | 67.9 | 12.06 | 30.36 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 60.8 | 14.62 | 29.41 |
| 40 x 0.6 | 1.70 | 78.1 | 58.4 | 14.48 | 29.49 |
| 0.6 x 0.15 | 2.30 | 14.3 | 85.7 | 19.47 | 27.63 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 63.4 | 15.95 | 28.92 |

TABLE 3.11

ESTIMATED CLEAN COAL YIELD AND QUALITY
H.M. VESSEL - H.M. CYCLONE - W.O. CYCLONE - FLOTATION
ALTERNATIVE 4, DRY BASIS
(DILUTION INCLUDED)

| <u>SIZE (mm)</u> | <u>SP. GR. OF SEP.</u> | <u>WT (%)</u> | <u>YIELD (%)</u> | <u>ASH (%)</u> | <u>MJ/KG</u> |
|------------------|----------------------------|-------------------|----------------------|--------------------|--------------|
| 100 x 12 | 1.50 | 15.0 | 30.2 | 8.89 | 31.93 |
| 12 x 0.6 | 1.50 | 63.1 | 30.0 | 8.85 | 31.95 |
| 0.6 x 0.15 | 1.50 | 14.3 | 52.4 | 8.94 | 31.62 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 36.5 | 10.60 | 31.15 |
| 100 x 12 | 1.60 | 15.0 | 47.8 | 12.05 | 30.55 |
| 12 x 0.6 | 1.60 | 63.1 | 47.6 | 12.07 | 30.54 |
| 0.6 x 0.15 | 1.60 | 14.3 | 61.6 | 10.54 | 30.97 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 51.5 | 12.68 | 30.25 |
| 100 x 12 | 1.70 | 15.0 | 58.4 | 14.48 | 29.49 |
| 12 x 0.6 | 1.70 | 63.1 | 58.2 | 14.53 | 29.47 |
| 0.6 x 0.15 | 1.80 | 14.3 | 67.9 | 12.06 | 30.36 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 60.7 | 14.65 | 29.40 |
| 100 x 12 | 1.70 | 15.0 | 58.4 | 14.48 | 29.49 |
| 12 x 0.6 | 1.70 | 63.1 | 58.2 | 14.53 | 29.47 |
| 0.6 x 0.15 | 2.30 | 14.3 | 85.7 | 19.47 | 27.63 |
| 0.15 x 0 | - | 7.6 | <u>72.6</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 63.2 | 15.98 | 28.91 |

TABLE 3.12

ESTIMATED CLEAN COAL YIELD AND QUALITY
 JIG-WATER ONLY CYCLONE - FLOTATION
 ALTERNATIVE 5, DRY BASIS
 (DILUTION INCLUDED)

| SIZE (mm) | SP. GR. OF SEP. | WT (%) | YIELD (%) | ASH (%) | MJ/KG |
|------------|--------------------|-----------|--------------|--------------|--------------|
| 100 x 6 | 1.50 | 25.0 | 32.1 | 10.95 | 31.06 |
| 6 x 0.6 | 1.70 | 53.1 | 53.2 | 16.97 | 28.41 |
| 0.6 x 0.15 | 1.60 | 14.3 | 61.6 | 10.54 | 30.97 |
| | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 50.6 | 15.26 | 29.13 |
| 100 x 6 | 1.60 | 25.0 | 46.4 | 13.38 | 29.97 |
| 6 x 0.6 | 1.80 | 53.1 | 59.6 | 18.61 | 27.67 |
| 0.6 x 0.15 | 1.70 | 14.3 | 57.9 | 12.06 | 30.36 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 58.5 | 16.64 | 28.52 |
| 100 x 6 | 1.70 | 25.0 | 56.1 | 15.45 | 29.07 |
| 6 x 0.6 | 1.90 | 53.1 | 64.9 | 20.38 | 26.92 |
| 0.6 x 0.15 | 1.80 | 14.3 | 72.5 | 13.33 | 29.88 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 64.4 | 18.16 | 27.88 |
| 100 x 6 | 1.80 | 25.0 | 62.7 | 17.26 | 28.28 |
| 6 x 0.6 | 2.00 | 53.1 | 68.9 | 21.79 | 26.30 |
| 0.6 x 0.15 | 1.90 | 14.3 | 76.0 | 14.70 | 29.35 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 68.6 | 19.52 | 27.30 |
| 100 x 6 | 1.90 | 25.0 | 67.7 | 18.96 | 27.54 |
| 6 x 0.6 | 2.10 | 53.1 | 72.1 | 22.86 | 25.84 |
| 0.6 x 0.15 | 1.90 | 14.3 | 76.0 | 14.70 | 29.35 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 71.6 | 20.50 | 26.88 |
| 100 x 6 | 2.00 | 25.0 | 71.5 | 20.42 | 26.90 |
| 6 x 0.6 | 2.20 | 53.1 | 75.0 | 24.01 | 25.34 |
| 0.6 x 0.15 | 2.00 | 14.3 | 79.0 | 16.09 | 28.83 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 74.5 | 21.68 | 26.38 |
| 100 x 6 | 2.10 | 25.0 | 75.3 | 22.05 | 26.19 |
| 6 x 0.6 | 2.30 | 53.1 | 77.5 | 25.05 | 24.88 |
| 0.6 x 0.15 | 2.10 | 14.3 | 81.5 | 17.27 | 28.41 |
| 0.15 x 0 | - | 7.6 | <u>72.4</u> | <u>20.30</u> | <u>27.10</u> |
| | | | 77.1 | 22.80 | 25.89 |

TABLE 3.13

**MAJOR EQUIPMENT LIST, 5 Mtpy
PREPARATION FACILITY**

| <u>EQUIPMENT DESCRIPTION</u> | <u>SIZE</u> | <u>NO. OF UNITS</u> |
|--------------------------------------|--------------------------------------|-------------------------|
| 1. RAW COAL HANDLING | | |
| A. Major Equipment | | |
| Apron Feeder | - | 2 |
| Scalping Screen | 2 440 W x 4875 L | 2 |
| Rotary Breaker | 3 350 ϕ X 7 300 L | 1 |
| Reclaim Feeders | - | 7 |
| Dust Collector | - | 1 |
| B. Raw Coal Silo | 10,000 tonne | 1 |
| C. Conveyors | | |
| Silo Feed Conveyor | 1 220 W x 250 m | 1 |
| Rock Conveyor | 910 W x 40 m | 1 |
| Truck Dump | - | - |
| Receiving Conveyor | 1 220 W x 20 L | 1 |
| 2. PREPARATION PLANT | | |
| A. Major Equipment | | |
| Baum Jig | 2 compartment, 7 cell | 2 |
| Refuse Screen | 2 440 W x 4 875 L | 2 |
| Middlings Screen | 2 440 W x 4 875 L | 1 |
| Middlings Crusher | - | 1 |
| Double Deck Coarse Clean Coal Screen | 2 440 W x 4 875 L | 4 |
| Desliming Sieve Bend | 2 135 W x 2 032R x 45 $^{\circ}$ ARC | 6 |
| Desliming Screen | 2 440 W x 4 875 L | 6 |
| Pri. W. O. Cyclone | 305 mm ϕ | 50 |
| Sec. W. O. Cyclone | 305 mm ϕ | 16 |
| Classifying Cyclone | 355 mm ϕ | 30 |
| Flotation Cell | 15 m ³ , 4 banks of 4 | 4 |
| Vacuum Pump | - | 3 |
| Vacuum Disc Filter | 3 810 ϕ x 12 Disc | 36 |
| Centrifugal Dryer | 1 300 ϕ | 2 |
| Centrifugal Dryer | 1 100 ϕ | 6 |
| Middlings Pump | - | 2 |
| Fine Coal Pumps | - | 6 |
| Class Cyclone Feed Pump | - | 6 |
| Thick O'Flo Pump | - | 3 |
| Thick U'Flo Pumps | - | 2 |
| Scrubber Feed Pump | - | 1 |
| Scrubber Return Pump | - | 2 |
| Clean-Up Pump | - | 3 |
| Air Compressor | - | 2 |
| Reagent Feed Pump | - | 2 |
| Flocculant Pump | - | 3 |
| Slurry Pond Pump | - | 2 |
| Gland Water Pump | - | 1 |
| Tramp Iron Mag | - | 1 |
| Hoists & Trolleys | - | - |
| Emergency Generator | - | 1 |
| Refuse Thickener | 60 m ϕ | 1 |
| B. Plant Feed Conveyor | 1 220 w x 160 m | 1 |

Note: TPH - Tonnes per hour
W - Wide
L - Long
 ϕ - Diameter
m - Meter
R - Radius

TABLE 3.13 (Con't)

**MAJOR EQUIPMENT LIST, 5 Mtpy
PREPARATION FACILITY**

| <u>NO.</u> | <u>EQUIPMENT DESCRIPTION</u> | <u>SIZE</u> | <u>OF UNITS</u> |
|------------|------------------------------|--------------------|-----------------|
| 3. | THERMAL DRYER | | |
| A. | Fluid Bed Dryer | 25 TPH Evaporation | 2 |
| B. | Conveyors | | |
| | Dryer Feed Conv. | 1 220 W x 100 m | 1 |
| | Coarse Coal Transfer Conv. | 910 W x 140 m | 1 |
| 4. | CLEAN COAL HANDLING | | |
| A. | Major Equipment | | |
| | Vibrating Feeder | - | 16 |
| | Track Scale | - | 1 |
| | Dust Collector | - | 2 |
| B. | Conveyors | | |
| | Silo Feed Conv | 1 220 W x 270 m | 1 |
| | Silo Trans Conv | 1 220 W x 30 m | 1 |
| | Loadout Conv. | 1 830 W x 300 m | 1 |
| C. | Packages | | |
| | Clean Coal Silo | 10,000 tonne | 2 |
| | Stacking Tube | - | 1 |
| | Loadout Bin & System | 6,000 TPH | 1 |
| | Sampling System | 3 Stage | 1 |

TABLE 3.14
LABOUR SCHEDULE
PREPARATION FACILITY

| <u>SALARIED</u> | |
|----------------------------------|---------------------------|
| <u>POSITION</u> | <u>NUMBER OF SALARIED</u> |
| Preparation Plant Superintendent | 1 |
| General Foreman | 1 |
| Shift Foreman | 4 |
| Outside Service Foreman | 4 |
| Maintenance Supervisor | 1 |
| Maintenance Engineer | 1 |
| Shift Mechanical Foreman | 4 |
| Instrumentation Engineer | 1 |
| Electrical Engineer | 1 |
| Designer/Draftsman | 2 |
| Senior Preparation Engineer | 1 |
| Preparation Engineer | 1 |
| Chief Chemist | 1 |
| Lab Technician | 4 |
| Lab Assistants | 4 |
| Clerks | 3 |
| Secretary | <u>2</u> |
| TOTAL | <u>36</u> |

| <u>HOURLY</u> | |
|--------------------------|----------------------|
| <u>POSITION</u> | <u>NO. OF HOURLY</u> |
| <u>RAW COAL HANDLING</u> | |
| Front End Load Operator | 4 |
| Raw Coal Pl. Operator | 4 |
| <u>PREPARATION PLANT</u> | |
| Plant Operator | 4 |
| Fine Coal Operator | 4 |
| Greaser | 4 |
| Floorwalkers | 8 |
| Utility/Clean-Up | 12 |
| Utility/Clean Coal Load | 8 |
| <u>THERMAL DRYER</u> | |
| Dryer Operator | 4 |
| Utility | 4 |
| <u>MAINTENANCE</u> | |
| Mechanic | 8 |
| Electricians | 8 |
| Welders | 8 |
| Utility | <u>8</u> |
| TOTAL | <u>88</u> |

FIGURE 3.1

ESTIMATED YIELD & QUALITY
JIG-WATER ONLY CYCLONE - FLOTATION
PREPARATION PLANT

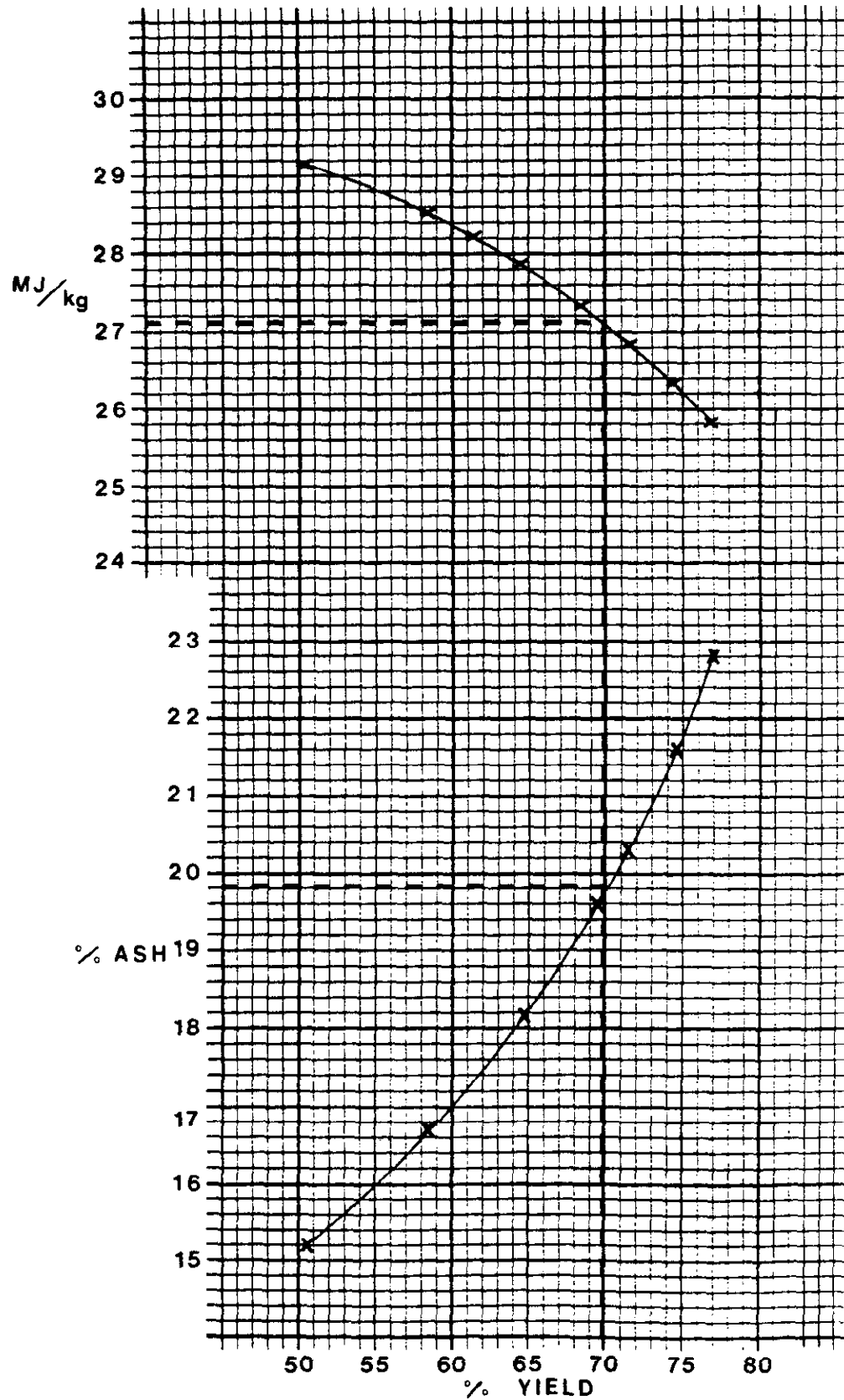


FIGURE 3.2

COAL PROCESSING FACILITY
SITE PLAN

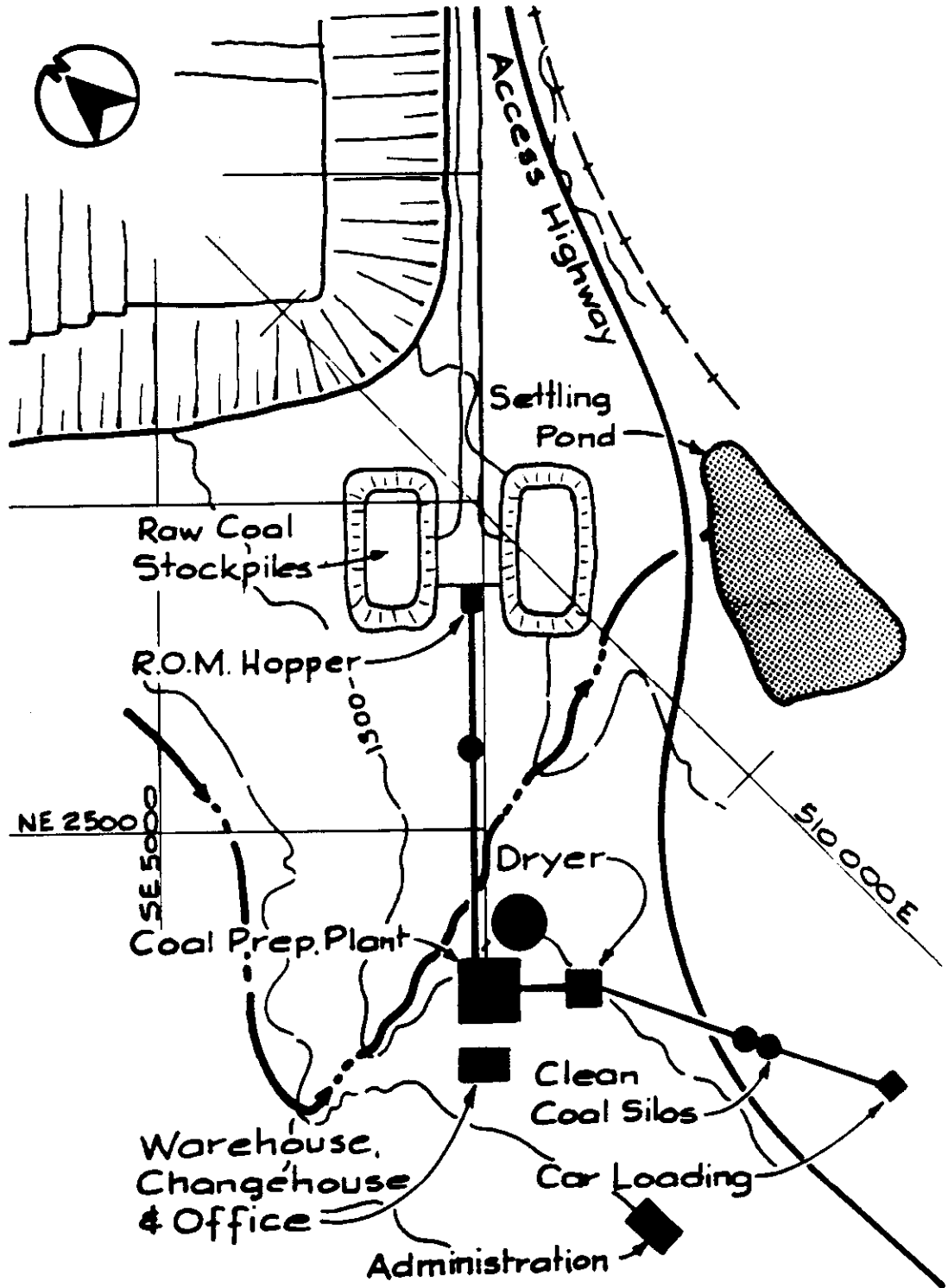


FIGURE 3.3

ESTIMATED YIELD & QUALITY
JIG vs. HEAVY MEDIA CLEANING

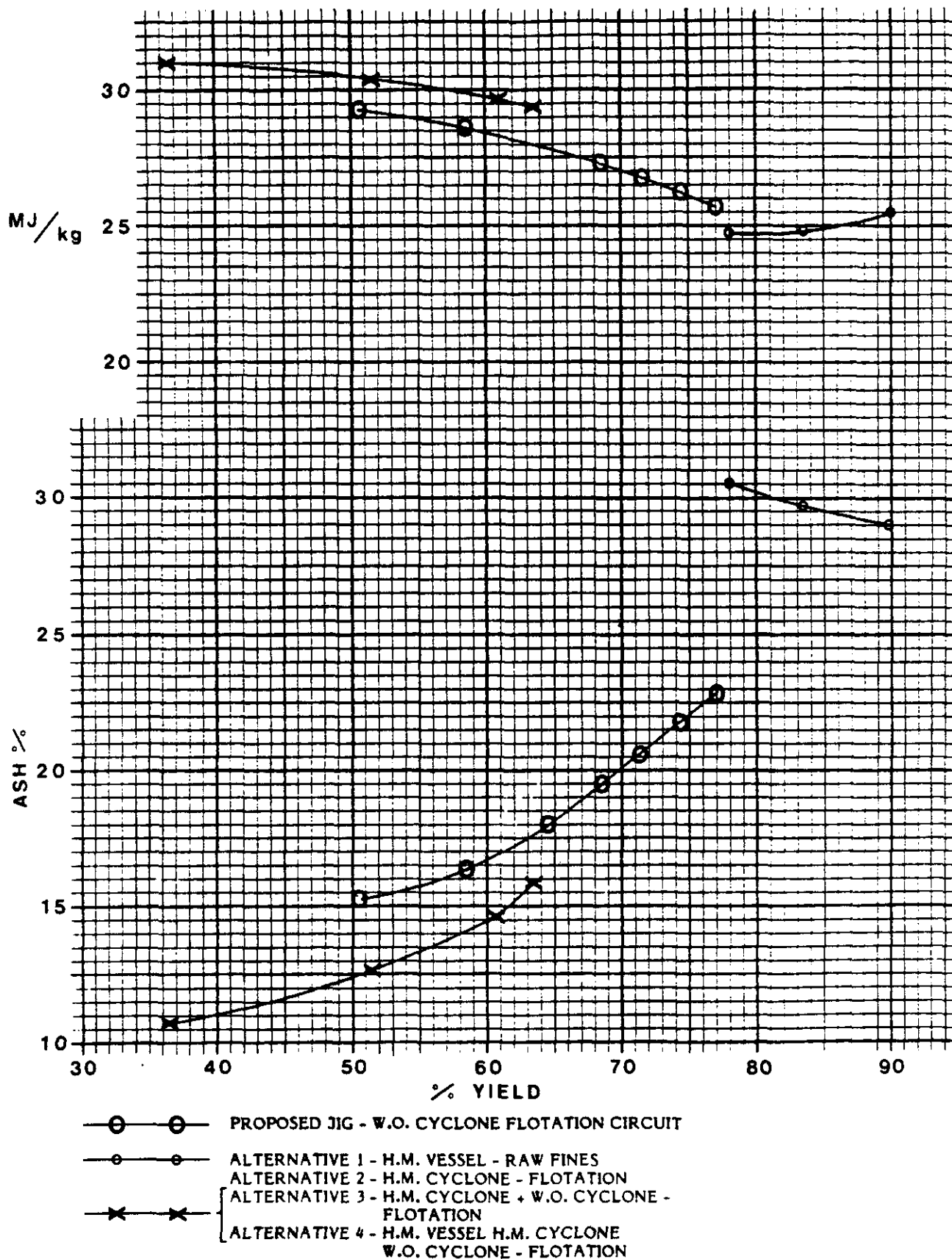
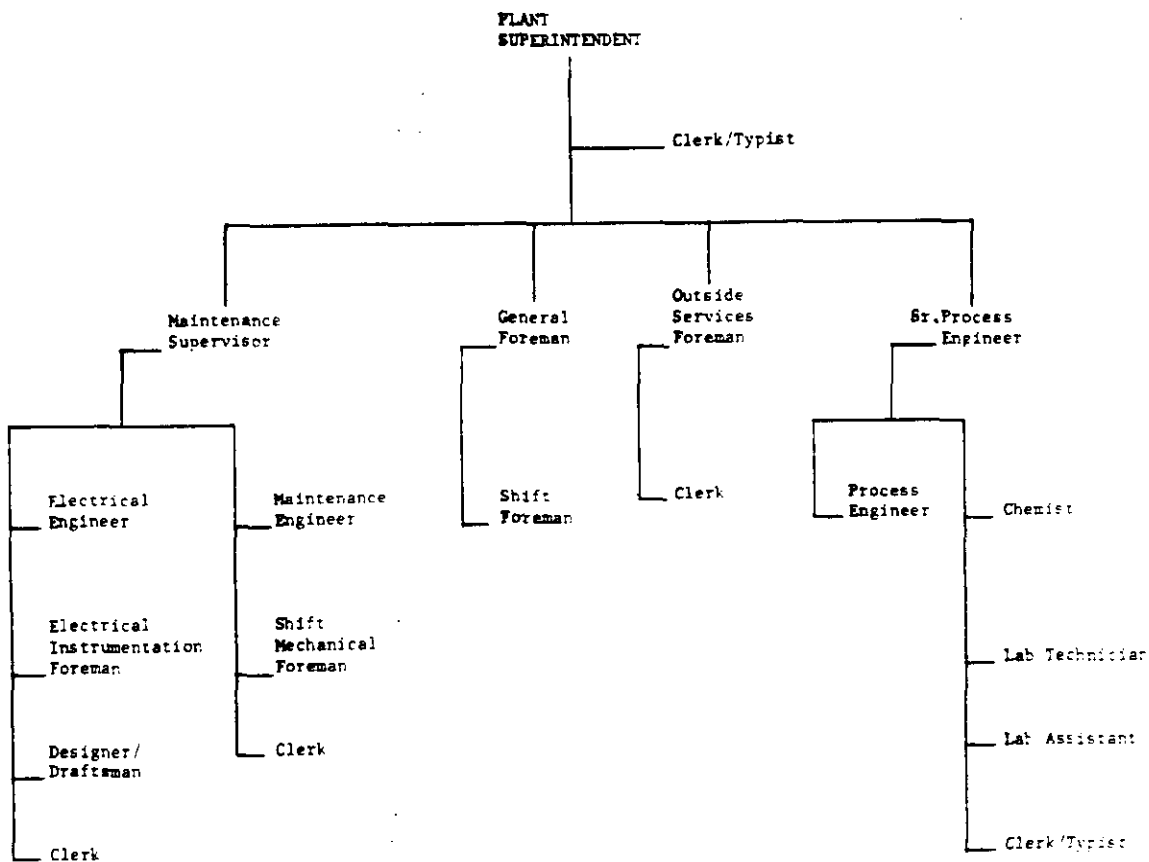
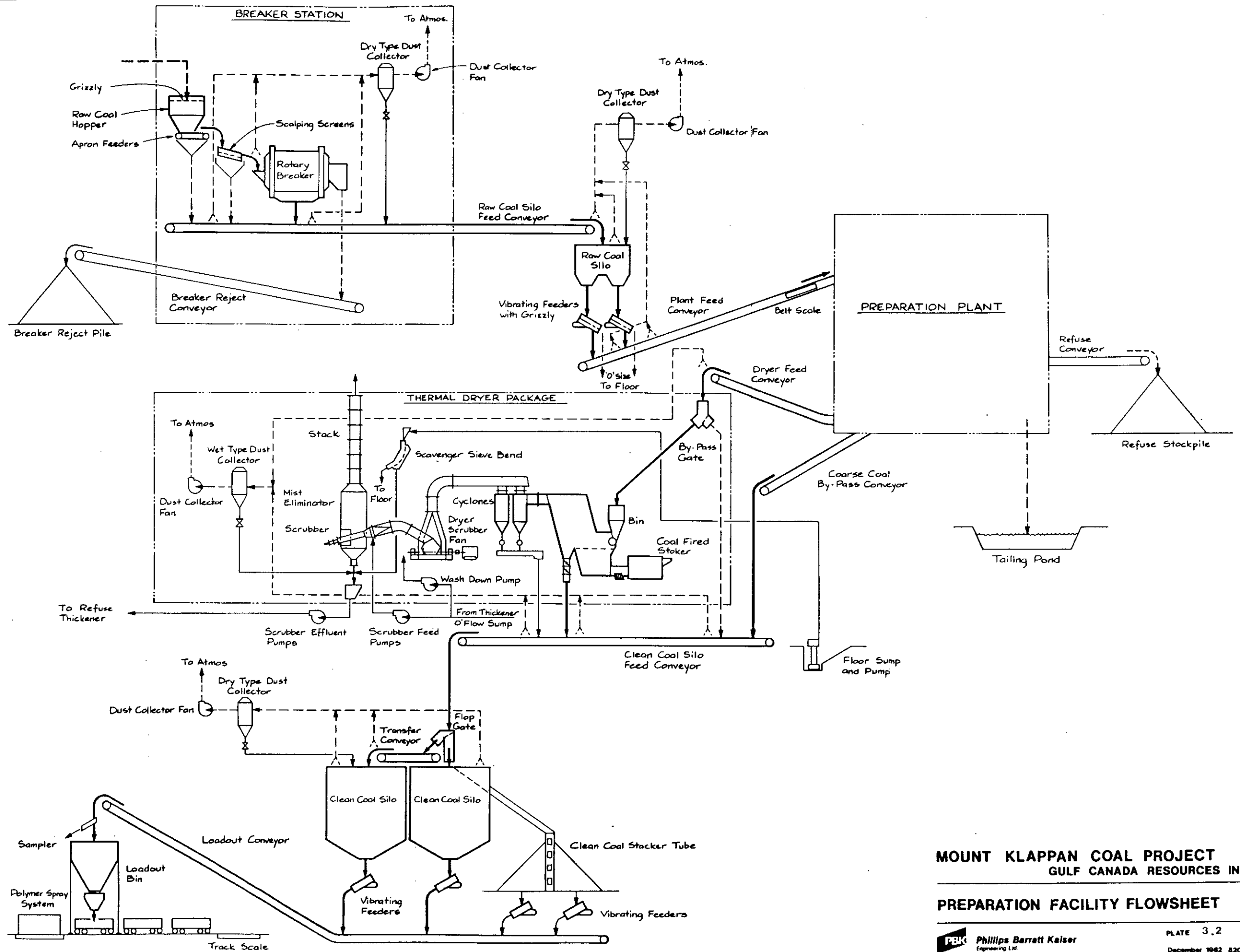


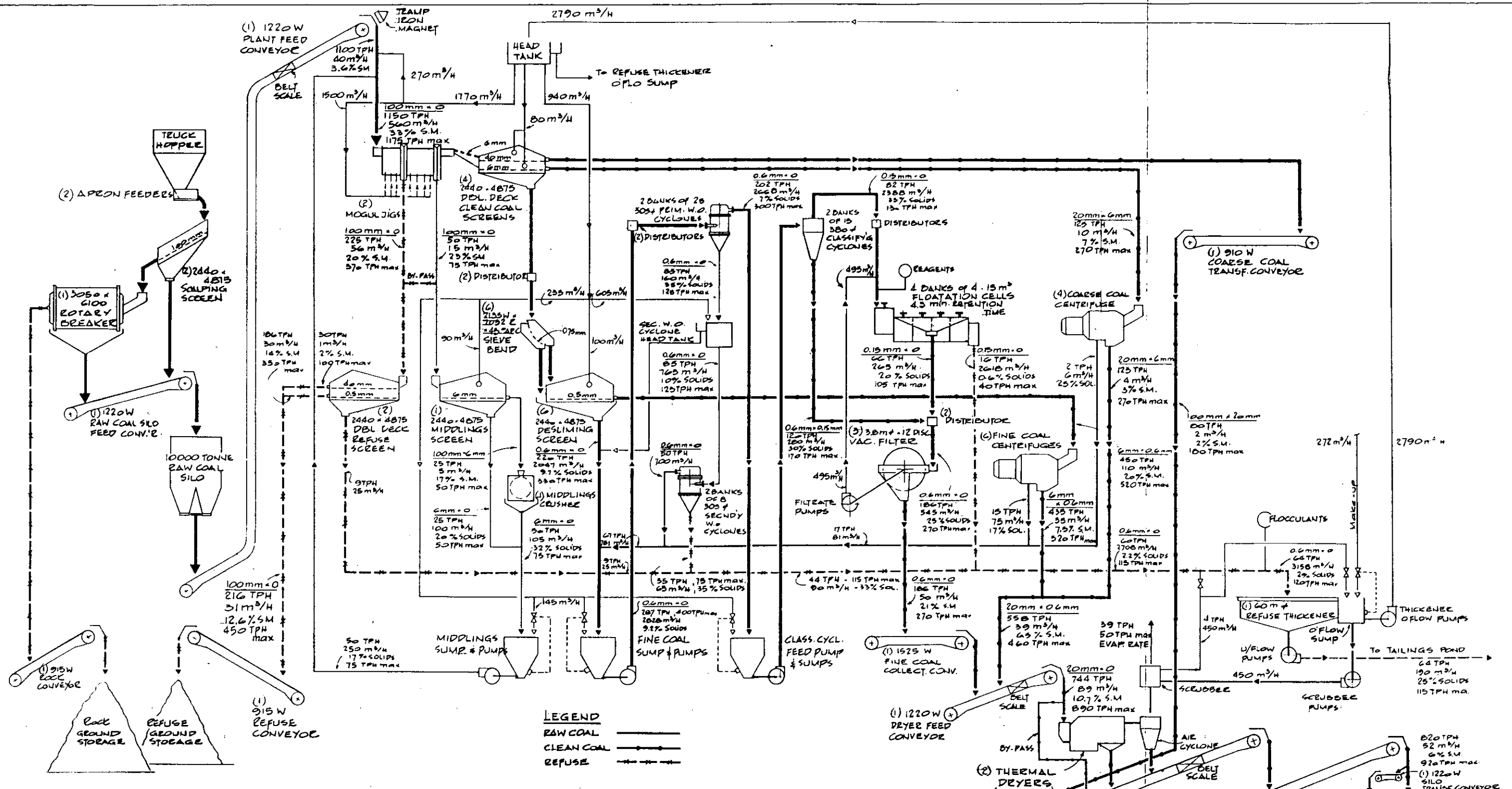
FIGURE 3.4
PLANT ORGANIZATION CHART
5 Mtpy CASE





MOUNT KLAPPAN COAL PROJECT
GULF CANADA RESOURCES INC.

PREPARATION FACILITY FLOWSHEET

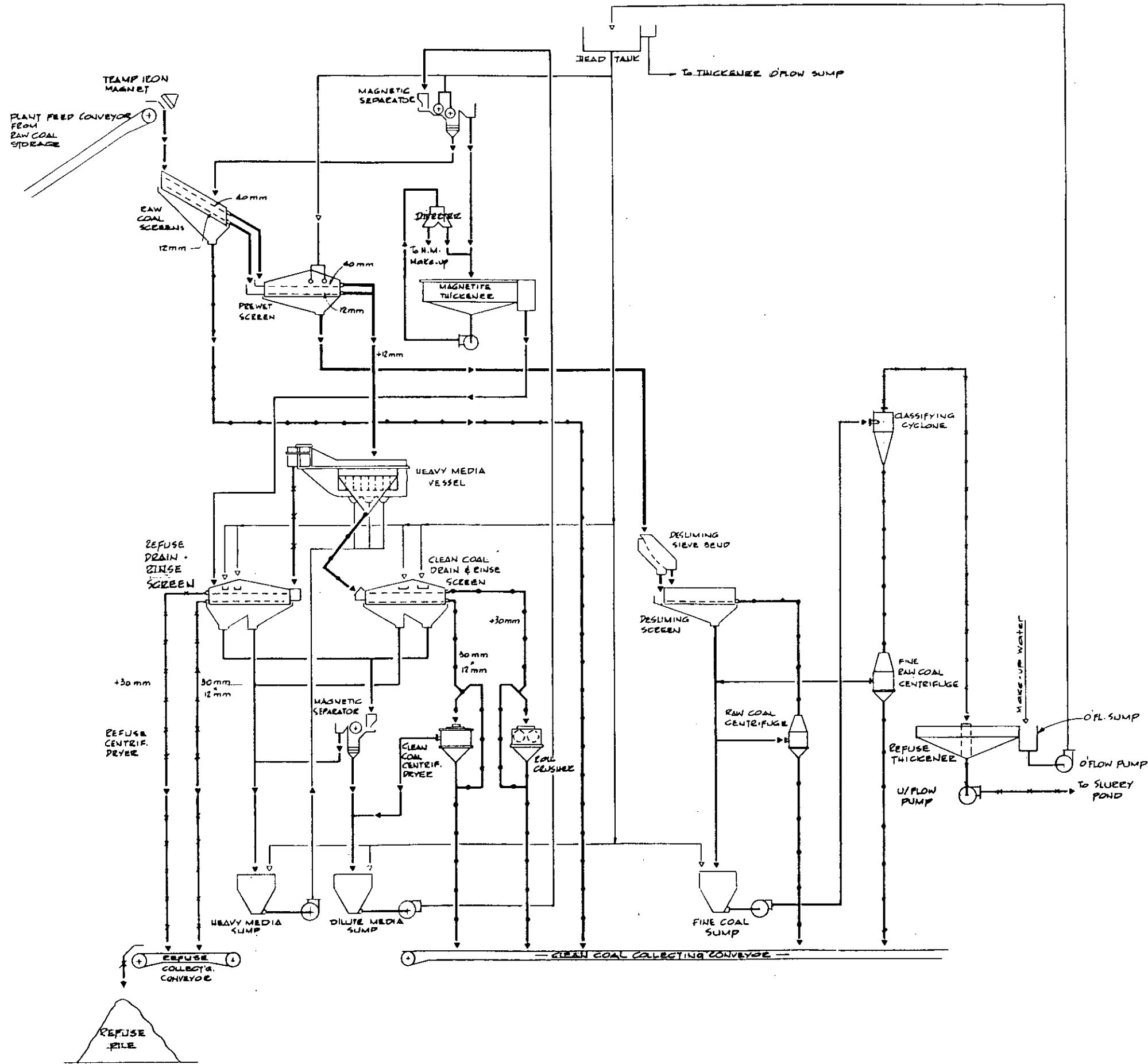


LEGEND
 RAW COAL ———
 CLEAN COAL ———
 REFUSE ———

| SIZE DISTRIBUTION | | | | YIELD | | | |
|-------------------|------------|------------|------------|------------------|----------|----------|----------|
| Size Fraction | Ave. Wt(%) | Max. Wt(%) | Min. Wt(%) | Size Fraction | Ave. (%) | Max. (%) | Min. (%) |
| 100 mm + 20 mm | 10 | 20 | 3 | 100 mm + 20 mm | 75 | 80 | 55 |
| 20 mm + 6 mm | 15 | 30 | 12 | 20 mm + 6 mm | 75 | 80 | 55 |
| 6 mm + 0.6 mm | 53 | 40 | 55 | 6 mm + 0.6 mm | 75 | 85 | 65 |
| 0.6 mm + 0.15 mm | 14 | 7 | 10 | 0.6 mm + 0.15 mm | 80 | 85 | 70 |
| 0.15 mm + 0 | 0 | 3 | 12 | 0.15 mm + 0 | 75 | 80 | 60 |

NOTE: USAGE OF 4 TPH TO 6 TPH OF PRODUCT REQUIRED FOR STOCK PILING WAS NOT BEEN SHOWN.

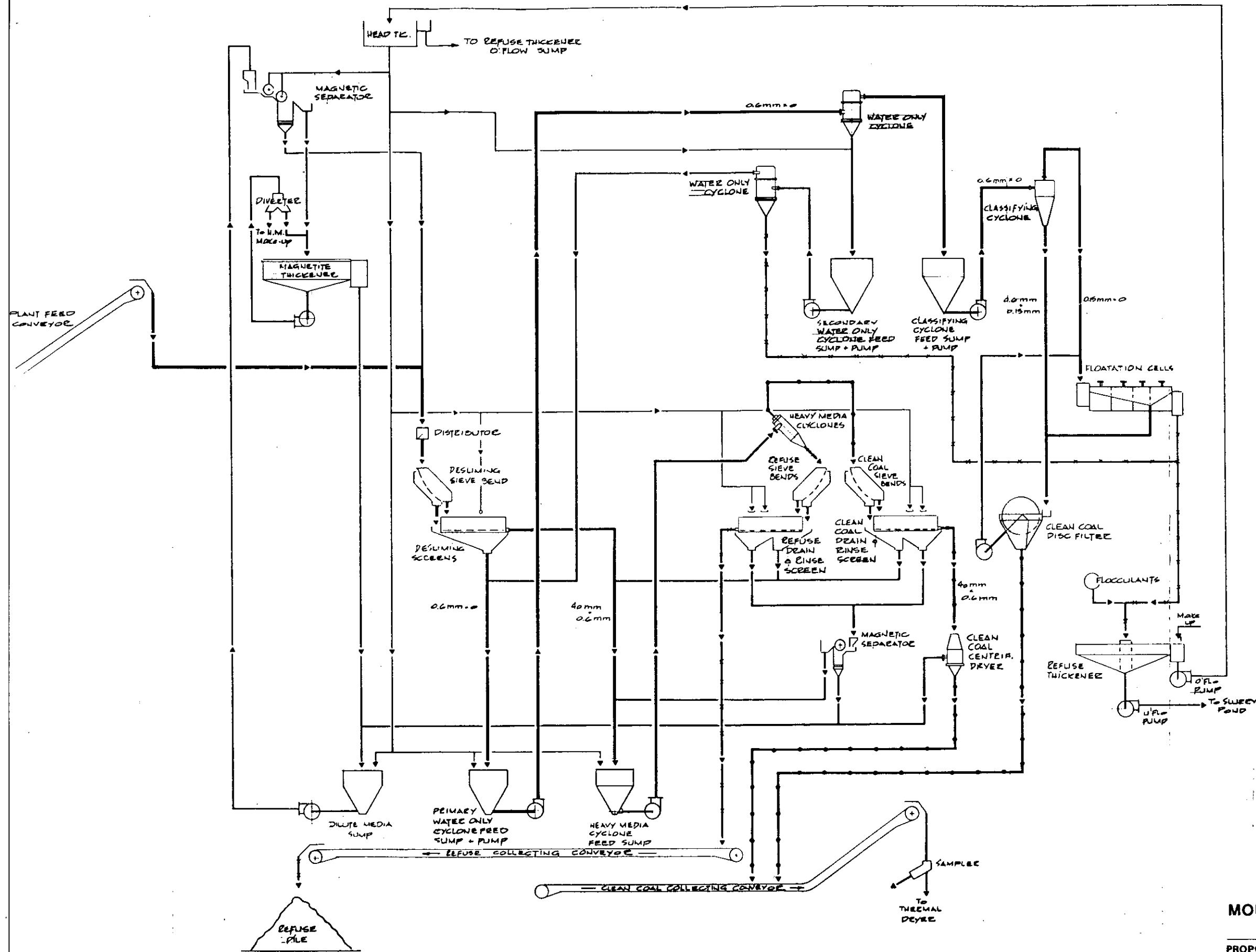
MOUNT KLAPPAN COAL PROJECT
 GULF CANADA RESOURCES INC.
 PROPOSED PLANT FLOWSHEET -
 JIG-WATER ONLY CYCLONE-FLOTATION



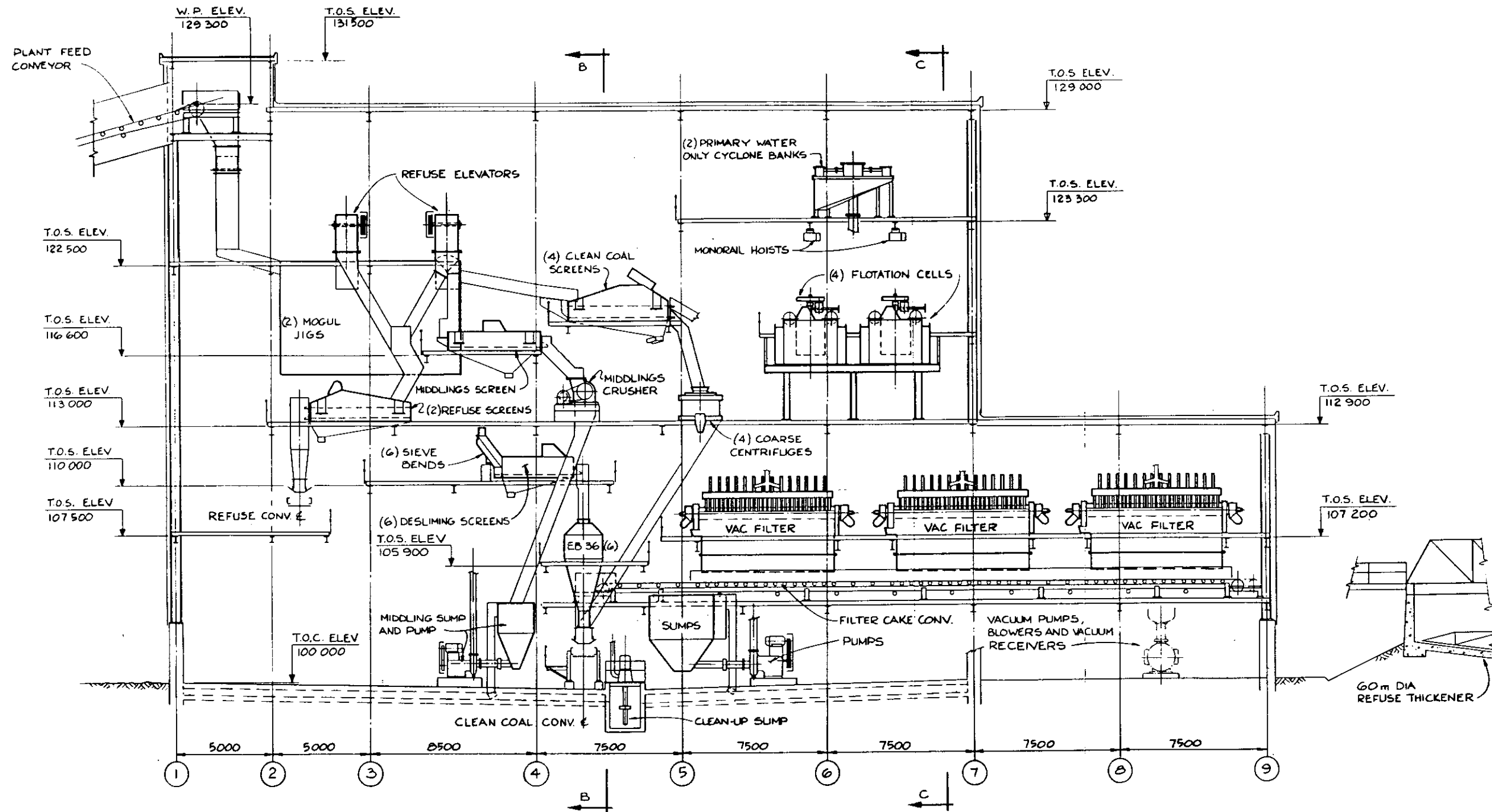
LEGEND
 RAW COAL ————
 CLEAN COAL ————
 REFUSE ————

MOUNT KLAPPAN COAL PROJECT
 GULF CANADA RESOURCES INC.

PROPOSED PLANT FLOWSHEET- ALTERNATIVE 1
PARTIAL CLEANING



LEGEND
 RAW COAL ———
 CLEAN COAL ———
 REFUSE - - - - -



SECTION 'A-A'

100:1

NOTE:-

- T.O.S. ELEV = TOP OF STEEL ELEVATION
- T.O.C. ELEV = TOP OF CONCRETE ELEVATION
- W.P. ELEV = WORK POINT ELEVATION

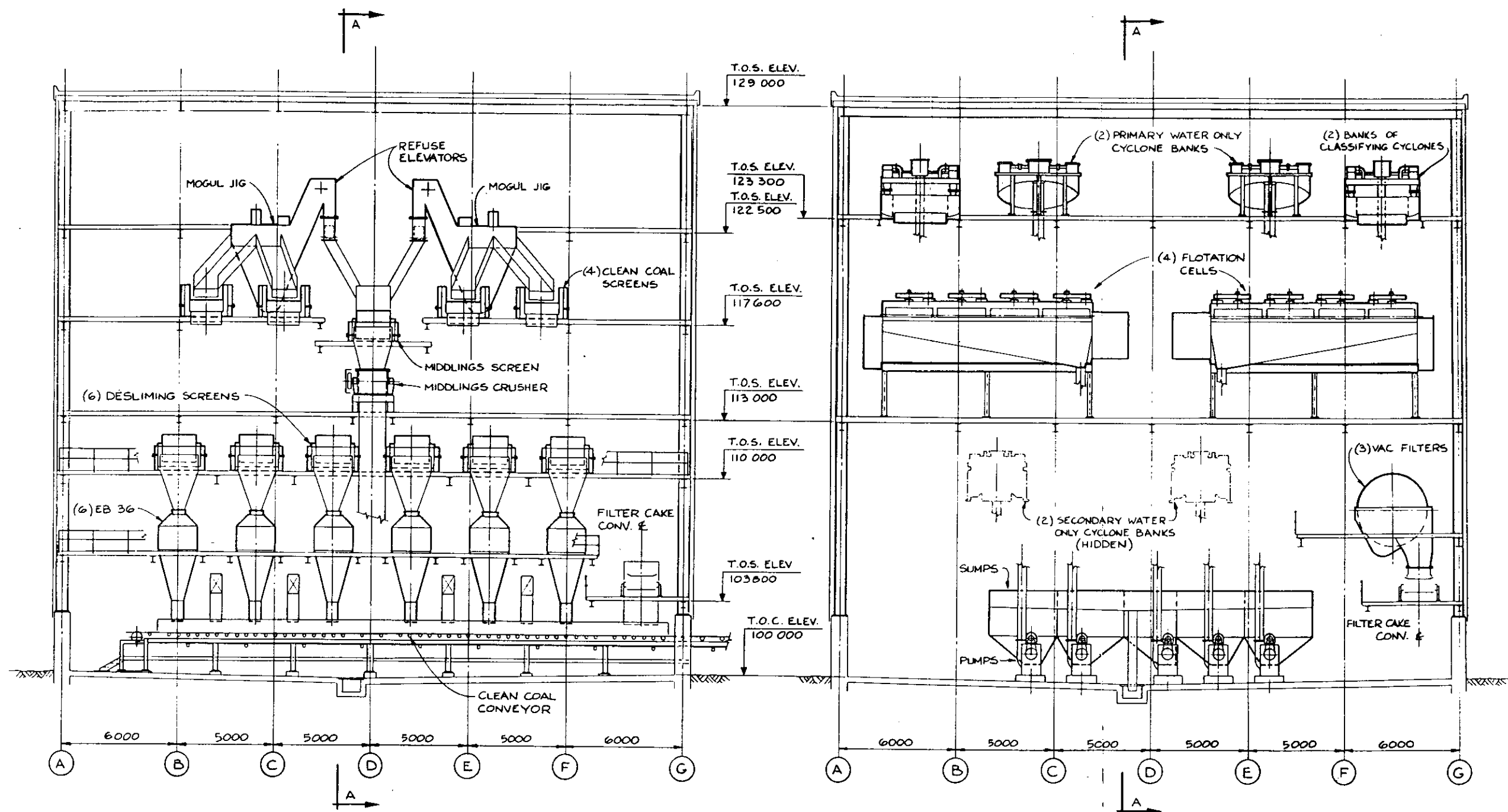
MOUNT KLAPPAN COAL PROJECT
GULF CANADA RESOURCES INC.

PREPARATION PLANT GENERAL
ARRANGEMENT SECTION SHEET ONE

FBK Phillips Barratt Kaiser
 Engineering Ltd

PLATE 3.7

December 1982 82054



SECTION "B-B"
100:1

SECTION "C-C"
100:1

NOTE:-
- T.O.S. ELEV - TOP OF STEEL ELEVATION
- T.O.C. ELEV - TOP OF CONCRETE ELEVATION

MOUNT KLAPPAN COAL PROJECT
GULF CANADA RESOURCES INC.
PREPARATION PLANT GENERAL
ARRANGEMENT SECTIONS SHEET TWO

FBK Phillips Barratt Kaiser
 Engineering Ltd

PLATE 3.8
 December 1982 82064

PART 4

**RAW COAL HANDLING FACILITY
1 Mtpy CASE**

PART 4 - RAW COAL HANDLING FACILITY - 1 Mtpy CASE

CONTENTS

| | <u>Page</u> |
|-----------------------|-------------|
| 4.1 COAL QUALITY | 4-1 |
| 4.2 RAW COAL FACILITY | 4-1 |
| 421 Introduction | 4-1 |
| 422 Raw Coal Handling | 4-1 |
| 423 Support Facility | 4-2 |
| 424 Equipment List | 4-2 |
| 425 Labour | 4-2 |

Table

| |
|---------------------------------------|
| 4.1 Major Equipment List, 1 Mtpy Case |
| 4.2 Labour Schedule |

4.1 COAL QUALITY

The following estimates thermal coal quality for the 1 Mtpy case:

| | <u>Dry</u> | <u>Air Dried Basis</u> | <u>As Received</u> |
|---------------------|------------|--------------------------------|------------------------|
| Moisture (%) | - | 1.50 | 5.00 |
| Ash (%) | 27.70 | 27.30 | 26.30 |
| Volatile Matter (%) | 7.20 | 7.10 | 6.80 |
| Fixed Carbon (%) | 65.10 | 64.10 | 61.80 |
| Sulphur (%) | 0.75 | 0.74 | 0.71 |
| MJ/KG | 24.70 | 24.30 | 23.50 |

The mine is located totally within the influence of drill core 82001 since data indicates a premium run-of-mine anthracite can be produced. Additional drilling and testing is required to confirm this assumption. No out-of-seam dilution is included because of assumptions outlined in the mining program.

4.2 RAW COAL FACILITY

421 INTRODUCTION

The raw coal handling facility is sized to process 250 tph assuming:

- 1 000 000 tpy production
- processing 365 days per year
- 24 hour per day operation
- 75% plant availability
- surge capacity of 50% over design flow rate

$$\frac{1\ 000\ 000\ \text{tpy}}{24\ \text{hrs/day} \times 365\ \text{days/yr} \times 0.75\ (\text{avail.})} \times 1.5\ (\text{surge})$$

$$= 245\ \text{Raw Tonnes/hr}$$

250 raw tonnes per hour is utilized for equipment sizing.

422 RAW COAL HANDLING

Run-of-mine coal is transported from the mine area to a truck dump. Significant ground storage area is available to stockpile and blend the various seams. Coal quality data indicates that careful blending is not required. Proper pit scheduling and utilization of silo and stacking tube storage should provide adequate blending.

An apron feeder recovers material from the truck dump and feeds a scalping screen. The screen reduces the load to the rotary breaker by removing 100 mm x 0 raw coal.

The rotary breaker reduces the 600 mm x 100 mm run-of-mine material to 100 mm x 0 and removes rock and scrap material. The rock and scrap are discharged from the breaker and conveyed to the storage silo. A rock bin is not recommended since it must be totally enclosed to prevent freezing.

Scalping screen underflow and rotary breaker crushed material are conveyed to the storage silo. A single 10 000 tonne silo allows approximately three days storage. Ground storage is available to prevent stoppage of cleaning plant operations if unit train deliveries are interrupted.

Feeders collect the silo discharge and transfer the material to a loadout conveyor. The loadout conveyor feeds a loadout bin positioned over the rail tracks.

A unit train (9 100 tonnes) is loaded every three days and can be loaded in less than three hours.

423 SUPPORT FACILITY

All support facilities are included in the mine services buildings.

424 EQUIPMENT LIST

Table 4.1 contains a listing of the major equipment for the raw coal facility.

425 LABOUR

Table 4.2 details the Labour Schedule for supervisory and hourly employees in the raw coal facility.

TABLE 4.1
MAJOR EQUIPMENT LIST
1 MTPY CASE

| <u>EQUIPMENT DESCRIPTION</u> | <u>SIZE</u> | <u>NO. OF UNITS</u> |
|------------------------------|-----------------|---------------------|
| <u>MAJOR EQUIPMENT</u> | | |
| Apron Feeder | - | 1 |
| Scalping Screen | - | 1 |
| Rotary Breaker | - | 1 |
| Reclaim Feeder | - | 7 |
| Dust Collector | - | 3 |
| <u>AUXILIARY EQUIPMENT</u> | | |
| Raw Coal Silo | 10 000 t | 1 |
| Silo Feed Conveyor | 1 220 W x 250 m | 1 |
| Rock Conveyor | 910 W x 40 m | 1 |
| Track Scale | - | 1 |
| Loadout Conveyor | 1 830 W x 250 m | 1 |
| Loadout Bin | - | 1 |

TABLE 4.2
LABOUR SCHEDULE
RAW COAL FACILITY

SALARIED

| <u>Position</u> | <u>No. of Salaried</u> |
|---------------------|------------------------|
| Superintendent | 1 |
| Shift Foreman | 4 |
| Chief Chemist | 1 |
| Lab Technician | 1 |
| Electrical Engineer | 1 |
| Clerk Typist | <u>1</u> |
| Total | 9 |

HOURLY

| <u>Position</u> | <u>No. of Hourly</u> |
|-----------------|----------------------|
| Operator | 4 |
| Mechanic/Welder | 8 |
| Greaser/Utility | <u>8</u> |
| Total | 20 |

VOLUME 1

SUMMARY

MOUNT KLAPPAN COAL PROJECT

VOLUME 1

SUMMARY

TABLE OF CONTENTS

CONCLUSIONS

PART

- 1 EXECUTIVE SUMMARY
- 2 INTRODUCTION
- 3 PROJECT DESCRIPTION
- 4 LABOUR AND MAJOR EQUIPMENT REQUIREMENTS
- 5 INFRASTRUCTURE

MASTER TABLE OF CONTENTS

APPENDIX A

APPENDIX B

PART 1 - EXECUTIVE SUMMARY

CONTENTS

| | <u>Page</u> |
|-------------------------|-------------|
| 1.1 BACKGROUND | 1-1 |
| 1.2 ASSESSMENT FINDINGS | 1-1 |

PART 2 - INTRODUCTION

CONTENTS

| | <u>Page</u> |
|--|-------------|
| 2.1 BACKGROUND | 2-1 |
| 211 Coal Licences | 2-1 |
| 212 Study Assignment | 2-1 |
| 213 Subsequent Studies | 2-1 |
| 214 Quality of Product Coals | 2-1 |
| 2.2 CONSULTANTS EMPLOYED | 2-2 |
| 2.3 BASIC DATA PROVIDED BY GULF CANADA RESOURCES INC. | 2-2 |
| 2.4 SITE DESCRIPTION | 2-2 |
| 2.5 ACKNOWLEDGEMENTS | 2-3 |

PART 3 - PROJECT DESCRIPTION

CONTENTS

| | <u>Page</u> |
|--|-------------|
| 3.1 INTRODUCTION | 3-1 |
| 3.2 GEOLOGY AND COAL QUALITY | 3-1 |
| 321 Field Programmes | 3-1 |
| 322 General Geology | 3-1 |
| .1 Geological Setting | 3-1 |
| .2 Resources | 3-2 |
| .21 Quantity | 3-2 |
| .22 Quality | 3-2 |
| 323 Mining Area Geology | 3-3 |
| .1 Description | 3-3 |
| .2 Resources | 3-3 |
| .21 Quantity | 3-3 |
| .22 Quality | 3-4 |
| 3.3 MINE PLAN | 3-4 |
| 331 General Approach | 3-4 |
| 332 5 Mtpy Case | 3-4 |
| 333 1 Mtpy Case | 3-5 |
| 3.4 COAL PREPARATION AND HANDLING FACILITIES | 3-6 |
| 341 5 Mtpy Case | 3-6 |
| 342 1 Mtpy Case | 3-7 |
| 3.5 RECLAMATION | 3-7 |

Table

- 3.1 Material Movement Schedule - 5 Mtpy Case
- 3.2 Material Movement Schedule - 1 Mtpy Case

Figure

- 3.1 Simplified Preparation Plant Flow Sheet
- 3.2 Organization Chart - 5 Mtpy Case
- 3.3 Organization Chart - 1 Mtpy Case

Plate

- 3.1 Hobbit-Broatch Resource Area -
General Arrangement - 1 Mtpy
- 3.2 Hobbit-Broatch Resource Area -
General Arrangement - 5 Mtpy

PART 4 - LABOUR AND MAJOR EQUIPMENT REQUIREMENTS

CONTENTS

| | <u>Page</u> |
|----------------------------------|-------------|
| 4.1 INTRODUCTION | 4-1 |
| 4.2 5 Mtpy CASE | |
| 421 Major Equipment Requirements | |
| .1 Mining | 4-1 |
| 422 Labour Requirements | |
| .1 Construction | 4-1 |
| .2 Operations | 4-1 |
| 4.3 1 Mtpy CASE | |
| 431 Major Equipment Requirements | |
| .1 Mining | 4-1 |
| 432 Labour Requirements | |
| .1 Construction | 4-2 |
| .2 Operations | 4-2 |

Table

- 4.1 Major Mining Equipment List - 5 Mtpy Case
- 4.2 Summary of Labour - 5 Mtpy Case
- 4.3 Major Mining Equipment List - 1 Mtpy Case
- 4.4 Summary of Labour - 1 Mtpy Case

PART 5 - INFRASTRUCTURE

CONTENTS

| | <u>Page</u> |
|---------------------------|-------------|
| 5.1 INTRODUCTION | 5-1 |
| 5.2 RAILWAY | 5-1 |
| 5.3 PORT | 5-1 |
| 5.4 SLURRY PIPELINE | 5-2 |
| 5.5 ROAD ACCESS | 5-2 |
| 5.6 ACCOMMODATION | 5-3 |
| 5.7 ELECTRICAL POWER | 5-3 |
| 5.8 WATER | 5-3 |
| 5.9 SOCIO-ECONOMIC IMPACT | 5-4 |
| 5.10 ENVIRONMENT | 5-4 |

Plate

- 1.1 Regional Access Map

VOLUME 2

GEOLOGY

MOUNT KLAPPAN COAL PROJECT

VOLUME 2

GEOLOGY

TABLE OF CONTENTS

Preface

Summary

PART

1 INTRODUCTION

2 PROPERTY HISTORY

3 EXPLORATION

4 GEOLOGY

5 RESOURCES

6 COAL QUALITY

MASTER TABLE OF CONTENTS

REFERENCES

APPENDICES

PART 1 - INTRODUCTION

CONTENTS

| | <u>Page</u> |
|-----------------------------|-------------|
| 1.1 LOCATION | 1-1 |
| 1.2 ACCESS | 1-1 |
| 1.3 PROPERTY DESCRIPTION | 1-1 |
| 1.4 OWNERSHIP | 1-2 |
| 1.5 BIOPHYSICAL ENVIRONMENT | 1-2 |

Plate

- 1.1 Location Map
- 1.2 Property Access
- 1.3 Licence Area
- 1.4 Property Geography

PART 2 - PROPERTY HISTORY

CONTENTS

| | <u>Page</u> |
|--------------|-------------|
| 2.1 SYNOPSIS | 2-1 |

Plate

2.1 Bowser Basin

PART 3 - EXPLORATION

CONTENTS

| | <u>Page</u> |
|--|-------------|
| 3.1 SUMMARY OF 1981 EXPLORATION PROGRAMME AND RESULTS | 3-1 |
| 3.2 1982 EXPLORATION PROGRAMME | 3-1 |
| 321 Programme Objectives and Methodology | 3-1 |
| .1 Objectives | 3-1 |
| .2 Methodology | 3-2 |
| 322 Cartography | 3-2 |
| 323 Logistics | 3-3 |
| .1 Field Camp | 3-3 |
| .2 Mapping and Drill Support | 3-3 |
| 324 Geological Mapping | 3-4 |
| 325 Hand Trenching | 3-4 |
| 326 Diamond Drilling | 3-5 |
| 327 Geophysical Logging | 3-5 |
| 328 Drill Core Logging and Sampling | 3-6 |
| 329 Drill Core and Trench Sample Analysis | 3-7 |
| 3210 Data Management | 3-7 |
| 3211 Reclamation | 3-7 |
| 3212 Special Projects | 3-7 |
| .1 Depositional Environments | 3-7 |
| .2 Regional Structure | 3-8 |

Table

- 3.1 Project Data Source Summary**

Plate

- 3.1 1981 Speculative Resource Area**
- 3.2 Camp Location**
- 3.3 1982 Exploration Mapping Areas**
- 3.4 Diamond Drill Holes**

PART 4 - GEOLOGY

CONTENTS

| | <u>Page</u> |
|--|-------------|
| 4.1 INTRODUCTION | 4-1 |
| 4.2 REGIONAL GEOLOGY | 4-1 |
| 421 Geological Setting | 4-1 |
| 422 Regional Stratigraphy | 4-2 |
| .1 Klappan-Groundhog Area Stratigraphy | 4-2 |
| 423 Structure | 4-3 |
| 4.3 PROPERTY GEOLOGY | 4-3 |
| 431 Unnamed Sequence | 4-4 |
| 432 Klappan Sequence | 4-4 |
| .1 Lower Klappan Unit | 4-5 |
| .2 Middle Klappan Unit | 4-5 |
| .21 Coal Seam Development | 4-6 |
| .3 Upper Klappan Unit | 4-7 |
| .4 Environment of Deposition | 4-7 |
| 433 Malloch Sequence | 4-7 |
| 434 Rhondda Sequence | 4-8 |
| 435 Structure | 4-8 |
| 4.4 RESOURCE AREA GEOLOGY | 4-10 |
| 441 Hobbit-Broatch Resource Area | 4-10 |
| .1 Coal Seam Development | 4-10 |
| .2 Structure | 4-11 |
| 442 Lost-Fox Resource Area | 4-12 |
| .1 Coal Seam Development | 4-12 |
| .2 Structure | 4-13 |
| 443 Summit Resource Area | 4-14 |
| .1 Coal Seam Development | 4-14 |
| .2 Structure | 4-14 |

Table

- 4.1 Regional Stratigraphy
- 4.2 Table of Formations
- 4.3 Coal Seam Thickness Summary
- 4.4 Hobbit-Broatch Resource Area
Seam Intersection Summary
- 4.5 Lost-Fox-Seam Resource Area
Seam Intersection Summary
- 4.6 Summit Resource Area
Seam Intersection Summary

Plate

- 4.1 Jurassic-Cretaceous Bowser Basin
- 4.2 Schematic Stratigraphic Column
- 4.3 Klappan-Groundhog Stratigraphy
- 4.4 Middle Klappan Unit
- 4.5 Distribution of Coal Seams
- 4.6 Schematic Geology Map
- 4.7 Schematic Cross-Section
- 4.8 Inferred Resource Areas
- 4.9 Hobbit-Broatch Resource Area Coal Seams
- 4.10 Hobbit-Broatch Correlation
- 4.11 Hobbit-Broatch Geology
- 4.12 Hobbit-Broatch Resource Area
Cross-Section Summary
- 4.13 Lost-Fox Coal Seams
- 4.14 Lost-Fox-Summit Correlation
- 4.15 Lost-Fox Geology
- 4.16 Lost-Fox Resource Area Cross-Sections

PART 5 - RESOURCES

CONTENTS

| | <u>Page</u> |
|----------------------------------|-------------|
| 5.1 SUMMARY | 5-1 |
| 5.2 INFERRED RESOURCE AREAS | 5-1 |
| 521 Summary | 5-1 |
| 522 Hobbit-Broatch Resource Area | 5-2 |
| 523 Lost-Fox Resource Area | 5-2 |
| 524 Summit Resource Area | 5-2 |
| 525 Low Ash Resource | 5-3 |
| 5.3 SPECULATIVE RESOURCE AREA | 5-3 |
| 5.4 POTENTIAL PROPERTY RESOURCE | 5-4 |
| 5.5 TOTAL PROPERTY RESOURCE | 5-4 |
| 5.6 PROCEDURES AND PARAMETERS | 5-4 |

Table

| |
|--|
| 5.1 Summary of Hobbit-Broatch Resources |
| 5.2 Hobbit-Broatch Resource Area Weighted Seam Thickness |
| 5.3 Summary of Lost-Fox Resources |
| 5.4 Summary of Summit Resources |
| 5.5 Low Ash Coal Tonnage Summary |
| 5.6 Speculative and Potential Property Resource Areas-Coal Seam Thicknesses |
| 5.7 Coal Seam Thickness Summary |

Plate

- 5.1 Resource Areas
- 5.2 Inferred Resource Areas
- 5.3 Speculative Resource Area
- 5.4 Potential Resource Area
- 5.5 Middle Klappan Sequence on
Licences under Application

PART 6 - COAL QUALITY

CONTENTS

| | <u>Page</u> |
|----------------------------------|-------------|
| 6.1 SUMMARY | 6-1 |
| 611 Coal Quality | 6-1 |
| 612 Premium Coals | 6-1 |
| 613 Briquetting Coal | 6-2 |
| 6.2 PROCEDURES AND PARAMETERS | 6-3 |
| 621 Objectives | 6-3 |
| 622 Methodology | 6-3 |
| 623 Analytical Procedures | 6-3 |
| .1 Compositing | 6-3 |
| .2 Size Analysis | 6-4 |
| .3 Float-Sink Data | 6-4 |
| .4 Product Analysis | 6-4 |
| 624 Washplant Simulation | 6-4 |
| 6.3 COAL RANK | 6-5 |
| 6.4 SIZE DISTRIBUTION | 6-5 |
| 6.5 FLOAT-SINK DATA | 6-6 |
| 6.6 PRODUCTS | 6-7 |
| 661 Low Ash Premium Coal Product | 6-8 |
| .1 Computed Yield | 6-8 |
| .2 Washplant Simulation | 6-9 |

| | <u>Page</u> |
|---|-------------|
| 661 Low Ash Premium Coal Product (Con't) | |
| .3 Proximate Analysis | 6-10 |
| .31 Moisture | 6-10 |
| .32 Ash | 6-10 |
| .33 Volatile Matter | 6-10 |
| .34 Fixed Carbon | 6-11 |
| .4 Total Sulphur | 6-11 |
| .5 Calorific Value | 6-11 |
| .6 Hardgrove Grindability Index | 6-11 |
| .7 Ultimate Analysis | 6-11 |
| .8 Ash Characteristics | 6-12 |
| .9 Middlings Product | 6-12 |
| | |
| 662 Medium Ash Premium Coal Product | 6-12 |
| .1 Computed Yield | 6-12 |
| .2 Washplant Simulation | 6-13 |
| .3 Proximate Analysis | 6-13 |
| .31 Moisture | 6-13 |
| .32 Ash | 6-13 |
| .33 Volatile Matter | 6-14 |
| .34 Fixed Carbon | 6-14 |
| .4 Total Sulphur | 6-14 |
| .5 Calorific Value | 6-15 |
| .6 Hardgrove Grindability Index | 6-15 |
| .7 Ultimate Analysis | 6-15 |
| .8 Ash Characteristics | 6-15 |
| .9 Middlings Product | 6-15 |
| | |
| 663 Briquetting Coal Product | 6-16 |
| .1 Introduction | 6-16 |
| .2 Computed Yield | 6-17 |
| .3 Washplant Simulation | 6-17 |

| | <u>Page</u> |
|--------------------------------------|-------------|
| 663 Briquetting Coal Product (Con't) | |
| .4 Proximate Analysis | 6-18 |
| .41 Moisture | 6-18 |
| .42 Ash | 6-18 |
| .43 Volatile Matter | 6-18 |
| .44 Fixed Carbon | 6-19 |
| .5 Total Sulphur | 6-19 |
| .6 Calorific Value | 6-19 |
| .7 Hardgrove Grindability Index | 6-19 |
| .8 Ultimate Analysis | 6-19 |
| .9 Ash Characteristics | 6-20 |
| 664 Raw Coal Product | 6-20 |
| .1 Proximate Analysis | 6-20 |
| .11 Moisture | 6-20 |
| .12 Ash | 6-20 |
| .13 Volatile Matter | 6-21 |
| .14 Fixed Carbon | 6-21 |
| .2 Total Sulphur | 6-21 |
| .3 Calorific Value | 6-22 |
| .4 Hardgrove Grindability Index | 6-22 |
| .5 Ultimate Analysis | 6-22 |
| .6 Ash Characteristics | 6-22 |
| .7 Washplant | 6-23 |

Table

- 6.1 Low Ash Premium Coal Product
- 6.2 Medium Ash Premium Coal Product
- 6.3 Briquetting Coal Product
- 6.4 Low Ash Premium Coal Product
- 6.5 Medium Ash Premium Coal Product
- 6.6 Briquetting Coal Product
- 6.7 Raw Coal Product

Figure

- 6.1 Diamond Drill Core Coal Testing Programme - Part 1
- 6.2 Diamond Drill Core Coal Testing Programme - Part 2

APPENDICES

GEOLOGY

CONTENTS

APPENDIX

- A MOUNT KLAPPAN COAL PROJECT LICENCES**
- B RESOURCE DATA AND CALCULATIONS**
- C GEOLOGY MAPS**
- D GEOLOGICAL CROSS-SECTIONS**

VOLUME 3

MINING

MOUNT KLAPPAN COAL PROJECT

VOLUME 3

MINING

TABLE OF CONTENTS

PART

1. INTRODUCTION
2. GEOLOGICAL SETTING
3. MINING SYSTEMS
4. MINESITE INFRASTRUCTURE
5. ASSESSMENT PARAMETERS - MINING

MASTER TABLE OF CONTENTS

APPENDIX A

PART 1 - INTRODUCTION

CONTENTS

| | <u>Page</u> |
|------------------|-------------|
| 1.0 INTRODUCTION | 1-1 |

PART 2 - GEOLOGICAL SETTING

CONTENTS

| | <u>Page</u> |
|---|-------------|
| 2.1 INTRODUCTION | 2-1 |
| 2.2 GEOLOGY OF MINING AREA | 2-1 |
| 2.3 IN SITU QUANTITIES | 2-2 |
| 231 Information Base | 2-2 |
| 232 Methodology | 2-2 |
| .1 Block Model | 2-2 |
| .2 Block Grid | 2-2 |
| .3 Quantities | 2-3 |
| .4 Mean Thickness of Seams | 2-3 |
| .5 In Situ Stripping Ratios - Mining Area | 2-3 |

Table

- 2.1 Mineable True Thickness of Coal
- 2.2 Mean Mineable Seam Thickness

Figure

- 2.1 Block Model Grid/Mine Grid
- 2.2 Seam Polygons
- 2.3 Composite Stripping Ratios to base of Seam E for
Hobbit-Broatch Resource Area

PART 3 - MINING SYSTEMS

CONTENTS

| | <u>Page</u> |
|-------------------------------------|-------------|
| 3.1 INTRODUCTION | 3-1 |
| 3.2 MINING APPROACHES | 3-1 |
| 321 Overview | 3-1 |
| 322 Top Soil | 3-1 |
| 323 Waste Removal/Disposal | 3-1 |
| 324 Coal | 3-2 |
| 3.3 ONE MILLION TONNE CASE | 3-3 |
| 331 Introduction | 3-3 |
| 332 Pit Boundaries | 3-3 |
| 333 Material Movement | 3-3 |
| 335 Mine Equipment | 3-3 |
| 336 Mine Labour | 3-4 |
| 3.4 FIVE MILLION TONNE CASE | 3-4 |
| 341 Introduction | 3-4 |
| 342 Pit Boundaries | 3-4 |
| 343 Material Movement | 3-5 |
| 344 Mine Plan Details | 3-5 |
| .1 Overview | 3-5 |
| .2 Top Soil | 3-5 |
| .3 Waste | 3-5 |
| .4 Coal | 3-6 |
| .5 Preparation Plant Coarse Rejects | 3-6 |
| 345 Mine Equipment | 3-6 |
| 346 Mine Labour | 3-6 |

Table

- 3.1 Material Movement Schedule - 1 Mtpy Case
- 3.2 Mine Major Equipment Schedule - 1 Mtpy Case
- 3.3 Mine Auxiliary Equipment Schedule - 1 Mtpy Case
- 3.4 Mine Labour Requirements - 1 Mtpy Case
- 3.6 Material Movement Schedule - 5 Mtpy Case
- 3.7 Mine Major Equipment Schedule - 5 Mtpy Case
- 3.8 Mine Auxiliary Equipment Schedule - 5 Mtpy Case
- 3.9 Mine Labour Requirements - 5 Mtpy Case

Figure

- 3.1 Boundary of Areal Extent of Mining Area at Pit Bottom - 1 Mtpy Case
- 3.2 1 Mtpy Longitudinal Section of Mine showing yearly progression
- 3.3 Organization Chart 1 Mtpy Case Mining
- 3.4 Boundary of Areal Extent of Mining Area at Pit Bottom - 5 Mtpy Case
- 3.5 5 Mtpy Longitudinal Section of Mine showing yearly progression
- 3.6 5 Mtpy Longitudinal Section of Mine showing backfill progression
- 3.7 Organization Chart 5 Mtpy Case Mining
- 3.8 Wing Waste Dump Construction
- 3.9 Mine Progression at Year 5 - 5 Mtpy Case
- 3.10 Mine Progression at Year 10 - 5 Mtpy Case
- 3.11 Mine Progression at Year 15 - 5 Mtpy Case
- 3.12 Mine Progression at Year 20 - 5 Mtpy Case

Plate

- 3.1 Hobbit-Broatch Resource Area Mine General Arrangement - 1 Mtpy Case
- 3.2 Hobbit-Broatch Resource Area Mine General Arrangement - 5 Mtpy Case

PART 4 - MINESITE INFRASTRUCTURE

CONTENTS

| | <u>Page</u> |
|-------------------------|-------------|
| 4.1 INTRODUCTION | 4-1 |
| 4.2 ROADS | 4-1 |
| 421 Haul Roads | 4-1 |
| 422 Access Roads | 4-1 |
| 423 Ramps | 4-1 |
| 4.3 DRAINAGE | 4-1 |
| 431 Surface | 4-1 |
| 432 Pit Drainage | 4-2 |
| 4.4 SERVICES | 4-2 |
| 441 Water Supply | 4-2 |
| 442 Electrical Power | 4-2 |
| 443 Shops and Warehouse | 4-2 |
| 444 Fuel Supply | 4-2 |
| 4.5 ADMINISTRATION | 4-3 |
| 451 1 Mtpy Case | 4-3 |
| 452 5 Mtpy Case | 4-3 |

Table

- 4.1 Administration Labour Requirements - 1 Mtpy Case and 5 Mtpy Case

Figure

- 4.1 Organization Chart - 1 Mtpy Case - Administration
- 4.2 Administration Chart - 5 Mtpy Case - Administration

PART 5 - ASSESSMENT PARAMETERS

MINING

CONTENTS

| | <u>Page</u> |
|-----------------------------|-------------|
| 5.1 INTRODUCTION | 5-1 |
| 5.2 LABOUR | 5-1 |
| 521 Introduction | 5-1 |
| 522 Personnel | 5-1 |
| .1 Classifications | 5-1 |
| .2 Age of Equipment | 5-1 |
| .3 Shift Cycles and Systems | 5-1 |
| .4 Utilization | 5-2 |
| .41 Availability | 5-2 |
| .42 Utilization | 5-2 |
| .5 Equipment Matching | 5-2 |
| 5.3 EQUIPMENT | 5-5 |
| 531 Introduction | 5-5 |
| 532 Mining Strategy | 5-5 |
| .1 Introduction | 5-5 |
| .2 Waste | 5-5 |
| .21 Drilling | 5-5 |
| .22 Blasting | 5-5 |
| .23 Loading | 5-5 |
| .24 Trucking | 5-5 |
| .25 Conveying | 5-5 |
| .3 Coal Mining | 5-8 |
| .31 Drill/Blast | 5-8 |
| .32 Loading | 5-8 |
| .33 Trucking | 5-8 |

| | <u>Page</u> |
|--|-------------|
| .4 Auxiliary Operations | 5-8 |
| .41 Drainage | 5-8 |
| .42 Road Maintenance and Construction | 5-8 |
| .43 Waste Dump Backfill Levelling | 5-8 |
| .44 Conveyor Slewing | 5-8 |
| 533 Equipment Availability/Utilization | 5-10 |
| 534 Mining Equipment Service Life | 5-10 |
| 535 Equipment Productivities | 5-10 |
| .1 Assumptions | 5-10 |
| .2 Waste Loading | 5-11 |
| .3 Coal Loading | 5-12 |
| .4 Drills | 5-13 |
| .5 Trucks | 5-14 |
| | |
| 5.4 MINING | 5-15 |
| 541 Material Properties | 5-15 |
| .1 Swell Factor | 5-15 |
| .2 Coal Loss | 5-15 |
| .3 Out of Seam Dilution | 5-15 |
| .4 Moistures | 5-15 |
| .5 Densities | 5-15 |
| | |
| 542 Derivation of Material Quantities - Sample Calculations - 5 Mtpy Case | 5-16 |
| .1 Run of Mine Feed | 5-16 |
| .2 Coal In Situ Calculation | 5-16 |
| .3 Preparation Plant Reject Calculation | 5-16 |
| | |
| 543 Haul roads | 5-17 |
| .1 Design Specifications | 5-17 |
| .2 Maintenance Criteria | 5-17 |

| | <u>Page</u> |
|--------------------------------------|-------------|
| 544 Blasting | 5-17 |
| .1 Requirements | 5-17 |
| .11 Waste | 5-17 |
| .12 Coal | 5-17 |
| 545 Production Reserves | 5-17 |
| .1 Stripped Coal | 5-17 |
| | |
| 5.5 HYDROLOGICAL AND HYDROGEOLOGICAL | 5-18 |
| 551 Introduction | 5-18 |
| 552 Run Off Protection | 5-18 |
| 553 Drainage | 5-18 |
| 554 Water Quality | 5-18 |
| | |
| 5.6 GEOTECHNICAL | 5-18 |
| 561 Introduction | 5-18 |
| 562 Pit | 5-18 |
| 563 Waste Dumps | 5-18 |
| | |
| 5.7 RECLAMATION | 5-19 |
| 571 Introduction | 5-19 |
| 572 Top Soil | 5-19 |
| 573 Replacement | 5-19 |
| 574 Revegetation | 5-19 |

Table

- 5.1 Staff Classification
- 5.2 Non-Supervisory Classification
- 5.3 Major Equipment Availability - Hours Per Year

VOLUME 3

APPENDIX A

CONTENTS

Plate

- | | |
|-----|--------------------------------------|
| A.1 | Geological Cross-Section 5500 (East) |
| A.2 | Geological Cross-Section 5000 (East) |
| A.3 | Geological Cross-Section 4500 (East) |
| A.4 | Geological Cross-Section 4000 (East) |
| A.5 | Geological Cross-Section 3500 (East) |
| A.6 | Geological Cross-Section 3000 (East) |
| A.7 | Geological Cross-Section 2500 (East) |
| A.8 | Geological Cross-Section 2000 (East) |

VOLUME 5
INFRASTRUCTURE

MOUNT KLAPPAN COAL PROJECT

VOLUME 5

INFRASTRUCTURE

TABLE OF CONTENTS

PART

- 1 INTRODUCTION
- 2 COAL TRANSPORTATION
- 3 ROAD ACCESS
- 4 SERVICES
- 5 SOCIO - ECONOMIC IMPACT
- 6 ENVIRONMENT

REFERENCES

MASTER TABLE OF CONTENTS

PART 1 - INTRODUCTION

CONTENTS

| | <u>Page</u> |
|--------------|-------------|
| 1.1 SYNOPSIS | 1-1 |

Plate

- 1.1 Regional Access Map

PART 2 - COAL TRANSPORTATION

CONTENTS

| | <u>Page</u> |
|---|-------------|
| 2.1 INTRODUCTION | 2-1 |
| 2.2 RAIL HAULAGE | 2-1 |
| 221 Overview | 2-1 |
| 222 Main Line Completion | 2-1 |
| 223 New Railway Cutoff- Southern Route 1 | 2-1 |
| 224 New Railway Cutoff - Alternative Southern Route 1A | 2-2 |
| 225 New Railway Cutoff- Northern Route 2 | 2-2 |
| 226 Railway Design Criteria | 2-3 |
| 2.3 PORT | 2-3 |
| 2.4 SLURRY PIPELINE | 2-4 |

Plate

- 2.1 Key Map - Rail Access Routes
- 2.2 Proposed Continuation of B.C. Railway
- 2.3 Railway Link Between BCR & CNR Routes 1 & 1A
- 2.4 Railway Link Between BCR & CNR Routes 2 & 2A

PART 3 - ROAD ACCESS

CONTENTS

| | <u>Page</u> |
|------------------------------------|-------------|
| 3.1 INTRODUCTION | 3-1 |
| 3.2 PERMANENT ROAD ACCESS | 3-1 |
| 321 Route 1 | 3-1 |
| 322 Route 2 | 3-1 |
| 323 Permanent Road Design Criteria | 3-1 |
| 3.3 TEMPORARY ACCESS ROAD | 3-2 |
| 331 Route and Requirements | 3-2 |

Plate

- 3.1 Key Map - Road Access Routes
- 3.2 Preliminary Access Road
- 3.3 New Highway - Route 1
- 3.4 New Highway - Route 2

PART 4 - SERVICES

CONTENTS

| | <u>Page</u> |
|----------------------------------|-------------|
| 4.1 INTRODUCTION | 4-1 |
| 4.2 ACCOMMODATIONS - 1 Mtpy CASE | 4-1 |
| 4.3 ACCOMMODATIONS - 5 Mtpy CASE | 4-1 |
| 4.4 ELECTRICAL POWER | 4-1 |
| 4.5 WATER | 4-2 |

PART 5 - SOCIO-ECONOMIC IMPACT

CONTENTS

| | <u>Page</u> |
|---|-------------|
| 5.1 INTRODUCTION | 5-1 |
| 511 Purpose | 5-1 |
| 512 Impact Area | 5-1 |
| 513 Study Approach | 5-2 |
| 514 General Assumptions | 5-2 |
| 5.2 THE MOUNT KLAPPAN PROJECT | 5-3 |
| 521 Location and Access | 5-3 |
| 522 Resource Potential, Quality and Marketing | 5-4 |
| 523 Production Alternatives | 5-4 |
| 524 Timing of Development | 5-5 |
| 525 Infrastructure Requirements | 5-5 |
| 526 Socio-Economic Impact Potential | 5-6 |
| 5.3 THE NORTHWEST REGION OF BRITISH COLUMBIA | 5-8 |
| 531 Overview | 5-8 |
| 532 Present Socio-Economic Conditions | 5-9 |
| .1 Population and Workforce | 5-9 |
| .2 Present Industrial Activity | 5-10 |
| .3 Income Levels | 5-11 |
| 533 Existing Infrastructure | 5-12 |
| .1 Roads | 5-12 |
| .2 Railway | 5-13 |
| .3 Air | 5-14 |
| .4 Port Facilities | 5-14 |
| .5 Electricity | 5-15 |
| .6 Industry | 5-16 |
| 534 General Development Potential | 5-16 |

| | <u>Page</u> |
|--|-------------|
| 535 Development Constraints | 5-17 |
| .1 Southern Sector of the Impact Area (South of Hazelton) | 5-17 |
| .2 Northern Sector of the Impact Area (North of Hazelton) | 5-18 |
| 536 Provincial Government Attitude to Development | 5-19 |
| | |
| 5.4 SOCIO ECONOMIC IMPACTS - 1 Mtpy PRODUCT COAL | 5-19 |
| 541 Employment | 5-19 |
| .1 Direct Regional Employment | 5-19 |
| .2 Indirect Regional Employment | 5-20 |
| 542 Regional Personal Income and Salary Levels | 5-20 |
| 543 Provincial Employment and Income | 5-20 |
| 544 Regional Population | 5-21 |
| 545 Maximum Impacts on Family Structure, Housing Requirements, and Community Services | 5-22 |
| .1 Family Structure and Population Demographics | 5-22 |
| .2 Housing Requirements | 5-24 |
| .3 Services | 5-24 |
| 546 Construction Employment | 5-25 |
| 547 Infrastructure | 5-26 |
| .1 Rail | 5-26 |
| .2 Road Access | 5-26 |
| .3 Port | 5-27 |
| 548 Expenditures | 5-27 |
| .1 Capital Expenditures | 5-27 |
| .2 Operating Expenditures | 5-28 |
| 549 Summary | 5-28 |

| | <u>Page</u> |
|--|-------------|
| 5.5 SOCIO ECONOMIC IMPACTS - 5 Mtpy PRODUCT COAL | 5-29 |
| 551 Employment | 5-29 |
| .1 Direct Regional Employment | 5-29 |
| .2 Indirect Regional Employment | 5-30 |
| 552 Regional Personal Income and Salary Levels | 5-30 |
| 553 Provincial Employment and Income | 5-30 |
| 554 Regional Population | 5-31 |
| 555 Family Structure and Population Demographics | 5-31 |
| 556 Housing Requirements | 5-32 |
| 557 Construction Employment | 5-33 |
| 558 Services | 5-33 |
| .1 Education | 5-34 |
| .2 Medical and Health | 5-34 |
| .3 Government Services | 5-34 |
| .4 Commercial Facilities | 5-34 |
| 559 Infrastructure | 5-35 |
| 5510 Expenditures | 5-36 |
| .1 Capital Expenditures | 5-36 |
| .2 Operating Expenditures | 5-37 |
| 5511 Summary | 5-37 |
| | |
| 5.6 AREAS FOR FURTHER STUDY | 5-38 |

Table

- 5.1 Population Model for Mount Klappan Coal Project
(1.0 Million Tonnes)
- 5.2 Population Model for Mount Klappan Coal Project
(5.0 Million Tonnes)

Plate

- 5.1 Impact Area - Mount Klappan Coal Project

PART 6 - ENVIRONMENT

CONTENTS

| | <u>Page</u> |
|---|-------------|
| 6.1 SUMMARY | 6-1 |
| 6.2 DISCIPLINE-SPECIFIC DISCUSSION | 6-1 |
| 621 LAND USE | 6-1 |
| .1 Introduction | 6-1 |
| .2 Resource Use | 6-1 |
| .21 Mining | 6-1 |
| .22 Forestry | 6-1 |
| .23 Agriculture | 6-2 |
| .24 Recreation | 6-3 |
| .3 Land Status | 6-3 |
| .31 Government/Residential/ Commercial | 6-3 |
| .32 Native | 6-4 |
| .33 Historical | 6-4 |
| 622 PHYSICAL ENVIRONMENT | 6-5 |
| .1 Introduction | 6-5 |
| .2 Atmospheric Environment | 6-5 |
| .21 Climate | 6-5 |
| .22 Air Quality and Noise | 6-6 |
| .3 Terrestrial Environment | 6-6 |
| .31 Geology/Vegetation | 6-6 |
| .32 Wildlife | 6-7 |
| .4 Aquatics Environment | 6-8 |

| | <u>Page</u> |
|--|-------------|
| 6.3 PROJECT-SPECIFIC DISCUSSIONS | 6-9 |
| 631 Introduction | 6-9 |
| 632 Mine Site | 6-9 |
| 633 Existing Railway Plus Alternative #1 | 6-10 |
| 634 Existing Railway Plus Alternative #2 | 6-10 |
| 635 Slurry Pipeline | 6-10 |
| 636 Access Road | 6-10 |

Table

- 6.1 Comparative Meteorological Information
for the Mt. Klappan Coal Property (Didene)
and Other Western Canadian Reporting Stations
- 6.2 Tabulation of Environmental Issues
Impacting the Mt. Klappan Coal Project

APPENDICES

APPENDICES

TABLE OF CONTENTS

APPENDIX

- A - SIMULATED EQUIPMENT PERFORMANCES
- B - COMPOSITE WASHABILITY DATA

APPENDIX A

SIMULATED EQUIPMENT PERFORMANCE

APPENDIX A

SIMULATED EQUIPMENT PERFORMANCE

CONTENTS

10 mm x 0.6 mm Size Fraction

- Coarse Coal Jig
- Heavy Media Cyclone
- Heavy Media Vessel

0.6 mm x 0.15 mm Size Fraction

- Water Only Cyclone
- Heavy Media Cyclone

10mm x 0.6mm
SIZE FRACTION

CUMULATIVE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB |
|------------------|----------------|-------------|----------------|--------|----------------|-------------|----------------|--------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.40 | 0.24 | 1.00 | 3570. |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.90 | 0.51 | 1.00 | 3558. |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.27 | 0.84 | 0.97 | 3544. |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.81 | 1.08 | 0.94 | 3533. |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 2.93 | 1.28 | 1.06 | 3525. |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 3.37 | 1.57 | 1.05 | 3512. |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 5.43 | 2.72 | 1.02 | 3462. |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 9.11 | 3.66 | 1.00 | 3421. |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 13.15 | 4.76 | 1.00 | 3373. |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 17.74 | 5.57 | 1.00 | 3338. |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 20.16 | 5.93 | 1.00 | 3322. |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 22.45 | 6.34 | 1.00 | 3304. |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 27.11 | 7.08 | 1.00 | 3272. |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 31.86 | 7.83 | 1.00 | 3239. |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 42.39 | 10.07 | 1.00 | 3141. |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 51.44 | 11.76 | 1.00 | 3068. |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 57.95 | 13.24 | 1.00 | 3003. |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 62.47 | 14.55 | 1.00 | 2946. |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 67.91 | 16.22 | 0.97 | 2873. |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 71.90 | 17.60 | 0.94 | 2813. |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 79.19 | 20.55 | 0.90 | 2685. |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 83.19 | 22.41 | 0.88 | 2603. |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 90.36 | 26.36 | 0.89 | 2431. |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 99.99 | 31.39 | 0.90 | 2212. |

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 12 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.992 | 0.40 | 0.00 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.982 | 0.49 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.972 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.961 | 0.52 | 0.02 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.948 | 1.06 | 0.06 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.939 | 0.42 | 0.03 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.924 | 1.90 | 0.16 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.897 | 3.30 | 0.38 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.856 | 3.46 | 0.58 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.802 | 3.69 | 0.91 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.751 | 1.82 | 0.60 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.704 | 1.62 | 0.67 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.637 | 2.97 | 1.69 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.546 | 2.59 | 2.16 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.429 | 4.51 | 6.02 |

| | | | | | | | |
|-------------|------|-------|------|-------|-------|------|------|
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.246 | 2.22 | 6.83 |
| 1.60 X 1.65 | 5.51 | 24.89 | 1.00 | 2495. | 0.203 | 1.32 | 5.19 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.133 | 0.60 | 3.92 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.059 | 0.32 | 5.11 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.025 | 0.10 | 3.89 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.001 | 0.01 | 7.29 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 33.67 (32.05 INCL. DILUTION)

CLEAN COAL ASH = 10.89

REFUSE ASH = 41.80

CLEAN COAL SULFUR = 0.996

CLEAN COAL BTU = 3106.

SPECIFIC GRAVITY OF SEPARATION = 1.50

ECART PROBABLE = 0.070

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 12 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.997 | 0.49 | 0.00 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.990 | 0.36 | 0.00 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.982 | 0.53 | 0.01 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.976 | 1.09 | 0.03 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.972 | 0.44 | 0.01 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.966 | 1.98 | 0.07 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.956 | 3.52 | 0.16 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.941 | 3.80 | 0.24 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.926 | 4.26 | 0.34 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.912 | 2.20 | 0.21 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.901 | 2.07 | 0.23 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.882 | 4.11 | 0.55 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.845 | 4.01 | 0.73 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.763 | 8.03 | 2.50 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.589 | 5.33 | 3.72 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.444 | 2.89 | 3.62 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.304 | 1.38 | 3.15 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.210 | 1.14 | 4.29 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.106 | 0.42 | 3.57 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.056 | 0.26 | 7.04 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.004 | 0.02 | 3.98 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 48.75 (46.41 INCL. DILUTION)

CLEAN COAL ASH = 13.38

REFUSE ASH = 48.53

CLEAN COAL SULFUR = 0.984

CLEAN COAL BTU = 2997.

SPECIFIC GRAVITY OF SEPARATION = 1.60

ECART PROBABLE = 0.090

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 12 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.00 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.994 | 0.54 | 0.00 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.990 | 1.10 | 0.01 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.987 | 0.44 | 0.01 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.982 | 2.02 | 0.04 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.976 | 3.59 | 0.09 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.969 | 3.91 | 0.13 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.962 | 4.42 | 0.17 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.955 | 2.31 | 0.11 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.949 | 2.16 | 0.12 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.940 | 4.38 | 0.28 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.928 | 4.40 | 0.34 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.899 | 9.47 | 1.06 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.829 | 7.51 | 1.55 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.719 | 4.68 | 1.83 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.573 | 2.59 | 1.93 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.409 | 2.22 | 3.21 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.228 | 0.91 | 3.08 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.111 | 0.81 | 6.49 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.033 | 0.13 | 3.86 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.007 | 0.05 | 7.11 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 58.94 (56.11 INCL. DILUTION)

CLEAN COAL ASH = 15.45

REFUSE ASH = 54.29

CLEAN COAL SULFUR = 0.969

CLEAN COAL BTU = 2907.

SPECIFIC GRAVITY OF SEPARATION = 1.70

ECAAT PROBABLE 0.110

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 12 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 | FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 |
| 1.28 X 1.30 | | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 |
| 1.30 X 1.32 | | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 |
| 1.32 X 1.34 | | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 |
| 1.34 X 1.35 | | 1.11 | 1.61 | 1.24 | 3510. | 0.998 | 1.11 |
| 1.35 X 1.36 | | 0.45 | 3.50 | 0.98 | 3428. | 0.996 | 0.45 |
| 1.36 X 1.38 | | 2.05 | 4.60 | 0.98 | 3380. | 0.993 | 2.04 |
| 1.38 X 1.40 | | 3.68 | 5.04 | 0.98 | 3361. | 0.988 | 3.64 |
| 1.40 X 1.42 | | 4.04 | 7.24 | 1.00 | 3265. | 0.982 | 3.97 |
| 1.42 X 1.44 | | 4.60 | 7.90 | 1.00 | 3236. | 0.977 | 4.49 |
| 1.44 X 1.45 | | 2.42 | 8.58 | 1.00 | 3206. | 0.973 | 2.35 |
| 1.45 X 1.46 | | 2.29 | 9.90 | 1.00 | 3149. | 0.970 | 2.22 |
| 1.46 X 1.48 | | 4.66 | 10.67 | 1.00 | 3115. | 0.965 | 4.50 |
| 1.48 X 1.50 | | 4.75 | 12.08 | 1.00 | 3054. | 0.959 | 4.55 |
| 1.50 X 1.55 | | 10.53 | 16.86 | 1.00 | 2845. | 0.942 | 9.92 |
| 1.55 X 1.60 | | 9.05 | 19.68 | 1.01 | 2722. | 0.913 | 8.26 |
| 1.60 X 1.65 | | 6.51 | 24.89 | 1.00 | 2495. | 0.866 | 5.64 |
| 1.65 X 1.70 | | 4.52 | 31.42 | 1.00 | 2210. | 0.793 | 3.59 |
| 1.70 X 1.80 | | 5.44 | 35.42 | 0.55 | 2036. | 0.623 | 3.39 |
| 1.80 X 1.90 | | 3.99 | 41.09 | 0.51 | 1789. | 0.423 | 1.69 |
| 1.90 X 2.10 | | 7.30 | 49.54 | 0.47 | 1420. | 0.218 | 1.59 |
| 2.10 X 2.30 | | 4.00 | 59.33 | 0.43 | 994. | 0.082 | 0.33 |
| 2.30 X 2.50 | | 7.16 | 72.30 | 1.00 | 428. | 0.032 | 0.23 |
| 2.50 | SINK | 9.64 | 78.56 | 1.00 | 155. | 0.009 | 0.09 |

CLEAN COAL YIELD = 65.85 (62.69 INCL. DILUTION)

CLEAN COAL ASH = 17.26

REFUSE ASH = 58.65

CLEAN COAL SULFUR = 0.951

CLEAN COAL BTU = 2828.

SPECIFIC GRAVITY OF SEPARATION = 1.80

EGART PROBABLE = 0.130

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.999 | 2.05 | 0.00 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.995 | 3.66 | 0.02 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.991 | 4.01 | 0.03 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.987 | 4.54 | 0.06 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.983 | 2.38 | 0.04 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.981 | 2.25 | 0.04 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.50 | 3115. | 0.978 | 4.55 | 0.10 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.973 | 4.62 | 0.13 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.30 | 2845. | 0.964 | 10.15 | 0.38 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.945 | 8.55 | 0.50 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.922 | 6.00 | 0.51 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.888 | 4.02 | 0.51 |
| 1.70 X 1.80 | 2.44 | 35.42 | 0.55 | 2036. | 0.802 | 4.36 | 1.08 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.607 | 2.42 | 1.57 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.358 | 2.61 | 4.68 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.190 | 0.76 | 3.24 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.070 | 0.50 | 6.66 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.031 | 0.30 | 9.34 |

CLEAN COAL YIELD = 71.11 (67.70 INCL. DILUTION)

CLEAN COAL ASH = 18.96

REFUSE ASH = 62.00

CLEAN COAL SULFUR = 0.932

CLEAN COAL BTU = 2754.

SPECIFIC GRAVITY OF SEPARATION = 1.90

ERROR PROBABLE = 0.150

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.0 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.998 | 4.03 | 0.01 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.994 | 4.57 | 0.03 |
| 1.44 X 1.45 | 2.42 | 8.56 | 1.00 | 3206. | 0.991 | 2.39 | 0.02 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.990 | 2.27 | 0.02 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.986 | 4.59 | 0.06 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.982 | 4.66 | 0.08 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.975 | 10.27 | 0.26 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.964 | 8.72 | 0.33 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.947 | 6.17 | 0.34 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.928 | 4.20 | 0.33 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.885 | 4.81 | 0.63 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.774 | 3.09 | 0.90 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.500 | 3.65 | 3.65 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.239 | 0.96 | 3.04 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.147 | 1.05 | 6.11 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.061 | 0.59 | 9.05 |

CLEAN COAL YIELD = 75.13 (71.52 INCL. DILUTION)

CLEAN COAL ASH = 20.42

REFUSE ASH = 64.55

CLEAN COAL SULFUR = 0.920

CLEAN COAL BTU = 2690.

SPECIFIC GRAVITY OF SEPARATION = 2.00

ECART FRODABLE = 0.170

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (100 mm x 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.0 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 1.000 | 4.04 | 0.0 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.999 | 4.59 | 0.00 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.997 | 2.41 | 0.01 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.995 | 2.28 | 0.01 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.993 | 4.62 | 0.03 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.990 | 4.70 | 0.05 |
| 1.50 X 1.55 | 10.53 | 14.86 | 1.00 | 2845. | 0.983 | 10.35 | 0.18 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.974 | 8.81 | 0.24 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.964 | 6.27 | 0.24 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.949 | 4.30 | 0.23 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.923 | 5.02 | 0.42 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.861 | 3.44 | 0.56 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.669 | 4.88 | 2.42 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.395 | 1.58 | 2.42 |
| 2.30 X 2.50 | 7.14 | 72.30 | 1.00 | 428. | 0.215 | 1.54 | 5.62 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.120 | 1.16 | 8.48 |

CLEAN COAL YIELD = 79.11 (75.31 INCL. DILUTION)

CLEAN COAL ASH = 22.05

REFUSE ASH = 66.78

CLEAN COAL SULFUR = 0.908

CLEAN COAL BTU = 2619.

SPECIFIC GRAVITY OF SEPARATION = 2.10

ECART PROBABLE = 0.190

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE | |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|------|
| 1.28 | FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.928 | 0.38 | 0.03 |
| 1.28 X 1.30 | | 0.50 | 0.73 | 1.00 | 3549. | 0.915 | 0.45 | 0.04 |
| 1.30 X 1.32 | | 0.37 | 1.66 | 0.89 | 3508. | 0.898 | 0.33 | 0.04 |
| 1.32 X 1.34 | | 0.54 | 1.62 | 0.89 | 3510. | 0.878 | 0.48 | 0.07 |
| 1.34 X 1.35 | | 1.11 | 1.61 | 1.24 | 3510. | 0.857 | 0.95 | 0.16 |
| 1.35 X 1.36 | | 0.45 | 3.50 | 0.98 | 3428. | 0.843 | 0.38 | 0.07 |
| 1.36 X 1.38 | | 2.05 | 4.60 | 0.98 | 3380. | 0.819 | 1.68 | 0.37 |
| 1.38 X 1.40 | | 3.68 | 5.04 | 0.98 | 3361. | 0.783 | 2.88 | 0.80 |
| 1.40 X 1.42 | | 4.04 | 7.24 | 1.00 | 3265. | 0.740 | 2.99 | 1.05 |
| 1.42 X 1.44 | | 4.60 | 7.90 | 1.00 | 3236. | 0.687 | 3.16 | 1.44 |
| 1.44 X 1.45 | | 2.42 | 8.58 | 1.00 | 3206. | 0.647 | 1.56 | 0.85 |
| 1.45 X 1.46 | | 2.29 | 9.90 | 1.00 | 3149. | 0.620 | 1.42 | 0.87 |
| 1.46 X 1.46 | | 4.66 | 10.67 | 1.00 | 3115. | 0.580 | 2.70 | 1.96 |
| 1.48 X 1.50 | | 4.75 | 12.08 | 1.00 | 3054. | 0.527 | 2.50 | 2.25 |
| 1.50 X 1.55 | | 10.53 | 16.86 | 1.00 | 2845. | 0.458 | 4.83 | 5.70 |
| 1.55 X 1.60 | | 9.05 | 19.68 | 1.01 | 2722. | 0.372 | 3.37 | 5.69 |
| 1.60 X 1.65 | | 6.51 | 24.89 | 1.00 | 2495. | 0.248 | 1.61 | 4.90 |
| 1.65 X 1.70 | | 4.52 | 31.42 | 1.00 | 2210. | 0.222 | 1.01 | 3.52 |
| 1.70 X 1.80 | | 5.44 | 35.42 | 0.55 | 2036. | 0.180 | 0.98 | 4.46 |
| 1.80 X 1.90 | | 3.99 | 41.09 | 0.51 | 1789. | 0.094 | 0.37 | 3.62 |
| 1.90 X 2.10 | | 7.30 | 49.54 | 0.47 | 1420. | 0.042 | 0.31 | 6.99 |
| 2.10 X 2.30 | | 4.00 | 59.33 | 0.43 | 994. | 0.013 | 0.05 | 3.95 |
| 2.30 X 2.50 | | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 | SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 34.39 (32.74 INCL. DILUTION)

CLEAN COAL ASH = 13.01

REFUSE ASH = 41.03

CLEAN COAL SULFUR = 0.979

CLEAN COAL BTU = 3013.

SPECIFIC GRAVITY OF SEPARATION = 1.50

ECART PROBABLE : 0.120

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.947 | 0.38 | 0.02 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.938 | 0.47 | 0.03 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.929 | 0.34 | 0.03 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.920 | 0.50 | 0.04 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.910 | 1.01 | 0.10 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.903 | 0.41 | 0.04 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.892 | 1.83 | 0.22 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.875 | 3.22 | 0.46 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.853 | 3.45 | 0.59 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.829 | 3.81 | 0.79 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.809 | 1.95 | 0.46 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.794 | 1.82 | 0.47 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.771 | 3.59 | 1.07 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.735 | 3.49 | 1.26 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.660 | 6.95 | 3.58 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.553 | 5.01 | 4.04 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.467 | 3.04 | 3.47 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.400 | 1.81 | 2.71 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.250 | 1.36 | 4.08 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.210 | 0.84 | 3.15 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.117 | 0.85 | 6.44 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.046 | 0.18 | 3.81 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.020 | 0.14 | 7.02 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.004 | 0.04 | 9.60 |

CLEAN COAL YIELD = 46.50 (44.27 INCL. DILUTION)

CLEAN COAL ASH = 14.99

REFUSE ASH = 45.65

CLEAN COAL SULFUR = 0.968

CLEAN COAL BTU = 2927.

SPECIFIC GRAVITY OF SEPARATION = 1.60

ECART PROBABLE = 0.150

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 | 0.40 | 0.24 | 1.00 | 3570. | 0.959 | 0.39 | 0.02 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.952 | 0.47 | 0.02 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.945 | 0.35 | 0.02 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.938 | 0.51 | 0.03 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.932 | 1.04 | 0.08 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.928 | 0.42 | 0.03 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.922 | 1.89 | 0.16 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.912 | 3.36 | 0.32 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.901 | 3.64 | 0.40 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.888 | 4.08 | 0.51 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.878 | 2.12 | 0.30 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.869 | 1.99 | 0.30 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.855 | 3.98 | 0.68 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.835 | 3.97 | 0.78 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.796 | 8.38 | 2.15 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.723 | 6.54 | 2.51 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.634 | 4.12 | 2.39 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.545 | 2.46 | 2.06 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.444 | 2.42 | 3.02 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.304 | 1.21 | 2.78 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.210 | 1.53 | 5.76 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.106 | 0.43 | 3.57 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.049 | 0.35 | 6.81 |
| 2.50 | 9.64 | 78.56 | 1.00 | 155. | 0.025 | 0.24 | 9.40 |

CLEAN COAL YIELD = 55.90 (53.22 INCL. DILUTION)

CLEAN COAL ASH = 16.97

REFUSE ASH = 49.67

CLEAN COAL SULFUR = 0.953

CLEAN COAL BTU = 2841.

SPECIFIC GRAVITY OF SEPARATION = 1.70

ECART PROBABLE = 0.180

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.965 | 0.39 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.961 | 0.48 | 0.02 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.956 | 0.35 | 0.02 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.950 | 0.52 | 0.03 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.945 | 1.05 | 0.06 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.942 | 0.42 | 0.03 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.937 | 1.92 | 0.13 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.931 | 3.43 | 0.26 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.924 | 3.73 | 0.31 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.916 | 4.21 | 0.39 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.909 | 2.20 | 0.22 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.904 | 2.07 | 0.22 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.897 | 4.18 | 0.48 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.885 | 4.20 | 0.54 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.860 | 9.06 | 1.48 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.816 | 7.39 | 1.66 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.763 | 4.96 | 1.54 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.691 | 3.13 | 1.40 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.574 | 3.13 | 2.30 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.452 | 1.81 | 2.19 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.265 | 1.94 | 5.36 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.196 | 0.78 | 3.22 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.099 | 0.71 | 6.45 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.052 | 0.50 | 9.14 |

CLEAN COAL YIELD = 62.56 (59.56 INCL. DILUTION)

CLEAN COAL ASH = 18.61

REFUSE ASH = 52.75

CLEAN COAL SULFUR = 0.942

CLEAN COAL BTU = 2769.

SPECIFIC GRAVITY OF SEPARATION = 1.80

ECART PROBABLE = 0.210

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.969 | 0.39 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.965 | 0.48 | 0.02 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.962 | 0.35 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.958 | 0.52 | 0.02 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.954 | 1.06 | 0.05 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.952 | 0.43 | 0.02 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.948 | 1.95 | 0.11 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.942 | 3.47 | 0.21 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.937 | 3.78 | 0.26 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.931 | 4.28 | 0.32 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.927 | 2.24 | 0.18 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.924 | 2.12 | 0.17 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.919 | 4.28 | 0.38 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.911 | 4.33 | 0.42 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.896 | 9.43 | 1.10 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.867 | 7.85 | 1.20 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.831 | 5.41 | 1.10 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.787 | 3.56 | 0.96 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.700 | 3.81 | 1.63 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.567 | 2.26 | 1.73 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.417 | 3.04 | 4.26 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.235 | 0.94 | 3.06 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.180 | 1.29 | 5.88 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.094 | 0.90 | 8.73 |

CLEAN COAL YIELD = 68.17 (64.90 INCL. DILUTION)

CLEAN COAL ASH = 20.36

REFUSE ASH = 54.99

CLEAN COAL SULFUR = 0.929

CLEAN COAL BTU = 2692.

SPECIFIC GRAVITY OF SEPARATION = 1.90

ECART PROBABLE = 0.240

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.972 | 0.39 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.969 | 0.48 | 0.02 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.966 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.963 | 0.52 | 0.02 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.961 | 1.07 | 0.04 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.959 | 0.43 | 0.02 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.956 | 1.96 | 0.09 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.951 | 3.50 | 0.18 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.946 | 3.82 | 0.22 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.941 | 4.33 | 0.27 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.938 | 2.27 | 0.15 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.935 | 2.14 | 0.15 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.931 | 4.34 | 0.32 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.926 | 4.40 | 0.35 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.916 | 9.65 | 0.89 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.897 | 8.12 | 0.93 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.873 | 5.68 | 0.83 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.842 | 3.81 | 0.71 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.785 | 4.27 | 1.17 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.678 | 2.71 | 1.29 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.500 | 3.65 | 3.65 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.334 | 1.34 | 2.66 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.221 | 1.58 | 5.58 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.162 | 1.56 | 8.07 |

CLEAN COAL YIELD = 72.37 (68.90 INCL. DILUTION)

CLEAN COAL ASH = 21.79

REFUSE ASH = 56.56

CLEAN COAL SULFUR = 0.920

CLEAN COAL BTU = 2630.

SPECIFIC GRAVITY OF SEPARATION = 2.00

EFFICIENCY PROBABLE = 0.270

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.974 | 0.39 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.971 | 0.48 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.969 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.966 | 0.53 | 0.02 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.964 | 1.07 | 0.04 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.963 | 0.43 | 0.02 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.961 | 1.97 | 0.08 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.958 | 3.53 | 0.16 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.954 | 3.85 | 0.19 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.949 | 4.36 | 0.23 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.946 | 2.29 | 0.13 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.944 | 2.16 | 0.13 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.941 | 4.38 | 0.28 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.936 | 4.45 | 0.30 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.928 | 9.77 | 0.76 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.915 | 8.28 | 0.77 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.898 | 5.85 | 0.66 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.878 | 3.97 | 0.55 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.835 | 4.54 | 0.90 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.763 | 3.05 | 0.95 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.607 | 4.43 | 2.87 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.433 | 1.73 | 2.27 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.250 | 1.79 | 5.37 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.210 | 2.02 | 7.61 |

CLEAN COAL YIELD = 75.69 (72.06 INCL. DILUTION)

CLEAN COAL ASH = 22.84

REFUSE ASH = 57.96

CLEAN COAL SULFUR = 0.911

CLEAN COAL BTU = 2584.

SPECIFIC GRAVITY OF SEPARATION = 2.10

ECART PROBABLE = 0.300

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.976 | 0.39 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.974 | 0.48 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.971 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.969 | 0.53 | 0.02 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.967 | 1.08 | 0.04 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.966 | 0.43 | 0.02 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.964 | 1.98 | 0.07 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.962 | 3.54 | 0.14 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.960 | 3.88 | 0.16 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.956 | 4.39 | 0.20 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.953 | 2.30 | 0.11 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.951 | 2.18 | 0.11 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.948 | 4.41 | 0.24 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.944 | 4.48 | 0.27 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.937 | 9.87 | 0.66 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.926 | 8.39 | 0.67 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.914 | 5.95 | 0.56 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.899 | 4.07 | 0.46 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.869 | 4.72 | 0.71 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.814 | 3.25 | 0.74 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.694 | 5.07 | 2.23 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.500 | 2.00 | 2.00 |
| 2.30 X 2.50 | 7.14 | 72.30 | 1.00 | 428. | 0.378 | 2.71 | 4.46 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.237 | 2.29 | 7.35 |

CLEAN COAL YIELD = 78.75 (74.97 INCL. DILUTION)

CLEAN COAL ASH = 24.01

REFUSE ASH = 58.76

CLEAN COAL SULFUR = 0.906

CLEAN COAL BTU = 2534.

SPECIFIC GRAVITY OF SEPARATION = 2.20

ECART PROBABLE = 0.330

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

COARSE COAL JIG (6 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.977 | 0.40 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.975 | 0.48 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.973 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.971 | 0.53 | 0.02 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.970 | 1.08 | 0.03 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.969 | 0.44 | 0.01 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.967 | 1.99 | 0.07 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.965 | 3.55 | 0.13 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.963 | 3.89 | 0.15 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.961 | 4.42 | 0.18 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.958 | 2.32 | 0.10 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.957 | 2.19 | 0.10 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.954 | 4.44 | 0.21 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.950 | 4.51 | 0.24 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.944 | 9.94 | 0.59 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.935 | 8.46 | 0.59 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.925 | 6.02 | 0.49 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.914 | 4.13 | 0.39 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.892 | 4.85 | 0.59 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.850 | 3.39 | 0.60 |

| | | | | | | | |
|-------------|------|-------|------|-------|-------|------|------|
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.763 | 5.56 | 1.73 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.589 | 2.35 | 1.64 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.444 | 3.18 | 3.98 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.304 | 2.93 | 6.71 |

CLEAN COAL YIELD = 81.42 (77.51 INCL. DILUTION)

CLEAN COAL ASH = 25.05

REFUSE ASH = 59.20

CLEAN COAL SULFUR = 0.902

CLEAN COAL BTU = 2488.

SPECIFIC GRAVITY OF SEPARATION = 2.30

ECART PROBABLE = 0.360

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (40 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.982 | 0.40 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.977 | 0.48 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.968 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.948 | 0.52 | 0.03 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.917 | 1.02 | 0.09 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.847 | 0.38 | 0.07 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.742 | 1.52 | 0.53 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.581 | 2.14 | 1.54 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.419 | 1.69 | 2.35 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.258 | 1.19 | 3.41 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.165 | 0.40 | 2.02 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.105 | 0.24 | 2.05 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.066 | 0.31 | 4.35 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.043 | 0.20 | 4.54 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.026 | 0.27 | 10.26 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.015 | 0.14 | 8.91 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.011 | 0.07 | 6.44 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.008 | 0.04 | 4.49 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.002 | 0.01 | 5.43 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.0 | 0.0 | 3.99 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 11.37 (10.82 INCL. DILUTION)

CLEAN COAL ASH = 5.84

REFUSE ASH = 34.67

CLEAN COAL SULFUR = 1.004

CLEAN COAL BTU = 3326.

SPECIFIC GRAVITY OF SEPARATION = 1.40

ECART PROBABLE = 0.031

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (40" x 0.6")

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.992 | 0.40 | 0.00 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.990 | 0.49 | 0.00 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.988 | 0.36 | 0.00 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.986 | 0.54 | 0.01 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.984 | 1.10 | 0.02 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.982 | 0.44 | 0.01 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.979 | 2.01 | 0.04 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.974 | 3.58 | 0.10 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.961 | 3.88 | 0.16 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.940 | 4.32 | 0.28 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.882 | 2.13 | 0.28 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.819 | 1.88 | 0.41 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.721 | 3.36 | 1.30 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.574 | 2.72 | 2.03 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.316 | 3.33 | 7.20 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.068 | 0.61 | 8.44 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.031 | 0.20 | 6.31 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.018 | 0.08 | 4.44 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.011 | 0.06 | 5.38 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.005 | 0.02 | 3.97 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 31.52 (30.02 INCL. DILUTION)

CLEAN COAL ASH = 8.85

REFUSE ASH = 41.77

CLEAN COAL SULFUR = 1.000

CLEAN COAL BTU = 3195.

SPECIFIC GRAVITY OF SEPARATION = 1.50

ECART PROBABLE = 0.034

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (40 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.00 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.998 | 0.49 | 0.00 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.996 | 0.37 | 0.00 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.994 | 0.54 | 0.00 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.993 | 1.11 | 0.01 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.992 | 0.45 | 0.00 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.990 | 2.03 | 0.02 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.988 | 3.64 | 0.04 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.984 | 3.98 | 0.06 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.984 | 4.52 | 0.07 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.982 | 2.37 | 0.04 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.980 | 2.25 | 0.05 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.976 | 4.55 | 0.11 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.969 | 4.60 | 0.15 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.938 | 9.88 | 0.65 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.869 | 6.05 | 3.00 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.331 | 2.16 | 4.35 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.078 | 0.35 | 4.17 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.026 | 0.14 | 5.30 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.012 | 0.05 | 3.95 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.003 | 0.02 | 7.27 |
| 2.38 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.38 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 49.96 (47.58 INCL. DILUTION)

CLEAN COAL ASH = 12.07

REFUSE ASH = 50.69

CLEAN COAL SULFUR = 1.000

CLEAN COAL BTU = 3054.

SPECIFIC GRAVITY OF SEPARATION = 1.60

ECAKT PROBABLE = 0.037

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (40" x 0.6")

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.00 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.999 | 0.45 | 0.00 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.997 | 2.05 | 0.01 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.996 | 3.67 | 0.02 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.994 | 4.02 | 0.02 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.992 | 4.56 | 0.04 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.991 | 2.39 | 0.02 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.990 | 2.27 | 0.02 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.989 | 4.60 | 0.05 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.987 | 4.69 | 0.06 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.983 | 10.35 | 0.18 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.972 | 8.80 | 0.25 |

| | | | | | | | |
|-------------|------|-------|------|-------|-------|------|------|
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.927 | 6.04 | 0.47 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.656 | 2.97 | 1.56 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.203 | 1.10 | 4.33 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.029 | 0.12 | 3.88 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.010 | 0.08 | 7.22 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.006 | 0.02 | 3.98 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.001 | 0.00 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 61.09 (58.18 INCL. DILUTION)

CLEAN COAL ASH = 14.53

REFUSE ASH = 57.88

CLEAN COAL SULFUR = 0.993

CLEAN COAL BTU = 2947.

SPECIFIC GRAVITY OF SEPARATION = 1.70

ECART PROBABLE = 0.040

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (40 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.0 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 1.000 | 4.04 | 0.0 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.999 | 4.59 | 0.01 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.997 | 2.41 | 0.01 |
| | | | | | | | |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.997 | 2.29 | 0.01 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.995 | 4.64 | 0.02 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.994 | 4.72 | 0.03 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.991 | 10.44 | 0.09 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.987 | 8.93 | 0.12 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.981 | 6.39 | 0.12 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.968 | 4.38 | 0.15 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.785 | 4.27 | 1.17 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.219 | 0.88 | 3.12 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.020 | 0.15 | 7.15 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.007 | 0.03 | 3.97 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 67.34

CLEAN COAL ASH = 16.26

REFUSE ASH = 62.47

CLEAN COAL SULFUR = 0.966

CLEAN COAL BTU = 2872.

SPECIFIC GRAVITY OF SEPARATION = 1.80

ECART PROBABLE = 0.043

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (12 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.980 | 0.40 | 0.01 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.975 | 0.48 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.963 | 0.35 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.943 | 0.51 | 0.03 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.893 | 0.99 | 0.12 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.828 | 0.37 | 0.08 |
| | | | | | | | |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.727 | 1.49 | 0.56 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.576 | 2.12 | 1.56 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.424 | 1.71 | 2.33 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.273 | 1.25 | 3.34 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.182 | 0.44 | 1.98 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.125 | 0.29 | 2.01 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.072 | 0.34 | 4.32 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.047 | 0.22 | 4.53 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.029 | 0.31 | 10.23 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.017 | 0.15 | 8.90 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.012 | 0.08 | 6.43 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.009 | 0.04 | 4.48 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.004 | 0.02 | 5.41 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.0 | 0.0 | 3.99 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 11.58

CLEAN COAL ASH = 6.01

REFUSE ASH = 34.72

CLEAN COAL SULFUR = 1.004

CLEAN COAL BTU = 3318.

SPECIFIC GRAVITY OF SEPARATION = 1.40

ECART PROBABLE = 0.033

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (12 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.990 | 0.40 | 0.00 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.988 | 0.49 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.986 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.984 | 0.54 | 0.01 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.982 | 1.09 | 0.02 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.980 | 0.44 | 0.01 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.976 | 2.00 | 0.05 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.969 | 3.57 | 0.11 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.954 | 3.86 | 0.18 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.929 | 4.27 | 0.33 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.854 | 2.06 | 0.35 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.796 | 1.83 | 0.47 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.703 | 3.27 | 1.38 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.568 | 2.70 | 2.05 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.331 | 3.49 | 7.04 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.078 | 0.71 | 8.34 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.035 | 0.23 | 6.28 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.020 | 0.09 | 4.43 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.012 | 0.06 | 5.37 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.007 | 0.03 | 3.97 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.14 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.14 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 31.48

CLEAN COAL ASH = 8.95

REFUSE ASH = 41.71

CLEAN COAL SULFUR = 1.000

CLEAN COAL BTU = 3190.

SPECIFIC GRAVITY OF SEPARATION = 1.50

ECART PROBABLE = 0.037

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (12 mm x 0.6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.997 | 0.40 | 0.00 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.996 | 0.49 | 0.00 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.994 | 0.37 | 0.00 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.992 | 0.54 | 0.00 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.991 | 1.10 | 0.01 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.990 | 0.44 | 0.00 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.989 | 2.03 | 0.02 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.987 | 3.63 | 0.05 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.985 | 3.98 | 0.06 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.982 | 4.51 | 0.08 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.980 | 2.37 | 0.05 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.977 | 2.24 | 0.05 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.974 | 4.54 | 0.12 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.964 | 4.58 | 0.17 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.927 | 9.77 | 0.77 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.656 | 5.94 | 3.11 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.344 | 2.24 | 4.27 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.093 | 0.42 | 4.11 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.030 | 0.16 | 5.28 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.013 | 0.05 | 3.94 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.006 | 0.04 | 7.25 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 49.84
 CLEAN COAL ASH = 12.12
 REFUSE ASH = 50.55
 CLEAN COAL SULFUR = 1.000
 CLEAN COAL BTU = 3052.
 SPECIFIC GRAVITY OF SEPARATION = 1.60
 ECART PROBABLE = 0.040

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (12" x 0.6")

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 | FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 |
| 1.28 X 1.30 | | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 |
| 1.30 X 1.32 | | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 |
| 1.32 X 1.34 | | 0.54 | 1.62 | 0.89 | 3510. | 0.999 | 0.54 |
| 1.34 X 1.35 | | 1.11 | 1.61 | 1.24 | 3510. | 0.997 | 1.11 |
| 1.35 X 1.36 | | 0.45 | 3.50 | 0.98 | 3428. | 0.997 | 0.45 |
| 1.36 X 1.38 | | 2.05 | 4.60 | 0.98 | 3380. | 0.995 | 2.04 |
| 1.38 X 1.40 | | 3.68 | 5.04 | 0.98 | 3361. | 0.994 | 3.66 |
| 1.40 X 1.42 | | 4.04 | 7.24 | 1.00 | 3265. | 0.992 | 4.01 |
| 1.42 X 1.44 | | 4.60 | 7.90 | 1.00 | 3236. | 0.991 | 4.55 |
| 1.44 X 1.45 | | 2.42 | 8.58 | 1.00 | 3206. | 0.989 | 2.39 |
| 1.45 X 1.46 | | 2.29 | 9.90 | 1.00 | 3149. | 0.988 | 2.27 |
| 1.46 X 1.48 | | 4.66 | 10.67 | 1.00 | 3115. | 0.987 | 4.60 |
| 1.48 X 1.50 | | 4.75 | 12.08 | 1.00 | 3054. | 0.985 | 4.68 |
| 1.50 X 1.55 | | 10.53 | 16.86 | 1.00 | 2845. | 0.981 | 10.33 |
| 1.55 X 1.60 | | 9.05 | 19.68 | 1.01 | 2722. | 0.968 | 8.76 |
| 1.60 X 1.65 | | 6.51 | 24.89 | 1.00 | 2495. | 0.912 | 5.94 |
| 1.65 X 1.70 | | 4.52 | 31.42 | 1.00 | 2210. | 0.645 | 2.92 |
| 1.70 X 1.80 | | 5.44 | 35.42 | 0.55 | 2036. | 0.219 | 1.19 |
| 1.80 X 1.90 | | 3.99 | 41.09 | 0.51 | 1789. | 0.033 | 0.13 |
| 1.90 X 2.10 | | 7.30 | 49.54 | 0.47 | 1420. | 0.011 | 0.08 |
| 2.10 X 2.30 | | 4.00 | 59.33 | 0.43 | 994. | 0.001 | 0.00 |
| 2.30 X 2.50 | | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 |
| 2.50 | SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 |

CLEAN COAL YIELD = 60.93

CLEAN COAL ASH = 14.52

REFUSE ASH = 57.70

CLEAN COAL SULFUR = 0.992

CLEAN COAL BTU = 2947.

SPECIFIC GRAVITY OF SEPARATION = 1.70

ECART PROBABLE = 0.043

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE (12" x 0.6")

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.00 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.998 | 4.03 | 0.01 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.997 | 4.58 | 0.02 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.996 | 2.41 | 0.01 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.995 | 2.28 | 0.01 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.994 | 4.63 | 0.03 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.992 | 4.71 | 0.04 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.990 | 10.42 | 0.11 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.985 | 8.92 | 0.13 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.979 | 6.37 | 0.14 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.963 | 4.36 | 0.17 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.769 | 4.18 | 1.26 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.234 | 0.93 | 3.06 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.023 | 0.17 | 7.13 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.009 | 0.03 | 3.96 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 426. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 67.13

CLEAN COAL ASH = 16.26

REFUSE ASH = 62.30

CLEAN COAL SULFUR = 0.966

CLEAN COAL BTU = 2872.

SPECIFIC GRAVITY OF SEPARATION = 1.80

ECART PROBABLE = 0.046

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA VESSEL (100 mm x 12 mm or 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 0.989 | 0.40 | 0.00 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 0.980 | 0.49 | 0.01 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 0.969 | 0.36 | 0.01 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.954 | 0.52 | 0.03 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.907 | 1.01 | 0.10 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.836 | 0.38 | 0.07 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.727 | 1.49 | 0.56 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.576 | 2.12 | 1.56 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.424 | 1.71 | 2.33 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.273 | 1.25 | 3.34 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.183 | 0.44 | 1.97 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.121 | 0.28 | 2.02 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.082 | 0.38 | 4.28 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.056 | 0.27 | 4.48 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.028 | 0.29 | 10.24 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.011 | 0.10 | 8.95 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.004 | 0.02 | 6.48 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.0 | 0.0 | 4.52 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.0 | 0.0 | 5.44 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.0 | 0.0 | 3.99 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 11.51 (10.96 INCL. DILUTION)

CLEAN COAL ASH = 5.73

REFUSE ASH = 34.73

CLEAN COAL SULFUR = 1.005

CLEAN COAL BTU = 3330.

SPECIFIC GRAVITY OF SEPARATION = 1.40

ECART PROBABLE = 0.033

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA VESSEL (100 mm x 12 mm or 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.46 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 0.996 | 0.54 | 0.00 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 0.992 | 1.10 | 0.01 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 0.989 | 0.44 | 0.01 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 0.983 | 2.02 | 0.03 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 0.973 | 3.58 | 0.10 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.963 | 3.89 | 0.15 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.938 | 4.31 | 0.29 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.875 | 2.12 | 0.30 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.801 | 1.84 | 0.46 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.703 | 3.27 | 1.38 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.568 | 2.70 | 2.05 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.331 | 3.49 | 7.04 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.087 | 0.79 | 8.26 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.035 | 0.23 | 6.28 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.015 | 0.07 | 4.45 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.004 | 0.02 | 5.41 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.0 | 0.0 | 3.99 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 31.68 (30.17 INCL. DILUTION)

CLEAN COAL ASH = 8.89

REFUSE ASH = 41.83

CLEAN COAL SULFUR = 1.001

CLEAN COAL BTU = 3193.

SPECIFIC GRAVITY OF SEPARATION = 1.50

ECART PROBABLE = 0.037

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA VESSEL (100 mm x 12 mm or 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLDAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.0 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 0.998 | 4.03 | 0.01 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 0.993 | 4.56 | 0.03 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 0.988 | 2.39 | 0.03 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 0.985 | 2.26 | 0.04 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 0.979 | 4.56 | 0.10 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.969 | 4.60 | 0.15 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.936 | 9.86 | 0.67 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.656 | 5.94 | 3.11 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.344 | 2.24 | 4.27 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.096 | 0.43 | 4.09 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.028 | 0.15 | 5.28 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.006 | 0.02 | 3.97 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.0 | 0.0 | 7.30 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 50.16 (47.77 INCL. DILUTION)

CLEAN COAL ASH = 12.05

REFUSE ASH = 50.86

CLEAN COAL SULFUR = 1.001

CLEAN COAL BTU = 3055.

SPECIFIC GRAVITY OF SEPARATION = 1.60

ECART PROBABLE = 0.040

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA VESSEL (100 mm x 12 mm or 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.0 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 1.000 | 4.04 | 0.0 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 1.000 | 4.60 | 0.0 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 1.000 | 2.42 | 0.0 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 1.000 | 2.29 | 0.0 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 1.000 | 4.66 | 0.0 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 0.999 | 4.74 | 0.01 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 0.991 | 10.43 | 0.10 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.972 | 8.80 | 0.25 |
| 1.60 X 1.65 | 6.51 | 24.89 | 1.00 | 2495. | 0.922 | 6.00 | 0.51 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.645 | 2.92 | 1.60 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.220 | 1.20 | 4.24 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.033 | 0.13 | 3.86 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.003 | 0.02 | 7.27 |
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 61.36 (58.44 INCL. DILUTION)

CLEAN COAL ASH = 14.48

REFUSE ASH = 58.25

CLEAN COAL SULFUR = 0.992

CLEAN COAL BTU = 2949.

SPECIFIC GRAVITY OF SEPARATION = 1.70

ECART PROBABLE = 0.043

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA VESSEL (100 mm x 12 mm or 6 mm)

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 0.40 | 0.24 | 1.00 | 3570. | 1.000 | 0.40 | 0.0 |
| 1.28 X 1.30 | 0.50 | 0.73 | 1.00 | 3549. | 1.000 | 0.50 | 0.0 |
| 1.30 X 1.32 | 0.37 | 1.66 | 0.89 | 3508. | 1.000 | 0.37 | 0.0 |
| 1.32 X 1.34 | 0.54 | 1.62 | 0.89 | 3510. | 1.000 | 0.54 | 0.0 |
| 1.34 X 1.35 | 1.11 | 1.61 | 1.24 | 3510. | 1.000 | 1.11 | 0.0 |
| 1.35 X 1.36 | 0.45 | 3.50 | 0.98 | 3428. | 1.000 | 0.45 | 0.0 |
| 1.36 X 1.38 | 2.05 | 4.60 | 0.98 | 3380. | 1.000 | 2.05 | 0.0 |
| 1.38 X 1.40 | 3.68 | 5.04 | 0.98 | 3361. | 1.000 | 3.68 | 0.0 |
| 1.40 X 1.42 | 4.04 | 7.24 | 1.00 | 3265. | 1.000 | 4.04 | 0.0 |
| 1.42 X 1.44 | 4.60 | 7.90 | 1.00 | 3236. | 1.000 | 4.60 | 0.0 |
| 1.44 X 1.45 | 2.42 | 8.58 | 1.00 | 3206. | 1.000 | 2.42 | 0.0 |
| 1.45 X 1.46 | 2.29 | 9.90 | 1.00 | 3149. | 1.000 | 2.29 | 0.0 |
| 1.46 X 1.48 | 4.66 | 10.67 | 1.00 | 3115. | 1.000 | 4.66 | 0.0 |
| 1.48 X 1.50 | 4.75 | 12.08 | 1.00 | 3054. | 1.000 | 4.75 | 0.0 |
| 1.50 X 1.55 | 10.53 | 16.86 | 1.00 | 2845. | 1.000 | 10.53 | 0.0 |
| 1.55 X 1.60 | 9.05 | 19.68 | 1.01 | 2722. | 0.999 | 9.04 | 0.01 |
| 1.60 X 1.65 | 4.51 | 24.89 | 1.00 | 2495. | 0.987 | 4.43 | 0.08 |
| 1.65 X 1.70 | 4.52 | 31.42 | 1.00 | 2210. | 0.969 | 4.38 | 0.14 |
| 1.70 X 1.80 | 5.44 | 35.42 | 0.55 | 2036. | 0.771 | 4.19 | 1.25 |
| 1.80 X 1.90 | 3.99 | 41.09 | 0.51 | 1789. | 0.234 | 0.93 | 3.06 |
| 1.90 X 2.10 | 7.30 | 49.54 | 0.47 | 1420. | 0.019 | 0.14 | 7.16 |

| | | | | | | | |
|-------------|------|-------|------|------|-----|-----|------|
| 2.10 X 2.30 | 4.00 | 59.33 | 0.43 | 994. | 0.0 | 0.0 | 4.00 |
| 2.30 X 2.50 | 7.16 | 72.30 | 1.00 | 428. | 0.0 | 0.0 | 7.16 |
| 2.50 SINK | 9.64 | 78.56 | 1.00 | 155. | 0.0 | 0.0 | 9.64 |

CLEAN COAL YIELD = 67.50

CLEAN COAL ASH = 16.24

REFUSE ASH = 62.88

CLEAN COAL SULFUR = 0.967

CLEAN COAL BTU = 2873.

SPECIFIC GRAVITY OF SEPARATION = 1.80

ECART PROBABLE = 0.046

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

0.6mm x 0.15mm
SIZE FRACTION

CUMULATIVE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB |
|------------------|----------------|-------------|----------------|--------|----------------|-------------|----------------|--------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 2.84 | 0.77 | 1.00 | 3520. |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 6.02 | 0.97 | 1.00 | 3511. |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 8.00 | 1.08 | 0.92 | 3506. |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 11.42 | 1.25 | 0.84 | 3499. |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 13.81 | 1.37 | 1.00 | 3494. |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 15.13 | 1.66 | 1.00 | 3481. |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 18.82 | 2.29 | 1.00 | 3454. |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 23.49 | 2.85 | 1.00 | 3429. |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 30.33 | 3.63 | 1.00 | 3395. |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 36.50 | 4.18 | 1.00 | 3371. |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 39.36 | 4.41 | 1.00 | 3361. |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 42.06 | 4.63 | 1.00 | 3351. |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 47.03 | 5.04 | 1.00 | 3334. |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 51.41 | 5.43 | 1.00 | 3317. |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 58.96 | 6.59 | 1.00 | 3266. |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 64.66 | 7.54 | 1.00 | 3225. |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 68.63 | 8.35 | 1.00 | 3190. |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 71.83 | 9.10 | 1.00 | 3157. |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 76.32 | 10.48 | 1.00 | 3097. |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 78.73 | 11.38 | 1.00 | 3058. |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 82.64 | 13.20 | 0.98 | 2978. |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 84.71 | 14.41 | 0.96 | 2926. |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 90.71 | 19.56 | 0.96 | 2745. |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 100.00 | 24.48 | 0.97 | 2487. |

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

**WATER ONLY CYCLONE
RECYCLE CALCULATIONS**

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.954 | 2.71 | 0.13 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.946 | 3.00 | 0.17 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.931 | 1.84 | 0.14 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.915 | 3.13 | 0.29 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.901 | 2.14 | 0.24 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.891 | 1.18 | 0.14 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.871 | 3.21 | 0.47 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.838 | 3.92 | 0.75 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.806 | 5.52 | 1.32 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.775 | 4.78 | 1.38 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.754 | 2.15 | 0.70 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.739 | 2.00 | 0.71 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.715 | 3.56 | 1.41 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.683 | 2.99 | 1.39 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.624 | 4.71 | 2.83 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.535 | 3.06 | 2.65 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.444 | 1.76 | 2.21 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2454. | 0.362 | 1.16 | 2.04 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.273 | 1.22 | 3.27 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.180 | 0.43 | 1.98 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.097 | 0.38 | 3.53 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.044 | 0.09 | 1.98 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.010 | 0.06 | 5.94 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.0 | 0.0 | 9.29 |

CLEAN COAL YIELD = 55.02 (52.38 INCL. DILUTION)

CLEAN COAL ASH = 8.94

REFUSE ASH = 43.49

CLEAN COAL SULFUR = 0.995

CLEAN COAL BTU = 3162.

PRIMARY CYCLONE SEPARATING GRAVITY = 1.50
PRIMARY CYCLONE ECART PROBABLE = 0.200

SECONDARY CYCLONE SEPARATING GRAVITY = 1.50
SECONDARY CYCLONE ECART PROBABLE = 0.200

SYSTEM SEPERATING GRAVITY = 1.59
SYSTEM ECART PROBABLE = 0.163

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

WATER ONLY CYCLONE
RECYCLE CALCULATIONS

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.971 | 2.76 | 0.08 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.965 | 3.07 | 0.11 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.960 | 1.90 | 0.08 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.954 | 3.27 | 0.16 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.947 | 2.27 | 0.13 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.942 | 1.24 | 0.08 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.932 | 3.43 | 0.25 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.919 | 4.29 | 0.38 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.904 | 6.19 | 0.66 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.888 | 5.47 | 0.69 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.870 | 2.48 | 0.37 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.856 | 2.32 | 0.39 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.836 | 4.15 | 0.82 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.809 | 3.54 | 0.84 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.765 | 5.77 | 1.78 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.701 | 4.00 | 1.71 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.631 | 2.50 | 1.46 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.558 | 1.79 | 1.41 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.444 | 1.99 | 2.50 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.322 | 0.77 | 1.63 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.194 | 0.76 | 3.15 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.097 | 0.20 | 1.87 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.051 | 0.31 | 5.69 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.019 | 0.17 | 9.12 |

CLEAN COAL YIELD = 64.65 (61.55 INCL. DILUTION)

CLEAN COAL ASH = 10.54

REFUSE ASH = 49.98

CLEAN COAL SULFUR = 0.992

CLEAN COAL BTU = 3097.

PRIMARY CYCLONE SEPARATING GRAVITY = 1.60
PRIMARY CYCLONE ECART PROBABLE = 0.240

SECONDARY CYCLONE SEPARATING GRAVITY = 1.60
SECONDARY CYCLONE ECART PROBABLE = 0.240

SYSTEM SEPERATING GRAVITY = 1.71
SYSTEM ECART PROBABLE = 0.199

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

WATER ONLY CYCLONE
RECYCLE CALCULATIONS

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.979 | 2.78 | 0.06 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.976 | 3.10 | 0.08 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.972 | 1.92 | 0.06 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.967 | 3.31 | 0.11 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.964 | 2.31 | 0.09 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.961 | 1.27 | 0.05 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.958 | 3.53 | 0.15 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.953 | 4.45 | 0.22 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.944 | 6.46 | 0.38 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.933 | 5.75 | 0.41 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.925 | 2.64 | 0.21 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.919 | 2.49 | 0.22 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.909 | 4.52 | 0.45 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.896 | 3.92 | 0.46 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.863 | 6.51 | 1.03 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.805 | 4.60 | 1.11 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.751 | 2.98 | 0.99 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.696 | 2.23 | 0.97 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.605 | 2.72 | 1.77 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.477 | 1.15 | 1.26 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.314 | 1.23 | 2.68 |
| | 2.67 | 62.64 | 0.36 | 826. | 0.174 | 0.36 | 1.71 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.097 | 0.58 | 5.41 |
| 2.50 X 2.10 | 9.29 | 82.24 | 1.00 | -28. | 0.057 | 0.53 | 8.77 |

CLEAN COAL YIELD = 71.34 (67.92 INCL. DILUTION)

CLEAN COAL ASH = 12.06

REFUSE ASH = 55.39

CLEAN COAL SULFUR = 0.988

CLEAN COAL BTU = 3036.

PRIMARY CYCLONE SEPARATING GRAVITY = 1.70
PRIMARY CYCLONE ECART PROBABLE = 0.280

SECONDARY CYCLONE SEPARATING GRAVITY = 1.70
SECONDARY CYCLONE ECART PROBABLE = 0.280

SYSTEM SEPARATING GRAVITY = 1.83
SYSTEM ECART PROBABLE = 0.233

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

**WATER ONLY CYCLONE
RECYCLE CALCULATIONS**

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.986 | 2.80 | 0.04 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.984 | 3.12 | 0.05 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.981 | 1.94 | 0.04 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.978 | 3.35 | 0.07 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.976 | 2.34 | 0.06 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.974 | 1.29 | 0.03 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.971 | 3.58 | 0.11 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.967 | 4.52 | 0.15 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.963 | 6.59 | 0.25 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.959 | 5.91 | 0.25 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.956 | 2.73 | 0.13 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.953 | 2.58 | 0.13 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.948 | 4.71 | 0.26 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.939 | 4.11 | 0.27 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.921 | 6.95 | 0.60 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.891 | 5.09 | 0.62 |
| | | | | | | | |
| 1.65 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.843 | 3.34 | 0.62 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.791 | 2.53 | 0.67 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.719 | 3.23 | 1.26 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.612 | 1.47 | 0.94 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.436 | 1.71 | 2.20 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.263 | 0.55 | 1.53 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.152 | 0.91 | 5.08 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.092 | 0.85 | 8.44 |

CLEAN COAL YIELD = 76.20 (72.54 INCL. DILUTION)

CLEAN COAL ASH = 13.33

REFUSE ASH = 60.18

CLEAN COAL SULFUR = 0.984

CLEAN COAL BTU = 2988.

PRIMARY CYCLONE SEPARATING GRAVITY = 1.80
PRIMARY CYCLONE ECART PROBABLE = 0.310

SECONDARY CYCLONE SEPARATING GRAVITY = 1.80
SECONDARY CYCLONE ECART PROBABLE = 0.310

SYSTEM SEPERATING GRAVITY = 1.95
SYSTEM ECART PROBABLE = 0.253

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

WATER ONLY CYCLONE
RECYCLE CALCULATIONS

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.989 | 2.81 | 0.03 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.987 | 3.14 | 0.04 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.985 | 1.95 | 0.03 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.983 | 3.37 | 0.06 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.981 | 2.35 | 0.04 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.980 | 1.30 | 0.03 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.978 | 3.60 | 0.08 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.975 | 4.56 | 0.11 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.972 | 6.66 | 0.19 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.969 | 5.97 | 0.19 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.966 | 2.76 | 0.10 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.964 | 2.61 | 0.10 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.961 | 4.78 | 0.19 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.957 | 4.19 | 0.19 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.949 | 7.16 | 0.39 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.928 | 5.29 | 0.41 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.903 | 3.58 | 0.39 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.869 | 2.78 | 0.42 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.799 | 3.59 | 0.90 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.713 | 1.72 | 0.69 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.568 | 2.22 | 1.69 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.366 | 0.76 | 1.31 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.233 | 1.40 | 4.60 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.143 | 1.33 | 7.97 |

CLEAN COAL YIELD = 79.85 (76.02 INCL. DILUTION)

CLEAN COAL ASH = 14.70

REFUSE ASH = 63.24

CLEAN COAL SULFUR = 0.979

CLEAN COAL BTU = 2935.

PRIMARY CYCLONE SEPARATING GRAVITY = 1.90
PRIMARY CYCLONE ECART PROBABLE = 0.350

SECONDARY CYCLONE SEPARATING GRAVITY = 1.90
SECONDARY CYCLONE ECART PROBABLE = 0.350

SYSTEM SEPERATING GRAVITY = 2.07
SYSTEM ECART PROBABLE = 0.284

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

**WATER ONLY CYCLONE
RECYCLE CALCULATIONS**

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.991 | 2.81 | 0.03 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.990 | 3.14 | 0.03 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.988 | 1.96 | 0.02 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.986 | 3.38 | 0.05 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.985 | 2.36 | 0.04 |
| 1.34 X 1.36 | 3.48 | 2.85 | 1.00 | 3443. | 0.983 | 3.43 | 0.04 |
| 1.36 X 1.40 | 4.27 | 3.71 | 1.00 | 3330. | 0.980 | 4.20 | 0.09 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.978 | 6.70 | 0.15 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.976 | 6.01 | 0.15 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.974 | 2.78 | 0.08 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.972 | 2.63 | 0.08 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.970 | 4.82 | 0.15 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.967 | 4.23 | 0.15 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.961 | 7.25 | 0.30 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.951 | 5.43 | 0.28 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.933 | 3.70 | 0.27 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.912 | 2.92 | 0.28 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.868 | 3.90 | 0.59 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.785 | 1.89 | 0.52 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.667 | 2.60 | 1.30 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.485 | 1.01 | 1.07 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.325 | 1.95 | 4.04 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.215 | 2.00 | 7.30 |

CLEAN COAL YIELD = 82.96 (78.98 INCL. DILUTION)

CLEAN COAL ASH = 16.09

REFUSE ASH = 65.32

CLEAN COAL SULFUR = 0.976

CLEAN COAL BTU = 2883.

PRIMARY CYCLONE SEPARATING GRAVITY = 2.00
PRIMARY CYCLONE ECART PROBABLE = 0.390

SECONDARY CYCLONE SEPARATING GRAVITY = 2.00
SECONDARY CYCLONE ECART PROBABLE = 0.390

SYSTEM SEPARATING GRAVITY = 2.18
SYSTEM ECART PROBABLE = 0.321

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

**WATER ONLY CYCLONE
RECYCLE CALCULATIONS**

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.993 | 2.82 | 0.02 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.992 | 3.15 | 0.02 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.991 | 1.96 | 0.02 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.990 | 3.39 | 0.03 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.989 | 2.37 | 0.03 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.988 | 1.31 | 0.02 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.987 | 3.63 | 0.05 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.985 | 4.60 | 0.07 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.984 | 6.73 | 0.11 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.982 | 6.05 | 0.11 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.980 | 2.80 | 0.06 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.979 | 2.65 | 0.06 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.978 | 4.86 | 0.11 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.975 | 4.27 | 0.11 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.970 | 7.32 | 0.22 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.963 | 5.49 | 0.21 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.955 | 3.79 | 0.18 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.940 | 3.01 | 0.19 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.912 | 4.09 | 0.40 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.853 | 2.06 | 0.35 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.742 | 2.90 | 1.01 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.584 | 1.21 | 0.86 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.411 | 2.46 | 3.53 |
| 0 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.286 | 2.66 | 6.63 |

CLEAN COAL YIELD = 85.60 (81.49 INCL. DILUTION)

CLEAN COAL ASH = 17.27

REFUSE ASH = 67.33

CLEAN COAL SULFUR = 0.973

CLEAN COAL BTU = 2841.

PRIMARY CYCLONE SEPARATING GRAVITY = 2.10
PRIMARY CYCLONE ECART PROBABLE = 0.420

SECONDARY CYCLONE SEPARATING GRAVITY = 2.10
SECONDARY CYCLONE ECART PROBABLE = 0.420

SYSTEM SEPERATING GRAVITY = 2.30
SYSTEM ECART PROBABLE = 0.334

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

**WATER ONLY CYCLONE
RECYCLE CALCULATIONS**

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE | |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|------|
| 1.28 | FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.994 | 2.82 | 0.02 |
| 1.28 | X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.993 | 3.15 | 0.02 |
| 1.30 | X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.992 | 1.96 | 0.02 |
| 1.32 | X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.991 | 3.39 | 0.03 |
| 1.34 | X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.991 | 2.37 | 0.02 |
| 1.35 | X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.990 | 1.31 | 0.01 |
| 1.36 | X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.989 | 3.64 | 0.04 |
| 1.38 | X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.988 | 4.61 | 0.06 |
| 1.40 | X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.986 | 6.75 | 0.09 |
| 1.42 | X 1.44 | 6.14 | 6.89 | 1.00 | 3253. | 0.985 | 6.07 | 0.09 |
| 1.44 | X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.984 | 2.81 | 0.05 |
| 1.45 | X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.983 | 2.66 | 0.05 |
| 1.46 | X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.981 | 4.88 | 0.09 |
| 1.48 | X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.980 | 4.29 | 0.09 |
| 1.50 | X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.976 | 7.36 | 0.18 |
| 1.55 | X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.970 | 5.53 | 0.17 |
| 1.60 | X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.963 | 3.82 | 0.15 |
| 1.65 | X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.955 | 3.06 | 0.14 |

| | | | | | | | | |
|------|--------|------|-------|------|-------|-------|------|------|
| 1.80 | X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.935 | 4.20 | 0.29 |
| 1.80 | X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.898 | 2.16 | 0.25 |
| 1.90 | X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.801 | 3.13 | 0.78 |
| 2.10 | X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.667 | 1.38 | 0.69 |
| 2.30 | X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.514 | 3.08 | 2.91 |
| 2.50 | SINK | 9.29 | 82.24 | 1.00 | -28. | 0.363 | 3.37 | 5.92 |

CLEAN COAL YIELD = 87.83 (83.61 INCL. DILUTION)

CLEAN COAL ASH = 18.42

REFUSE ASH = 68.19

CLEAN COAL SULFUR = 0.971

CLEAN COAL BTU = 2800.

PRIMARY CYCLONE SEPARATING GRAVITY = 2.20
PRIMARY CYCLONE ECART PROBABLE = 0.460

SECONDARY CYCLONE SEPARATING GRAVITY = 2.20
SECONDARY CYCLONE ECART PROBABLE = 0.460

SYSTEM SEPARATING GRAVITY = 2.42
SYSTEM ECART PROBABLE = 0.337

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

**WATER ONLY CYCLONE
RECYCLE CALCULATIONS**

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.995 | 2.83 | 0.01 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.995 | 3.16 | 0.02 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.994 | 1.97 | 0.01 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.993 | 3.40 | 0.02 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.993 | 2.38 | 0.02 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.992 | 1.31 | 0.01 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.991 | 3.65 | 0.03 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.990 | 4.63 | 0.04 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.989 | 6.77 | 0.07 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.988 | 6.09 | 0.07 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.987 | 2.82 | 0.04 |
| 1.45 X 1.48 | 2.71 | 7.81 | 1.00 | 3213. | 0.987 | 2.67 | 0.04 |
| 1.46 X 1.48 | 4.87 | 8.49 | 1.00 | 3183. | 0.986 | 4.90 | 0.07 |
| | | 9.61 | 1.00 | 3135. | 0.984 | 4.31 | 0.07 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.981 | 7.40 | 0.14 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.977 | 5.57 | 0.13 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.971 | 3.85 | 0.12 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.964 | 3.09 | 0.11 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.954 | 4.28 | 0.21 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.926 | 2.23 | 0.18 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.859 | 3.36 | 0.55 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.732 | 1.52 | 0.55 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.596 | 3.58 | 2.42 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.449 | 4.17 | 5.12 |

CLEAN COAL YIELD = 89.93 (85.65 INCL. DILUTION)

CLEAN COAL ASH = 19.47

REFUSE ASH = 69.21

CLEAN COAL SULFUR = 0.970

CLEAN COAL BTU = 2763.

PRIMARY CYCLONE SEPARATING GRAVITY = 2.30
PRIMARY CYCLONE ECART PROBABLE = 0.490

SECONDARY CYCLONE SEPARATING GRAVITY = 2.30
SECONDARY CYCLONE ECART PROBABLE = 0.490

SYSTEM SEPERATING GRAVITY = 2.53
SYSTEM ECART PROBABLE = 0.348

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE | |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|------|
| 1.28 | FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.980 | 2.78 | 0.04 |
| 1.28 | X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.978 | 3.11 | 0.07 |
| 1.30 | X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.976 | 1.93 | 0.05 |
| 1.32 | X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.974 | 3.33 | 0.09 |
| 1.34 | X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.971 | 2.32 | 0.07 |
| 1.35 | X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.969 | 1.28 | 0.04 |
| 1.36 | X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.964 | 3.55 | 0.13 |
| 1.38 | X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.958 | 4.47 | 0.20 |
| 1.40 | X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.950 | 6.50 | 0.35 |
| 1.42 | X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.939 | 5.79 | 0.37 |
| 1.44 | X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.927 | 2.65 | 0.21 |
| 1.45 | X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.913 | 2.47 | 0.24 |
| 1.46 | X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.871 | 4.33 | 0.64 |
| 1.48 | X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.820 | 3.59 | 0.79 |
| 1.50 | X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.726 | 5.48 | 2.07 |
| 1.55 | X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.575 | 3.28 | 2.42 |
| 1.60 | X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.425 | 1.68 | 2.28 |
| 1.65 | X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.274 | 0.88 | 2.32 |
| 1.70 | X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.099 | 0.45 | 4.05 |
| 1.80 | X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.041 | 0.10 | 2.31 |
| 1.90 | X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.019 | 0.08 | 3.83 |
| 2.10 | X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.011 | 0.02 | 2.05 |
| 2.30 | X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.006 | 0.04 | 5.96 |
| 2.50 | SINK | 9.29 | 82.24 | 1.00 | -28. | 0.001 | 0.01 | 9.28 |

CLEAN COAL YIELD = 60.13

CLEAN COAL ASH = 7.95

REFUSE ASH = 49.42

CLEAN COAL SULFUR = 0.999

CLEAN COAL BTU = 3207.

SPECIFIC GRAVITY OF SEPARATION = 1.60

ECART PROBABLE = 0.083

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.985 | 2.80 | 0.04 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.984 | 3.12 | 0.05 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.982 | 1.95 | 0.03 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.981 | 3.36 | 0.06 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.980 | 2.35 | 0.05 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.979 | 1.29 | 0.03 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.978 | 3.60 | 0.08 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.976 | 4.56 | 0.11 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.973 | 6.66 | 0.18 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.970 | 5.98 | 0.18 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.966 | 2.76 | 0.10 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.963 | 2.61 | 0.10 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.959 | 4.76 | 0.21 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.951 | 4.16 | 0.21 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.933 | 7.04 | 0.51 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.833 | 4.76 | 0.95 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.708 | 2.81 | 1.16 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.569 | 1.82 | 1.38 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.361 | 1.62 | 2.87 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.125 | 0.30 | 2.11 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.036 | 0.14 | 3.77 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.016 | 0.03 | 2.04 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.010 | 0.06 | 5.93 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.006 | 0.05 | 9.24 |

CLEAN COAL YIELD = 68.59

CLEAN COAL ASH = 9.38

REFUSE ASH = 57.45

CLEAN COAL SULFUR = 0.998

CLEAN COAL BTU = 3145.

SPECIFIC GRAVITY OF SEPARATION = 1.70

ECART PROBABLE = 0.090

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.988 | 2.80 | 0.04 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.987 | 3.13 | 0.04 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.986 | 1.95 | 0.03 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.985 | 3.37 | 0.05 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.984 | 2.36 | 0.04 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.984 | 1.30 | 0.02 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.983 | 3.62 | 0.06 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.982 | 4.59 | 0.08 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.981 | 6.71 | 0.13 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.979 | 6.04 | 0.13 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.978 | 2.79 | 0.06 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.977 | 2.65 | 0.06 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.975 | 4.85 | 0.12 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.973 | 4.26 | 0.12 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.966 | 7.29 | 0.26 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.951 | 5.43 | 0.28 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.920 | 3.65 | 0.32 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.812 | 2.60 | 0.60 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.629 | 2.82 | 1.67 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.371 | 0.89 | 1.52 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.076 | 0.30 | 3.61 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.025 | 0.05 | 3.02 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.013 | 0.08 | 5.92 |

2.50 SINK 9.29 82.24 1.00 -28. 0.009 0.09 9.21

CLEAN COAL YIELD = 73.62 (70.11 INCL. DILUTION)

CLEAN COAL ASH = 10.54

REFUSE ASH = 63.37

CLEAN COAL SULFUR = 0.997

CLEAN COAL BTU = 3094.

SPECIFIC GRAVITY OF SEPARATION = 1.80

EFFICIENCY PROBABLE = 0.097

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLDAT | 2.84 | 0.77 | 1.00 | 3520. | 0.990 | 2.81 | 0.03 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.989 | 3.14 | 0.03 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.989 | 1.96 | 0.02 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.988 | 3.38 | 0.04 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.987 | 2.36 | 0.03 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.987 | 1.30 | 0.02 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.986 | 3.63 | 0.05 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.986 | 4.60 | 0.07 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.985 | 6.74 | 0.10 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.984 | 6.06 | 0.10 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.983 | 2.81 | 0.05 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.982 | 2.66 | 0.05 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.982 | 4.88 | 0.09 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.980 | 4.29 | 0.09 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.978 | 7.37 | 0.17 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.972 | 5.55 | 0.16 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.962 | 3.81 | 0.15 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.945 | 3.03 | 0.18 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.848 | 3.81 | 0.68 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.621 | 1.50 | 0.91 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.257 | 1.01 | 2.90 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.043 | 0.09 | 1.98 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.019 | 0.12 | 5.88 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.012 | 0.11 | 9.19 |

CLEAN COAL YIELD = 77.03 (73.36 INCL. DILUTION)

CLEAN COAL ASH = 11.60

REFUSE ASH = 67.67

CLEAN COAL SULFUR = 0.992

CLEAN COAL BTU = 3048.

SPECIFIC GRAVITY OF SEPARATION = 1.90

ECART PROBABLE = 0.103

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.992 | 2.82 | 0.02 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.991 | 3.15 | 0.03 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.991 | 1.96 | 0.02 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.990 | 3.39 | 0.03 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.989 | 2.37 | 0.03 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.989 | 1.31 | 0.01 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.989 | 3.64 | 0.04 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.988 | 4.61 | 0.06 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.987 | 6.76 | 0.09 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.986 | 6.08 | 0.08 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.986 | 2.82 | 0.04 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.986 | 2.67 | 0.04 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.985 | 4.90 | 0.07 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.984 | 4.31 | 0.07 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.982 | 7.41 | 0.13 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.980 | 5.59 | 0.12 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.975 | 3.87 | 0.10 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.969 | 3.10 | 0.10 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.949 | 4.26 | 0.23 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.828 | 2.00 | 0.41 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.500 | 1.95 | 1.95 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.098 | 0.20 | 1.87 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.031 | 0.19 | 5.81 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.016 | 0.15 | 9.14 |

CLEAN COAL YIELD = 79.50 (75.71 INCL. DILUTION)

CLEAN COAL ASH = 12.54

REFUSE ASH = 70.79

CLEAN COAL SULFUR = 0.986

CLEAN COAL BTU = 3007.

SPECIFIC GRAVITY OF SEPARATION = 2.00

ECAKT PROBABLE = 0.110

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.993 | 2.82 | 0.02 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.993 | 3.15 | 0.02 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.992 | 1.96 | 0.02 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.992 | 3.39 | 0.03 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.991 | 2.37 | 0.02 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.991 | 1.31 | 0.01 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.990 | 3.65 | 0.04 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.990 | 4.62 | 0.05 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.989 | 6.77 | 0.07 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.989 | 6.09 | 0.07 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.988 | 2.82 | 0.03 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.988 | 2.67 | 0.03 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.987 | 4.91 | 0.06 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.987 | 4.32 | 0.06 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.985 | 7.43 | 0.11 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.983 | 5.61 | 0.10 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.981 | 3.89 | 0.08 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.977 | 3.13 | 0.07 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.970 | 4.36 | 0.14 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.943 | 2.27 | 0.14 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.714 | 2.79 | 1.12 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.386 | 0.59 | 1.48 |
| 2.30 X 2.50 | 6.00 | 77.18 | 1.00 | 193. | 0.052 | 0.31 | 5.69 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.024 | 0.22 | 9.08 |

CLEAN COAL YIELD = 81.48

CLEAN COAL ASH = 13.43

REFUSE ASH = 73.09

CLEAN COAL SULFUR = 0.978

CLEAN COAL BTU = 2968.

SPECIFIC GRAVITY OF SEPARATION = 2.10

ECART PROBABLE = 0.117

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

HEAVY MEDIA CYCLONE

| SPECIFIC GRAVITY | PERCENT WEIGHT | PERCENT ASH | PERCENT SULFUR | BTU/LB | PARTITION NUMBER | PERCENT WEIGHT CLEAN | PERCENT WEIGHT REFUSE |
|------------------|----------------|-------------|----------------|--------|------------------|----------------------|-----------------------|
| 1.28 FLOAT | 2.84 | 0.77 | 1.00 | 3520. | 0.995 | 2.82 | 0.01 |
| 1.28 X 1.30 | 3.18 | 1.14 | 1.00 | 3503. | 0.994 | 3.16 | 0.02 |
| 1.30 X 1.32 | 1.98 | 1.42 | 0.67 | 3492. | 0.994 | 1.97 | 0.01 |
| 1.32 X 1.34 | 3.42 | 1.65 | 0.67 | 3481. | 0.993 | 3.40 | 0.02 |
| 1.34 X 1.35 | 2.39 | 1.95 | 1.74 | 3468. | 0.993 | 2.38 | 0.02 |
| 1.35 X 1.36 | 1.32 | 4.71 | 1.00 | 3348. | 0.992 | 1.31 | 0.01 |
| 1.36 X 1.38 | 3.68 | 4.85 | 1.00 | 3342. | 0.992 | 3.65 | 0.03 |
| 1.38 X 1.40 | 4.67 | 5.13 | 1.00 | 3330. | 0.991 | 4.63 | 0.04 |
| 1.40 X 1.42 | 6.85 | 6.29 | 1.00 | 3279. | 0.991 | 6.78 | 0.06 |
| 1.42 X 1.44 | 6.16 | 6.89 | 1.00 | 3253. | 0.990 | 6.11 | 0.06 |
| 1.44 X 1.45 | 2.86 | 7.42 | 1.00 | 3230. | 0.990 | 2.83 | 0.03 |
| 1.45 X 1.46 | 2.71 | 7.81 | 1.00 | 3213. | 0.990 | 2.68 | 0.03 |
| 1.46 X 1.48 | 4.97 | 8.49 | 1.00 | 3183. | 0.989 | 4.92 | 0.05 |
| 1.48 X 1.50 | 4.38 | 9.61 | 1.00 | 3135. | 0.989 | 4.33 | 0.05 |
| 1.50 X 1.55 | 7.54 | 14.47 | 1.00 | 2923. | 0.987 | 7.45 | 0.09 |
| 1.55 X 1.60 | 5.71 | 17.35 | 1.00 | 2798. | 0.986 | 5.63 | 0.08 |
| 1.60 X 1.65 | 3.97 | 21.62 | 1.00 | 2612. | 0.984 | 3.90 | 0.06 |
| 1.65 X 1.70 | 3.20 | 25.20 | 1.00 | 2456. | 0.982 | 3.14 | 0.06 |
| 1.70 X 1.80 | 4.49 | 32.52 | 1.00 | 2137. | 0.977 | 4.39 | 0.10 |
| 1.80 X 1.90 | 2.41 | 39.88 | 1.00 | 1817. | 0.966 | 2.33 | 0.08 |
| 1.90 X 2.10 | 3.91 | 49.96 | 0.49 | 1378. | 0.881 | 3.44 | 0.46 |
| 2.10 X 2.30 | 2.07 | 62.64 | 0.36 | 826. | 0.500 | 1.04 | 1.04 |
| 2.30 X 2.50 | 6.00 | 77.16 | 1.00 | 193. | 0.135 | 0.81 | 5.19 |
| 2.50 SINK | 9.29 | 82.24 | 1.00 | -28. | 0.037 | 0.35 | 8.95 |

CLEAN COAL YIELD = 83.44

CLEAN COAL ASH = 14.49

REFUSE ASH = 74.82

CLEAN COAL SULFUR = 0.971

CLEAN COAL BTU = 2922.

SPECIFIC GRAVITY OF SEPARATION = 2.20

ECART PROBABLE = 0.124

NOTE:

Computer output is formatted for Btu/lb values. However, the data inputted to the computer is MJ/KG multiplied by 100. It is necessary to multiply the MJ/KG values by 100 because the programme cannot read numbers to the right of the decimal point in the Btu/lb column.

APPENDIX B
COMPOSITE WASHABILITY DATA

APPENDIX B

COMPOSITE WASHABILITY DATA

CONTENTS

Total Plant Feed Washability Composites
Seam E Washability Composites
Seam F Washability Composites
Seam G Washability Composites
Seam H Washability Composites
Seam I Washability Composites
Seam J Washability Composites
Seam K Washability Composites

COMPOSITE ANALYSIS REPORT

COMPOSITE # 8: TOTAL PLANT FEED
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.40 | 0.24 | 35.79 |
| 1.275 - 1.300 | | 0.88 | 0.50 | 35.65 |
| 1.300 - 1.325 | | 1.69 | 1.04 | 35.36 |
| 1.325 - 1.350 | | 3.07 | 1.30 | 35.23 |
| 1.350 - 1.375 | | 5.44 | 1.72 | 35.04 |
| 1.375 - 1.400 | | 9.12 | 3.66 | 24.18 |
| 1.400 - 1.425 | | 14.17 | 5.06 | 23.56 |
| 1.425 - 1.450 | | 20.17 | 5.93 | 33.17 |
| 1.450 - 1.475 | | 26.32 | 6.78 | 32.80 |
| 1.475 - 1.500 | | 31.83 | 7.82 | 32.35 |
| 1.500 - 1.550 | | 42.34 | 10.06 | 31.38 |
| 1.550 - 1.600 | | 51.51 | 11.77 | 30.64 |
| 1.600 - 1.650 | | 57.97 | 13.24 | 30.01 |
| 1.650 - 1.700 | | 62.50 | 14.56 | 29.44 |
| 1.700 - 1.750 | | 65.51 | 15.50 | 29.03 |
| 1.750 - 1.800 | | 67.91 | 16.22 | 28.72 |
| 1.800 - 1.850 | | 69.96 | 16.93 | 28.41 |
| 1.850 - 1.900 | | 71.89 | 17.60 | 28.12 |
| 1.900 - 2.000 | | 75.31 | 18.89 | 27.56 |
| 2.000 - 2.100 | | 79.19 | 20.54 | 26.84 |
| 2.100 - 2.200 | | 80.91 | 21.30 | 26.51 |
| 2.200 - 2.300 | | 83.20 | 22.41 | 26.03 |
| 2.300 - 2.500 | | 90.36 | 26.36 | 24.33 |
| 2.500 - 2.700 | | 100.00 | 31.40 | 22.17 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 8: TOTAL PLANT FEED
 SIZE # 3: 28 MESH X 100 MESH*

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 2.83 | 0.77 | 35.20 |
| 1.275 - 1.300 | | 6.00 | 0.97 | 35.12 |
| 1.300 - 1.325 | | 9.62 | 1.16 | 35.04 |
| 1.325 - 1.350 | | 13.78 | 1.37 | 34.95 |
| 1.350 - 1.375 | | 18.42 | 1.81 | 34.76 |
| 1.375 - 1.400 | | 23.54 | 2.86 | 34.30 |
| 1.400 - 1.425 | | 30.13 | 3.82 | 33.88 |
| 1.425 - 1.450 | | 38.09 | 4.45 | 33.61 |
| 1.450 - 1.475 | | 45.74 | 4.93 | 33.39 |
| 1.475 - 1.500 | | 51.40 | 5.43 | 33.17 |
| 1.500 - 1.550 | | 59.00 | 6.53 | 32.69 |
| 1.550 - 1.600 | | 64.67 | 7.54 | 32.24 |
| 1.600 - 1.650 | | 68.68 | 8.37 | 31.88 |
| 1.650 - 1.700 | | 71.84 | 9.10 | 31.56 |
| 1.700 - 1.750 | | 74.37 | 9.84 | 31.23 |
| 1.750 - 1.800 | | 76.32 | 10.48 | 30.96 |
| 1.800 - 1.850 | | 77.63 | 10.95 | 30.75 |
| 1.850 - 1.900 | | 78.75 | 11.38 | 30.56 |
| 1.900 - 2.000 | | 80.66 | 12.22 | 30.20 |
| 2.000 - 2.100 | | 82.66 | 13.20 | 29.77 |
| 2.100 - 2.200 | | 83.40 | 13.69 | 29.56 |
| 2.200 - 2.300 | | 84.72 | 14.44 | 29.24 |
| 2.300 - 2.500 | | 90.72 | 18.57 | 27.46 |
| 2.500 - 2.700 | | 100.00 | 24.48 | 24.91 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 7: SEAM E
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 1.68 | 0.10 | 36.00 |
| 1.275 - 1.300 | | 3.53 | 0.34 | 35.68 |
| 1.300 - 1.325 | | 5.60 | 1.03 | 35.53 |
| 1.325 - 1.350 | | 7.90 | 1.68 | 35.22 |
| 1.350 - 1.375 | | 10.79 | 2.61 | 34.78 |
| 1.375 - 1.400 | | 14.12 | 3.47 | 34.39 |
| 1.400 - 1.425 | | 17.98 | 4.25 | 34.02 |
| 1.425 - 1.450 | | 22.18 | 5.06 | 33.65 |
| 1.450 - 1.475 | | 26.60 | 5.99 | 33.22 |
| 1.475 - 1.500 | | 31.14 | 7.10 | 32.71 |
| 1.500 - 1.550 | | 41.94 | 9.43 | 31.66 |
| 1.550 - 1.600 | | 51.41 | 10.97 | 30.96 |
| 1.600 - 1.650 | | 56.81 | 12.11 | 30.43 |
| 1.650 - 1.700 | | 60.39 | 13.40 | 29.83 |
| 1.700 - 1.750 | | 63.13 | 14.37 | 29.40 |
| 1.750 - 1.800 | | 65.69 | 15.08 | 29.08 |
| 1.800 - 1.850 | | 67.97 | 15.86 | 28.72 |
| 1.850 - 1.900 | | 70.10 | 16.62 | 28.37 |
| 1.900 - 2.000 | | 74.28 | 18.17 | 27.66 |
| 2.000 - 2.100 | | 78.05 | 19.62 | 27.00 |
| 2.100 - 2.200 | | 80.91 | 20.77 | 26.48 |
| 2.200 - 2.300 | | 82.66 | 21.54 | 26.14 |
| 2.300 - 2.500 | | 89.79 | 25.35 | 24.49 |
| 2.500 - 2.700 | | 100.00 | 30.51 | 22.26 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 7: SEAM E
 SIZE # 3: 28 MESH X 100 MESH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | % WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 5.26 | 0.73 | 35.38 |
| 1.275 - 1.300 | | 10.59 | 0.93 | 35.30 |
| 1.300 - 1.325 | | 15.95 | 1.12 | 35.21 |
| 1.325 - 1.350 | | 21.32 | 1.35 | 35.10 |
| 1.350 - 1.375 | | 27.06 | 1.94 | 34.83 |
| 1.375 - 1.400 | | 33.26 | 2.69 | 34.49 |
| 1.400 - 1.425 | | 40.34 | 3.53 | 34.11 |
| 1.425 - 1.450 | | 48.12 | 4.18 | 33.81 |
| 1.450 - 1.475 | | 55.45 | 4.72 | 33.56 |
| 1.475 - 1.500 | | 61.13 | 5.22 | 33.33 |
| 1.500 - 1.550 | | 69.04 | 6.28 | 32.86 |
| 1.550 - 1.600 | | 73.76 | 7.17 | 32.45 |
| 1.600 - 1.650 | | 76.22 | 7.72 | 32.21 |
| 1.650 - 1.700 | | 78.41 | 8.21 | 31.99 |
| 1.700 - 1.750 | | 80.48 | 8.81 | 31.72 |
| 1.750 - 1.800 | | 82.21 | 9.36 | 31.47 |
| 1.800 - 1.850 | | 83.29 | 9.75 | 31.29 |
| 1.850 - 1.900 | | 84.08 | 10.07 | 31.15 |
| 1.900 - 2.000 | | 85.58 | 10.70 | 30.87 |
| 2.000 - 2.100 | | 87.12 | 11.44 | 30.54 |
| 2.100 - 2.200 | | 87.71 | 11.82 | 30.37 |
| 2.200 - 2.300 | | 89.03 | 12.49 | 30.07 |
| 2.300 - 2.500 | | 93.62 | 15.43 | 28.75 |
| 2.500 - 2.700 | | 100.00 | 19.49 | 26.94 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 6: SEAM F
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.01 | 0.10 | 36.12 |
| 1.275 - 1.300 | | 0.02 | 0.20 | 36.07 |
| 1.300 - 1.325 | | 0.03 | 0.30 | 36.03 |
| 1.325 - 1.350 | | 1.09 | 0.40 | 35.98 |
| 1.350 - 1.375 | | 3.51 | 0.50 | 35.94 |
| 1.375 - 1.400 | | 7.30 | 3.09 | 34.77 |
| 1.400 - 1.425 | | 12.00 | 4.38 | 34.19 |
| 1.425 - 1.450 | | 16.86 | 5.44 | 33.72 |
| 1.450 - 1.475 | | 21.74 | 6.55 | 33.22 |
| 1.475 - 1.500 | | 26.49 | 7.83 | 32.64 |
| 1.500 - 1.550 | | 35.85 | 10.45 | 31.47 |
| 1.550 - 1.600 | | 44.69 | 12.11 | 30.72 |
| 1.600 - 1.650 | | 50.77 | 13.52 | 30.09 |
| 1.650 - 1.700 | | 54.03 | 15.01 | 29.42 |
| 1.700 - 1.750 | | 56.63 | 15.97 | 28.99 |
| 1.750 - 1.800 | | 59.20 | 16.84 | 28.59 |
| 1.800 - 1.850 | | 61.73 | 17.85 | 28.14 |
| 1.850 - 1.900 | | 64.26 | 18.83 | 27.70 |
| 1.900 - 2.000 | | 69.47 | 20.80 | 26.82 |
| 2.000 - 2.100 | | 73.31 | 22.36 | 26.11 |
| 2.100 - 2.200 | | 76.89 | 23.88 | 25.43 |
| 2.200 - 2.300 | | 79.74 | 25.31 | 24.79 |
| 2.300 - 2.500 | | 88.48 | 29.60 | 22.86 |
| 2.500 - 2.700 | | 100.00 | 34.83 | 20.51 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 6: SEAM F
 SIZE # 3: 28 MESH X 100 MESH*

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.98 | 0.10 | 35.76 |
| 1.275 - 1.300 | | 2.48 | 0.20 | 35.72 |
| 1.300 - 1.325 | | 4.53 | 0.30 | 35.67 |
| 1.325 - 1.350 | | 7.15 | 0.40 | 35.63 |
| 1.350 - 1.375 | | 10.36 | 0.50 | 35.58 |
| 1.375 - 1.400 | | 14.25 | 2.34 | 34.78 |
| 1.400 - 1.425 | | 19.52 | 3.79 | 34.15 |
| 1.425 - 1.450 | | 25.99 | 4.53 | 33.82 |
| 1.450 - 1.475 | | 32.24 | 5.11 | 33.57 |
| 1.475 - 1.500 | | 36.85 | 5.82 | 33.26 |
| 1.500 - 1.550 | | 43.25 | 7.33 | 32.60 |
| 1.550 - 1.600 | | 49.03 | 8.67 | 32.01 |
| 1.600 - 1.650 | | 54.42 | 10.04 | 31.42 |
| 1.650 - 1.700 | | 59.63 | 11.36 | 30.84 |
| 1.700 - 1.750 | | 64.73 | 13.01 | 30.12 |
| 1.750 - 1.800 | | 68.23 | 14.48 | 29.47 |
| 1.800 - 1.850 | | 70.02 | 15.24 | 29.14 |
| 1.850 - 1.900 | | 71.76 | 15.90 | 28.86 |
| 1.900 - 2.000 | | 75.22 | 17.41 | 28.19 |
| 2.000 - 2.100 | | 77.86 | 18.64 | 27.66 |
| 2.100 - 2.200 | | 79.68 | 19.60 | 27.24 |
| 2.200 - 2.300 | | 80.96 | 20.29 | 26.93 |
| 2.300 - 2.500 | | 88.10 | 24.61 | 25.05 |
| 2.500 - 2.700 | | 100.00 | 30.87 | 22.31 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 5: SEAM G
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.41 | 0.86 | 35.16 |
| 1.275 - 1.300 | | 0.85 | 1.51 | 34.89 |
| 1.300 - 1.325 | | 1.60 | 1.77 | 34.89 |
| 1.325 - 1.350 | | 2.76 | 1.82 | 34.96 |
| 1.350 - 1.375 | | 4.26 | 1.94 | 34.97 |
| 1.375 - 1.400 | | 7.18 | 3.47 | 34.30 |
| 1.400 - 1.425 | | 11.51 | 4.98 | 33.64 |
| 1.425 - 1.450 | | 16.81 | 5.87 | 33.25 |
| 1.450 - 1.475 | | 22.48 | 6.78 | 32.86 |
| 1.475 - 1.500 | | 27.92 | 7.94 | 32.38 |
| 1.500 - 1.550 | | 40.28 | 10.64 | 31.26 |
| 1.550 - 1.600 | | 50.91 | 12.56 | 30.47 |
| 1.600 - 1.650 | | 56.64 | 14.03 | 29.85 |
| 1.650 - 1.700 | | 60.45 | 15.32 | 29.31 |
| 1.700 - 1.750 | | 63.37 | 16.36 | 28.87 |
| 1.750 - 1.800 | | 65.69 | 17.14 | 28.54 |
| 1.800 - 1.850 | | 67.30 | 17.74 | 28.29 |
| 1.850 - 1.900 | | 68.74 | 18.27 | 28.06 |
| 1.900 - 2.000 | | 71.27 | 19.31 | 27.63 |
| 2.000 - 2.100 | | 73.97 | 20.56 | 27.10 |
| 2.100 - 2.200 | | 75.47 | 21.32 | 26.79 |
| 2.200 - 2.300 | | 77.46 | 22.34 | 26.36 |
| 2.300 - 2.500 | | 86.19 | 27.72 | 24.10 |
| 2.500 - 2.700 | | 100.00 | 34.99 | 21.05 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 5: SEAM G
 SIZE # 3: 28 MESH X 100 MESH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 2.21 | 2.35 | 34.53 |
| 1.275 - 1.300 | | 4.56 | 2.85 | 34.31 |
| 1.300 - 1.325 | | 7.11 | 3.36 | 34.09 |
| 1.325 - 1.350 | | 10.56 | 3.70 | 33.93 |
| 1.350 - 1.375 | | 14.55 | 4.10 | 33.74 |
| 1.375 - 1.400 | | 19.06 | 4.86 | 33.41 |
| 1.400 - 1.425 | | 25.12 | 5.75 | 33.01 |
| 1.425 - 1.450 | | 32.59 | 6.26 | 32.78 |
| 1.450 - 1.475 | | 39.70 | 6.62 | 32.62 |
| 1.475 - 1.500 | | 44.72 | 7.00 | 32.45 |
| 1.500 - 1.550 | | 50.63 | 7.85 | 32.08 |
| 1.550 - 1.600 | | 54.88 | 8.73 | 31.70 |
| 1.600 - 1.650 | | 58.42 | 9.55 | 31.35 |
| 1.650 - 1.700 | | 61.32 | 10.30 | 31.02 |
| 1.700 - 1.750 | | 63.41 | 11.03 | 30.71 |
| 1.750 - 1.800 | | 65.12 | 11.69 | 30.43 |
| 1.800 - 1.850 | | 66.47 | 12.26 | 30.18 |
| 1.850 - 1.900 | | 67.68 | 12.76 | 29.97 |
| 1.900 - 2.000 | | 69.49 | 13.64 | 29.59 |
| 2.000 - 2.100 | | 71.85 | 14.96 | 29.02 |
| 2.100 - 2.200 | | 72.84 | 15.68 | 28.72 |
| 2.200 - 2.300 | | 74.91 | 16.99 | 28.16 |
| 2.300 - 2.500 | | 84.77 | 24.14 | 25.09 |
| 2.500 - 2.700 | | 100.00 | 33.28 | 21.18 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 4: SEAM H
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.57 | 0.10 | 35.80 |
| 1.275 - 1.300 | | 1.25 | 0.22 | 35.74 |
| 1.300 - 1.325 | | 2.01 | 1.57 | 35.16 |
| 1.325 - 1.350 | | 2.96 | 2.46 | 34.77 |
| 1.350 - 1.375 | | 4.48 | 2.88 | 34.56 |
| 1.375 - 1.400 | | 6.41 | 3.61 | 34.22 |
| 1.400 - 1.425 | | 8.60 | 4.27 | 33.92 |
| 1.425 - 1.450 | | 10.99 | 5.18 | 33.53 |
| 1.450 - 1.475 | | 13.73 | 6.22 | 33.08 |
| 1.475 - 1.500 | | 17.00 | 7.30 | 32.61 |
| 1.500 - 1.550 | | 25.39 | 9.88 | 31.52 |
| 1.550 - 1.600 | | 34.23 | 12.50 | 30.41 |
| 1.600 - 1.650 | | 42.45 | 15.33 | 29.20 |
| 1.650 - 1.700 | | 49.55 | 17.37 | 28.33 |
| 1.700 - 1.750 | | 54.16 | 18.67 | 27.77 |
| 1.750 - 1.800 | | 57.65 | 19.97 | 27.22 |
| 1.800 - 1.850 | | 61.32 | 21.25 | 26.67 |
| 1.850 - 1.900 | | 64.66 | 22.38 | 26.19 |
| 1.900 - 2.000 | | 69.39 | 24.07 | 25.47 |
| 2.000 - 2.100 | | 74.48 | 26.10 | 24.60 |
| 2.100 - 2.200 | | 77.35 | 27.32 | 24.08 |
| 2.200 - 2.300 | | 79.84 | 28.44 | 23.60 |
| 2.300 - 2.500 | | 88.19 | 32.84 | 21.73 |
| 2.500 - 2.700 | | 100.00 | 38.57 | 19.29 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 4: SEAM H
 SIZE # 3: 28 MESH X 100 MESH*

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 2.56 | 0.10 | 35.25 |
| 1.275 - 1.300 | | 5.42 | 0.20 | 35.21 |
| 1.300 - 1.325 | | 8.55 | 0.34 | 35.15 |
| 1.325 - 1.350 | | 11.94 | 0.64 | 35.02 |
| 1.350 - 1.375 | | 15.57 | 1.69 | 34.57 |
| 1.375 - 1.400 | | 19.42 | 2.80 | 34.10 |
| 1.400 - 1.425 | | 23.96 | 3.70 | 33.72 |
| 1.425 - 1.450 | | 29.20 | 4.31 | 33.46 |
| 1.450 - 1.475 | | 34.43 | 4.88 | 33.21 |
| 1.475 - 1.500 | | 38.97 | 5.55 | 32.93 |
| 1.500 - 1.550 | | 46.45 | 7.04 | 32.30 |
| 1.550 - 1.600 | | 51.86 | 8.43 | 31.71 |
| 1.600 - 1.650 | | 55.25 | 9.44 | 31.28 |
| 1.650 - 1.700 | | 58.21 | 10.30 | 30.92 |
| 1.700 - 1.750 | | 61.29 | 11.44 | 30.44 |
| 1.750 - 1.800 | | 64.08 | 12.38 | 30.04 |
| 1.800 - 1.850 | | 66.19 | 13.17 | 29.70 |
| 1.850 - 1.900 | | 68.01 | 13.95 | 29.37 |
| 1.900 - 2.000 | | 70.61 | 15.13 | 28.87 |
| 2.000 - 2.100 | | 73.41 | 16.57 | 28.27 |
| 2.100 - 2.200 | | 74.82 | 17.44 | 27.89 |
| 2.200 - 2.300 | | 76.83 | 18.64 | 27.38 |
| 2.300 - 2.500 | | 86.00 | 25.16 | 24.62 |
| 2.500 - 2.700 | | 100.00 | 33.75 | 20.97 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 3: SEAM I
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.01 | 0.10 | 35.49 |
| 1.275 - 1.300 | | 0.15 | 0.20 | 35.42 |
| 1.300 - 1.325 | | 1.14 | 0.30 | 35.39 |
| 1.325 - 1.350 | | 2.91 | 0.40 | 35.35 |
| 1.350 - 1.375 | | 5.53 | 0.64 | 35.24 |
| 1.375 - 1.400 | | 10.02 | 2.66 | 34.37 |
| 1.400 - 1.425 | | 16.39 | 4.17 | 33.71 |
| 1.425 - 1.450 | | 24.12 | 4.90 | 33.38 |
| 1.450 - 1.475 | | 32.03 | 5.66 | 33.05 |
| 1.475 - 1.500 | | 38.97 | 6.75 | 32.58 |
| 1.500 - 1.550 | | 51.16 | 9.00 | 31.61 |
| 1.550 - 1.600 | | 61.22 | 10.68 | 30.88 |
| 1.600 - 1.650 | | 68.58 | 12.02 | 30.31 |
| 1.650 - 1.700 | | 73.50 | 13.15 | 29.82 |
| 1.700 - 1.750 | | 76.15 | 13.89 | 29.50 |
| 1.750 - 1.800 | | 78.19 | 14.36 | 29.30 |
| 1.800 - 1.850 | | 79.96 | 14.91 | 29.06 |
| 1.850 - 1.900 | | 81.51 | 15.43 | 28.84 |
| 1.900 - 2.000 | | 83.54 | 16.16 | 28.52 |
| 2.000 - 2.100 | | 86.83 | 17.63 | 27.88 |
| 2.100 - 2.200 | | 87.59 | 17.98 | 27.73 |
| 2.200 - 2.300 | | 89.44 | 18.88 | 27.34 |
| 2.300 - 2.500 | | 94.26 | 21.66 | 26.15 |
| 2.500 - 2.700 | | 100.00 | 25.05 | 24.71 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 3: SEAM 1
 SIZE # 3: 28 MESH X 100 MESH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 2.01 | 0.58 | 35.21 |
| 1.275 - 1.300 | | 4.39 | 0.88 | 35.07 |
| 1.300 - 1.325 | | 7.55 | 1.10 | 34.59 |
| 1.325 - 1.350 | | 11.56 | 1.26 | 34.94 |
| 1.350 - 1.375 | | 16.33 | 1.43 | 34.86 |
| 1.375 - 1.400 | | 21.87 | 2.65 | 34.31 |
| 1.400 - 1.425 | | 29.37 | 3.55 | 33.91 |
| 1.425 - 1.450 | | 38.63 | 4.02 | 33.70 |
| 1.450 - 1.475 | | 47.61 | 4.39 | 33.53 |
| 1.475 - 1.500 | | 54.27 | 4.83 | 33.33 |
| 1.500 - 1.550 | | 63.59 | 5.93 | 32.85 |
| 1.550 - 1.600 | | 71.03 | 6.92 | 32.41 |
| 1.600 - 1.650 | | 76.24 | 7.79 | 32.02 |
| 1.650 - 1.700 | | 79.75 | 8.49 | 31.70 |
| 1.700 - 1.750 | | 81.97 | 9.00 | 31.47 |
| 1.750 - 1.800 | | 83.46 | 9.41 | 31.29 |
| 1.800 - 1.850 | | 84.51 | 9.73 | 31.14 |
| 1.850 - 1.900 | | 85.42 | 10.04 | 31.00 |
| 1.900 - 2.000 | | 86.96 | 10.66 | 30.73 |
| 2.000 - 2.100 | | 88.49 | 11.38 | 30.41 |
| 2.100 - 2.200 | | 88.87 | 11.67 | 30.29 |
| 2.200 - 2.300 | | 89.62 | 12.11 | 30.10 |
| 2.300 - 2.500 | | 93.51 | 14.78 | 28.94 |
| 2.500 - 2.700 | | 100.00 | 19.04 | 27.09 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 2: SEAM J
 SIZE # 1: 4 INCH X 1/4 INCH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.40 | 0.10 | 35.78 |
| 1.275 - 1.300 | | 1.03 | 0.20 | 35.73 |
| 1.300 - 1.325 | | 1.88 | 0.30 | 35.69 |
| 1.325 - 1.350 | | 2.95 | 0.40 | 35.64 |
| 1.350 - 1.375 | | 5.86 | 0.50 | 35.58 |
| 1.375 - 1.400 | | 10.76 | 3.02 | 34.47 |
| 1.400 - 1.425 | | 17.50 | 4.97 | 33.62 |
| 1.425 - 1.450 | | 25.41 | 6.07 | 32.13 |
| 1.450 - 1.475 | | 33.20 | 6.99 | 32.74 |
| 1.475 - 1.500 | | 39.59 | 8.04 | 32.29 |
| 1.500 - 1.550 | | 49.73 | 10.19 | 31.37 |
| 1.550 - 1.600 | | 58.41 | 11.81 | 30.68 |
| 1.600 - 1.650 | | 65.19 | 13.12 | 30.12 |
| 1.650 - 1.700 | | 70.25 | 14.39 | 29.58 |
| 1.700 - 1.750 | | 74.11 | 15.48 | 29.12 |
| 1.750 - 1.800 | | 76.42 | 16.16 | 28.83 |
| 1.800 - 1.850 | | 77.44 | 16.50 | 28.68 |
| 1.850 - 1.900 | | 78.44 | 16.81 | 28.54 |
| 1.900 - 2.000 | | 80.49 | 17.59 | 28.21 |
| 2.000 - 2.100 | | 83.55 | 18.90 | 27.64 |
| 2.100 - 2.200 | | 84.22 | 19.22 | 27.50 |
| 2.200 - 2.300 | | 86.40 | 20.31 | 27.03 |
| 2.300 - 2.500 | | 92.60 | 23.67 | 25.58 |
| 2.500 - 2.700 | | 100.00 | 27.50 | 23.91 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 2: SEAM J
 SIZE # 3: 28 MESH X 100 MESH*

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 5.83 | 0.48 | 35.33 |
| 1.275 - 1.300 | | 11.87 | 0.61 | 35.28 |
| 1.300 - 1.325 | | 17.98 | 0.73 | 35.23 |
| 1.325 - 1.350 | | 24.06 | 0.91 | 35.16 |
| 1.350 - 1.375 | | 29.97 | 1.68 | 34.82 |
| 1.375 - 1.400 | | 35.60 | 2.59 | 34.42 |
| 1.400 - 1.425 | | 41.77 | 3.48 | 34.03 |
| 1.425 - 1.450 | | 48.76 | 4.16 | 33.74 |
| 1.450 - 1.475 | | 55.59 | 4.72 | 33.50 |
| 1.475 - 1.500 | | 61.29 | 5.23 | 33.27 |
| 1.500 - 1.550 | | 69.87 | 6.34 | 32.78 |
| 1.550 - 1.600 | | 75.31 | 7.34 | 32.33 |
| 1.600 - 1.650 | | 78.12 | 7.93 | 32.07 |
| 1.650 - 1.700 | | 80.35 | 8.36 | 31.88 |
| 1.700 - 1.750 | | 82.61 | 9.04 | 31.58 |
| 1.750 - 1.800 | | 84.71 | 9.55 | 31.35 |
| 1.800 - 1.850 | | 85.81 | 9.82 | 31.23 |
| 1.850 - 1.900 | | 86.26 | 10.08 | 31.12 |
| 1.900 - 2.000 | | 87.29 | 10.50 | 30.93 |
| 2.000 - 2.100 | | 88.64 | 11.11 | 30.65 |
| 2.100 - 2.200 | | 88.65 | 11.21 | 30.61 |
| 2.200 - 2.300 | | 90.25 | 12.03 | 30.25 |
| 2.300 - 2.500 | | 94.69 | 14.89 | 28.97 |
| 2.500 - 2.700 | | 100.00 | 18.25 | 27.46 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 1: SEAM K
 SIZE # 1: 4 INCH X 1/4 INCH*

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 0.01 | 0.10 | 35.73 |
| 1.275 - 1.300 | | 0.02 | 0.20 | 35.69 |
| 1.300 - 1.325 | | 0.18 | 0.30 | 35.46 |
| 1.325 - 1.350 | | 1.20 | 0.40 | 35.57 |
| 1.350 - 1.375 | | 4.25 | 2.26 | 34.81 |
| 1.375 - 1.400 | | 8.59 | 6.51 | 32.94 |
| 1.400 - 1.425 | | 15.22 | 8.00 | 32.28 |
| 1.425 - 1.450 | | 23.77 | 8.52 | 32.06 |
| 1.450 - 1.475 | | 32.19 | 8.98 | 31.86 |
| 1.475 - 1.500 | | 38.44 | 9.70 | 31.55 |
| 1.500 - 1.550 | | 47.07 | 11.33 | 30.84 |
| 1.550 - 1.600 | | 53.99 | 12.66 | 30.26 |
| 1.600 - 1.650 | | 59.45 | 13.85 | 29.74 |
| 1.650 - 1.700 | | 63.40 | 14.87 | 29.30 |
| 1.700 - 1.750 | | 65.68 | 15.55 | 29.01 |
| 1.750 - 1.800 | | 67.57 | 16.06 | 28.79 |
| 1.800 - 1.850 | | 69.28 | 16.62 | 28.54 |
| 1.850 - 1.900 | | 71.00 | 17.18 | 28.30 |
| 1.900 - 2.000 | | 75.24 | 18.81 | 27.60 |
| 2.000 - 2.100 | | 80.82 | 21.14 | 26.60 |
| 2.100 - 2.200 | | 81.60 | 21.44 | 26.47 |
| 2.200 - 2.300 | | 84.83 | 22.96 | 25.82 |
| 2.300 - 2.500 | | 91.94 | 26.65 | 24.21 |
| 2.500 - 2.700 | | 100.00 | 30.73 | 22.41 |

* 4 inch x 1/4 inch should read 10 mm x 0.6 mm

COMPOSITE ANALYSIS REPORT

COMPOSITE # 1: SEAM K
 SIZE # 3: 28 MESH X 100 MESH *

| SPECIFIC GRAVITY FRACTION | | CUMULATIVE FLOAT ANALYSIS - EXPANDED | | |
|---------------------------|-------|--------------------------------------|-------|---------|
| SINK | FLOAT | %WEIGHT | % ASH | MJ / KG |
| 1.250 - 1.275 | | 2.57 | 0.98 | 35.02 |
| 1.275 - 1.300 | | 5.89 | 1.10 | 35.01 |
| 1.300 - 1.325 | | 9.88 | 1.22 | 35.00 |
| 1.325 - 1.350 | | 14.45 | 1.34 | 34.97 |
| 1.350 - 1.375 | | 19.52 | 1.46 | 34.94 |
| 1.375 - 1.400 | | 25.01 | 2.50 | 34.52 |
| 1.400 - 1.425 | | 32.71 | 3.63 | 34.06 |
| 1.425 - 1.450 | | 42.61 | 4.49 | 33.71 |
| 1.450 - 1.475 | | 51.86 | 5.09 | 33.46 |
| 1.475 - 1.500 | | 57.65 | 5.53 | 33.26 |
| 1.500 - 1.550 | | 63.17 | 6.49 | 32.87 |
| 1.550 - 1.600 | | 67.47 | 7.33 | 32.51 |
| 1.600 - 1.650 | | 71.07 | 8.13 | 32.17 |
| 1.650 - 1.700 | | 73.83 | 8.84 | 31.86 |
| 1.700 - 1.750 | | 75.70 | 9.34 | 31.65 |
| 1.750 - 1.800 | | 77.09 | 9.80 | 31.45 |
| 1.800 - 1.850 | | 78.28 | 10.26 | 31.26 |
| 1.850 - 1.900 | | 79.42 | 10.69 | 31.08 |
| 1.900 - 2.000 | | 81.45 | 11.60 | 30.69 |
| 2.000 - 2.100 | | 83.80 | 12.81 | 30.18 |
| 2.100 - 2.200 | | 84.33 | 13.20 | 30.01 |
| 2.200 - 2.300 | | 85.45 | 13.81 | 29.75 |
| 2.300 - 2.500 | | 91.06 | 17.84 | 28.05 |
| 2.500 - 2.700 | | 100.00 | 23.83 | 25.52 |

* 28 mesh x 100 mesh should read 0.6 mm x 0.15 mm

10(1)
12a

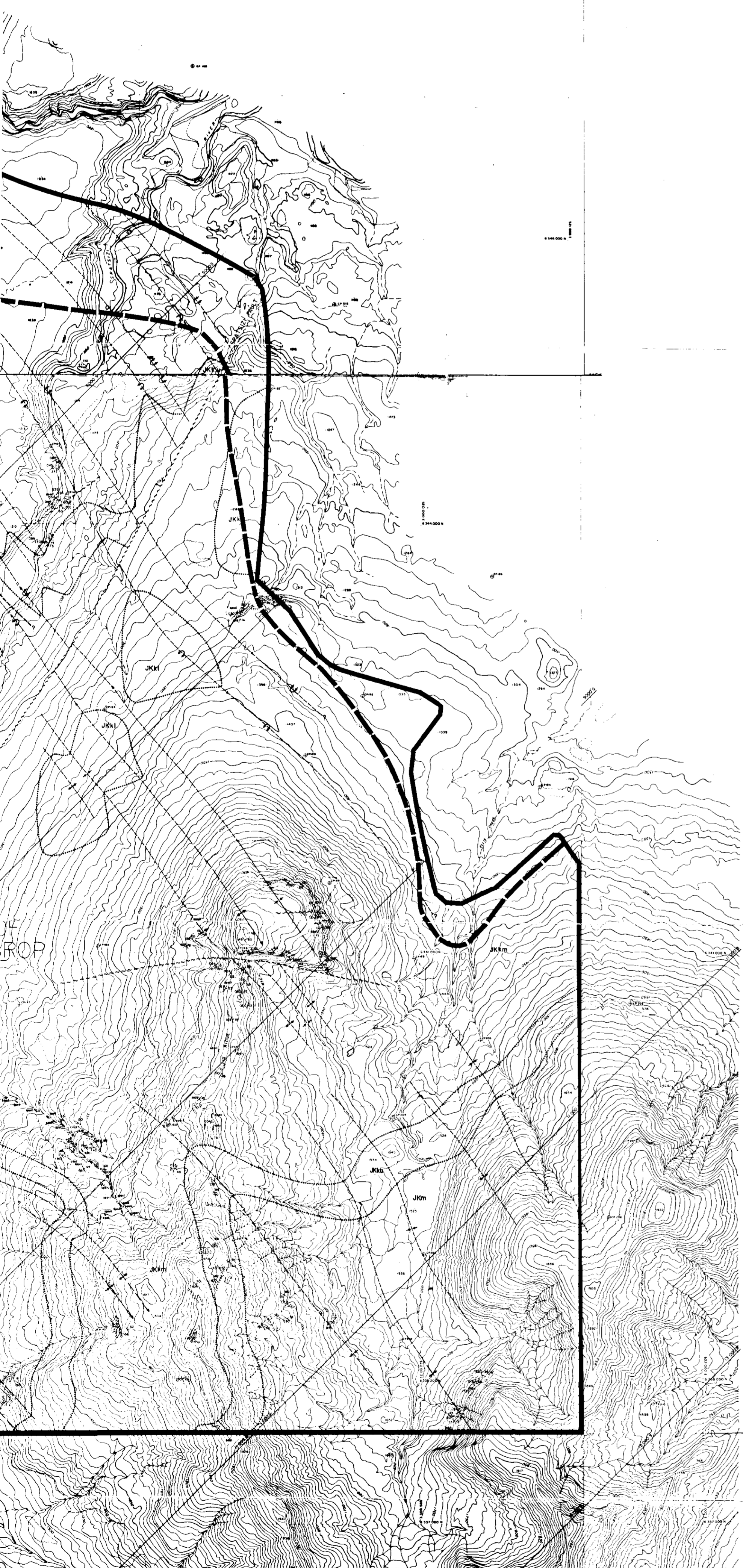


MALLOCH SEQUENCE
 JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal.

KLAPPAN SEQUENCE
 JKku Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal.
 JKkm Repeated coarsening upward sequences of fine to medium-grained sandstone, occasionally conglomeratic, siltstone, claystone and coal; sediments display cross-bedding and ripple marks and contain abundant plant fragments and rare bivalves towards the base.
 JKkl Interbedded massive, fine grained sandstone and siltstones, containing bivalve fossils, with minor coal.

LEGEND

- LICENCE BOUNDARY
- GEOLOGICAL CONTACT (INFERRED)
- COAL SEAM (OUTCROP, INFERRED)
- ↑ ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- ↓ SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- ↔ OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
- ↔ OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
- BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL)
- ▲ THRUST FAULT (DEFINED, APPROXIMATE, INFERRED) TEETH INDICATE UP THRUST SIDE
- FAULT (DEFINED, APPROXIMATE, INFERRED) SOLID CIRCLE INDICATES DOWN THROWN SIDE
- TRENCH LOCATION
- MEASURED SECTION LOCATION
- CROSS-SECTION LOCATION
- ◇ DIAMOND DRILLHOLE LOCATION (VERTICAL, INCLINED WITH SURFACE PROJECTION)



LEGEND

| | | |
|----------------------------|-----|----------|
| BUILDING | --- | [Symbol] |
| ROAD, HARD SURFACE | --- | [Symbol] |
| LOOSE SURFACE | --- | [Symbol] |
| CART TRACK | --- | [Symbol] |
| TRAIL | --- | [Symbol] |
| RAILROAD BED | --- | [Symbol] |
| RIVER | --- | [Symbol] |
| STREAM, DEFINITE | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPLIT | --- | [Symbol] |
| LAKE | --- | [Symbol] |
| WATER LEVEL | --- | [Symbol] |
| SWAMP | --- | [Symbol] |
| BEAVER DAM | --- | [Symbol] |
| TREE LINE | --- | [Symbol] |
| CUT LINE | --- | [Symbol] |
| CONTOURS, INDEX | --- | [Symbol] |
| INTERMEDIATE | --- | [Symbol] |
| DEPRESSION | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPOT ELEVATION | --- | [Symbol] |
| FIELD CONTROL POINT | --- | [Symbol] |
| COAL LICENCE | --- | [Symbol] |
| REDEFINED LICENCE BOUNDARY | --- | [Symbol] |

NOTES

CONTOUR INTERVAL 10 METERS

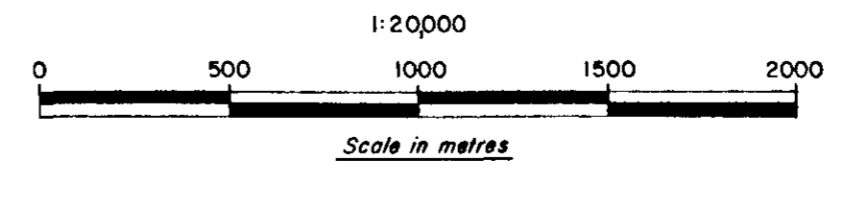
SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL

COMPILED BY:
WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD McLELLAN LTD.,
FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67
AT A SCALE OF 1:60 000 (APPROXIMATE).

LEGEND

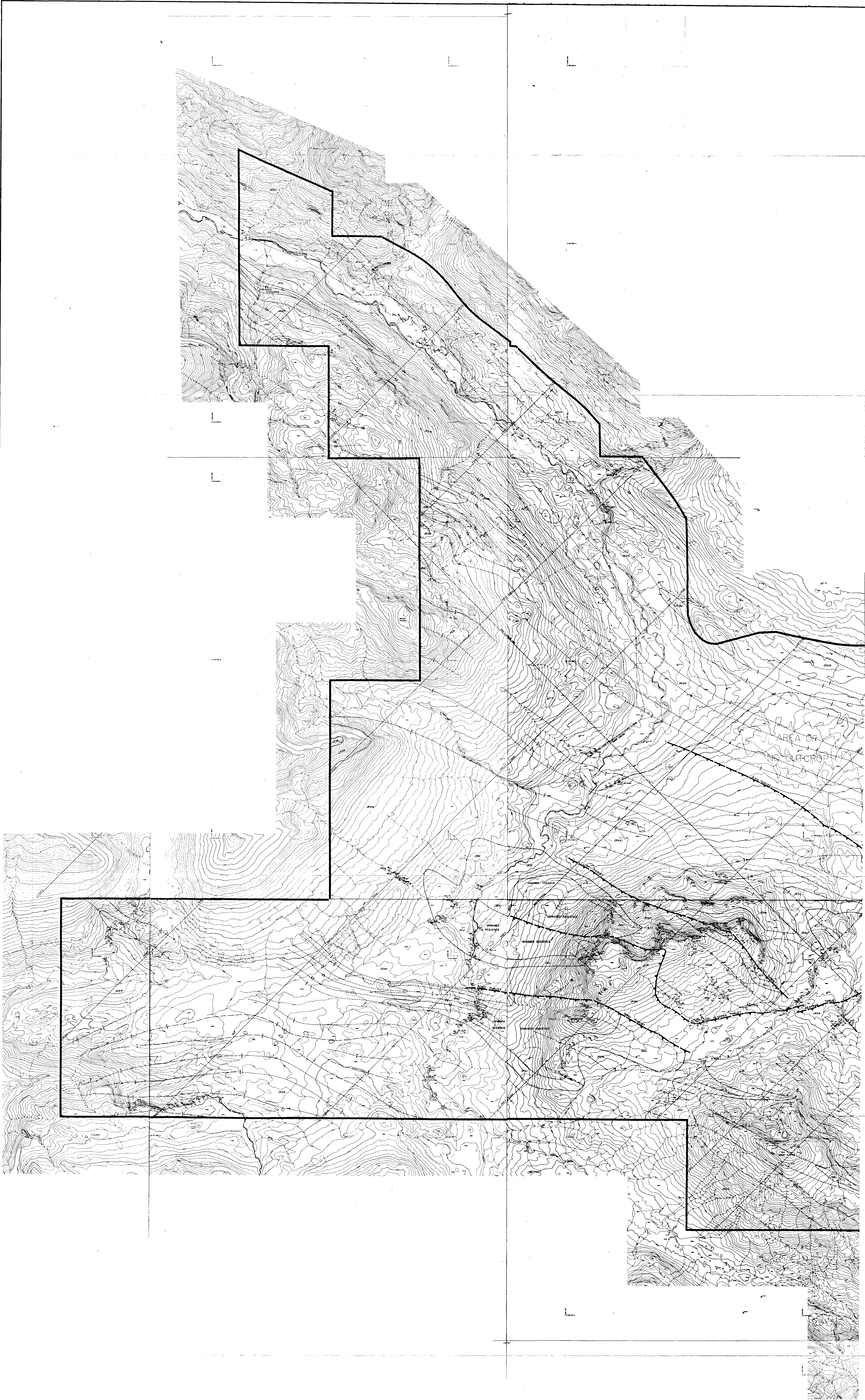
| | |
|----------|---|
| [Symbol] | LICENCE BOUNDARY |
| [Symbol] | GEOLOGICAL CONTACT (INFERRED) |
| [Symbol] | COAL SEAM (OUTCROP, INFERRED) |
| [Symbol] | ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| [Symbol] | SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| [Symbol] | OVERTURNED ANTICLINE (DEFINED, APPROXIMATE) |
| [Symbol] | OVERTURNED SYNCLINE (DEFINED, APPROXIMATE) |
| [Symbol] | BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL) |
| [Symbol] | THRUST FAULT (DEFINED, APPROXIMATE, INFERRED) TEETH INDICATE UP THRUST SIDE |
| [Symbol] | FAULT (DEFINED, APPROXIMATE, INFERRED) SOLID CIRCLE INDICATES DOWNTHRUST SIDE |
| [Symbol] | TRENCH LOCATION |
| [Symbol] | MEASURED SECTION LOCATION |
| [Symbol] | CROSS-SECTION LOCATION |
| [Symbol] | DIAMOND DRILLHOLE LOCATION (VERTICAL, INCLINED WITH SURFACE PROJECTION) |



110

622 mt Klappan 82/02A

| | | |
|-----------------------------------|---------------|----------------------------|
| GULF CANADA RESOURCES INC. | | |
| CALGARY | ALBERTA | |
| MT. KLAPPAN COAL PROPERTY | | |
| GEOLOGY | | |
| EAST SHEET | | |
| PREPARED BY: G. SEVE | DATE: NOV. 82 | DRAWING No. KPN - 82 - 072 |
| APPROVED BY: B.P.F. | | |



LEGEND

| | |
|---------------------|-----|
| BUILDING | --- |
| ROAD, HARD SURFACE | --- |
| LOOSE SURFACE | --- |
| CART TRACK | --- |
| TRAIL | --- |
| RAILROAD BED | --- |
| RIVER | --- |
| STREAM, DEFINITE | --- |
| APPROXIMATE | --- |
| SPLIT | --- |
| LAKE | --- |
| WATER LEVEL | --- |
| SWAMP | --- |
| BEAVER DAM | --- |
| TREE LINE | --- |
| CUT LINE | --- |
| CONTOURS, HOBY | --- |
| INTERMEDIATE | --- |
| DEPRESSION | --- |
| APPROXIMATE | --- |
| SPOT ELEVATION | --- |
| FIELD CONTROL POINT | --- |
| COAL LICENCE | --- |

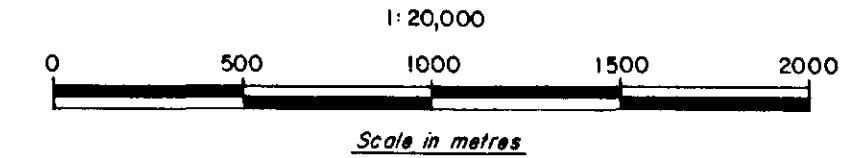
NOTES

CONTOUR INTERVAL: 10 METERS
 SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.
 RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL
 COMPILED BY:
 WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLEAN LTD.
 FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67 AT A SCALE OF 1:60,000 (APPROXIMATE).

| MALLOCH SEQUENCE | |
|------------------|--|
| JKm | Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal. |
| KLAPPAN SEQUENCE | |
| JKku | Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal. |
| JKsm | Repeated coarsening upward sequences of fine to medium-grained sandstone, occasionally conglomeratic, siltstone, claystone and coal; sediments display cross-bedding and ripple marks and contain abundant plant fragments and rare bivalves towards the base. |
| JKkl | Interbedded massive, fine grained sandstone and siltstones, containing bivalve fossils, with minor coal. |

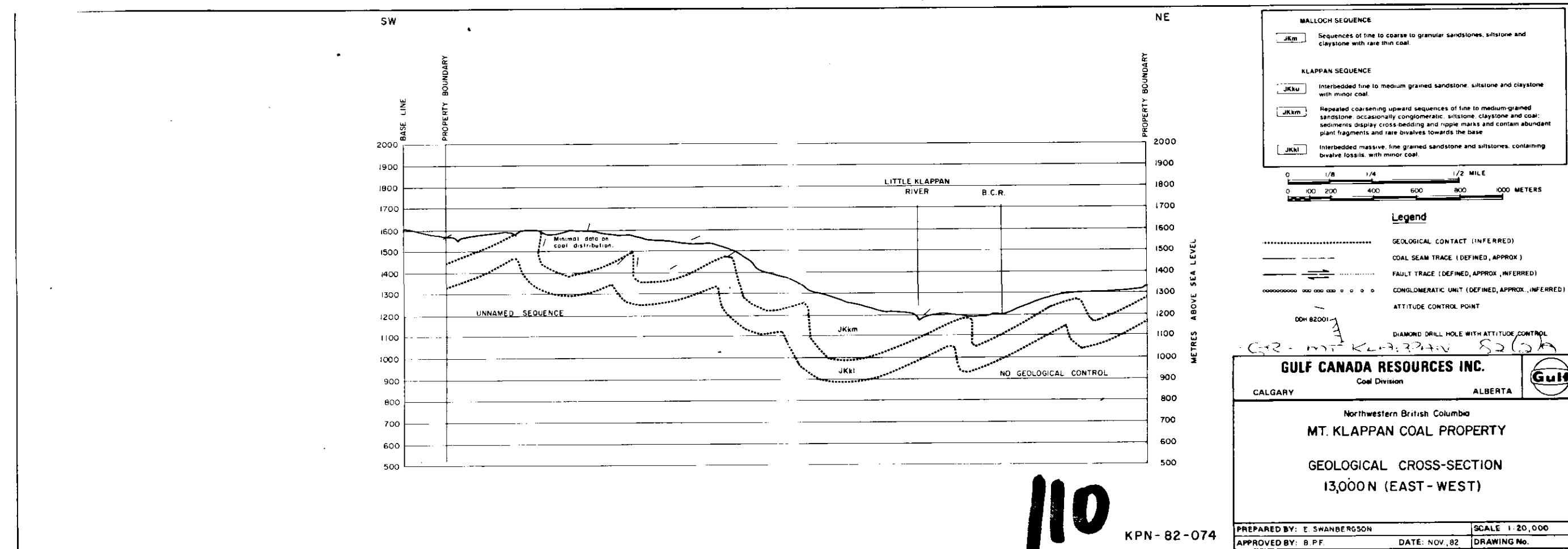
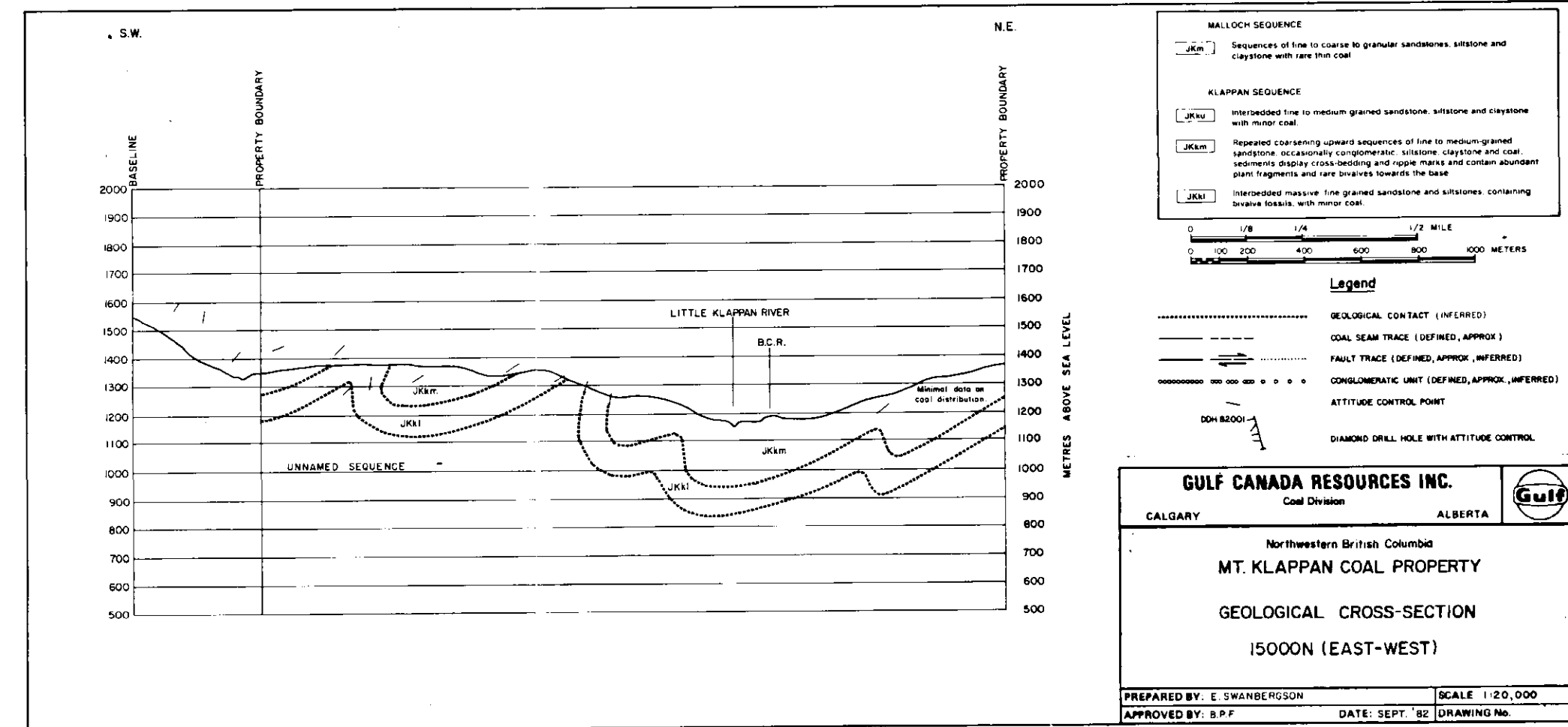
LEGEND

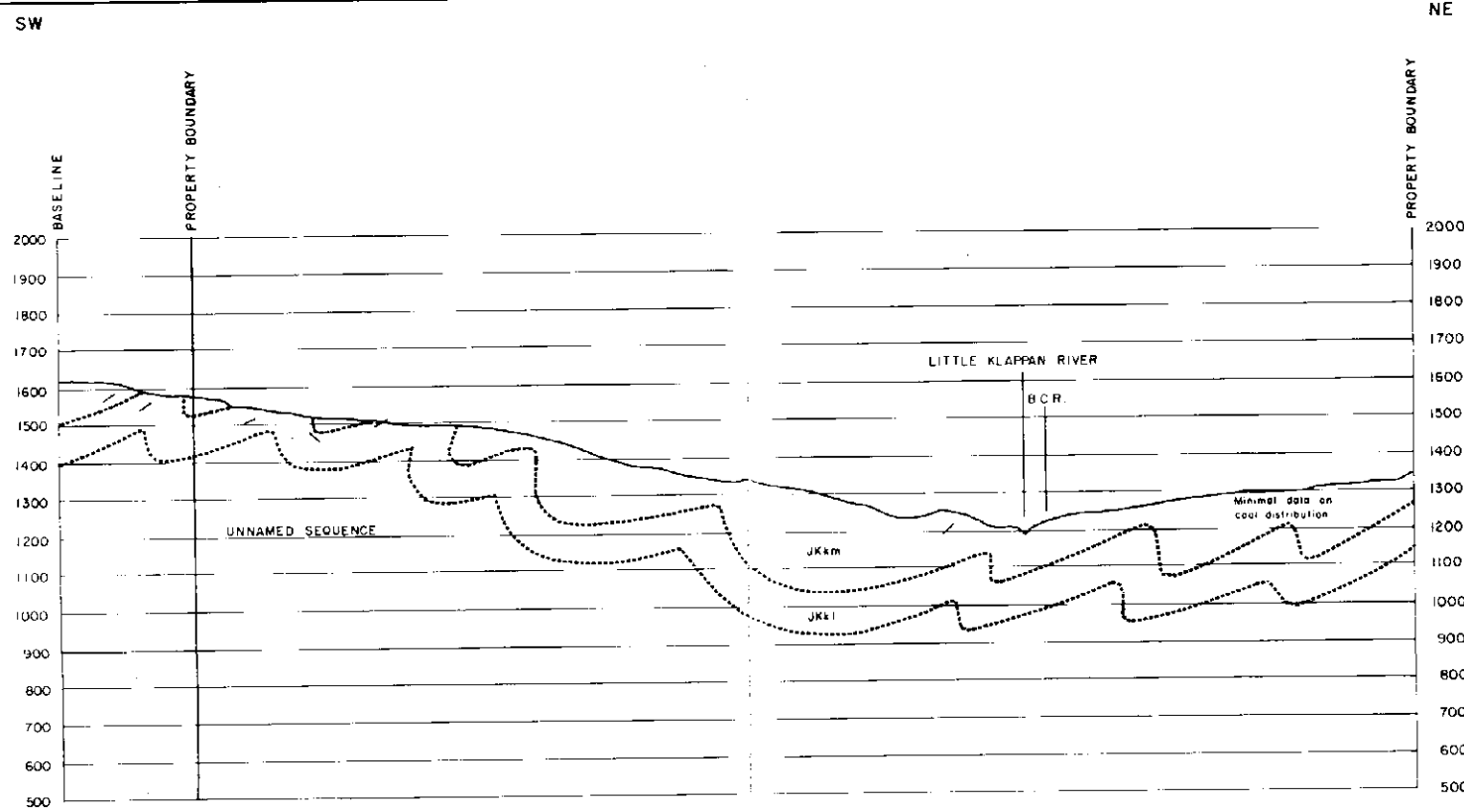
| | |
|-----|--|
| --- | LICENCE BOUNDARY |
| --- | GEOLOGICAL CONTACT (INFERRED) |
| --- | COAL SEAM (OUTCROP, INFERRED) |
| --- | ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| --- | SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| --- | OVERTURNED ANTICLINE (DEFINED, APPROXIMATE) |
| --- | OVERTURNED SYNCLINE (DEFINED, APPROXIMATE) |
| --- | BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL) |
| --- | THRUST FAULT (DEFINED, APPROXIMATE, INFERRED) TEETH INDICATE UP THRUST SIDE |
| --- | FAULT (DEFINED, APPROXIMATE, INFERRED) SOLID CIRCLE INDICATES DOWN THROWN SIDE |
| --- | TRENCH LOCATION |
| --- | MEASURED SECTION LOCATION |
| --- | CROSS-SECTION LOCATION |
| --- | DIAMOND DRILLHOLE LOCATION (VERTICAL, INCLINED WITH SURFACE PROJECTION) |



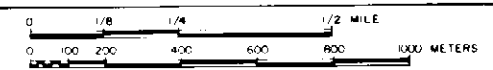
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| | |
|-----------------------------------|---------------|
| GULF CANADA RESOURCES INC. | |
| CALGARY | ALBERTA |
| MT. KLAPPAN COAL PROPERTY | |
| GEOLOGY | |
| WEST SHEET | |
| PREPARED BY: G. SEVE | DRAWING No. |
| APPROVED BY: B.P.F. | DATE: NOV. 82 |
| | KPN-82-073 |





- MALLOCH SEQUENCE**
- JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal
- KLAPPAN SEQUENCE**
- JKku Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal
 - JKkm Repeated coarsening upward sequences of fine to medium grained sandstone, occasionally conglomeratic, siltstone, claystone and coal sediments display cross bedding and ripple marks and contain abundant plant fragments and rare bivalves towards the base
 - JKkt Interbedded massive fine grained sandstone and siltstones, containing bivalve fossils, with minor coal

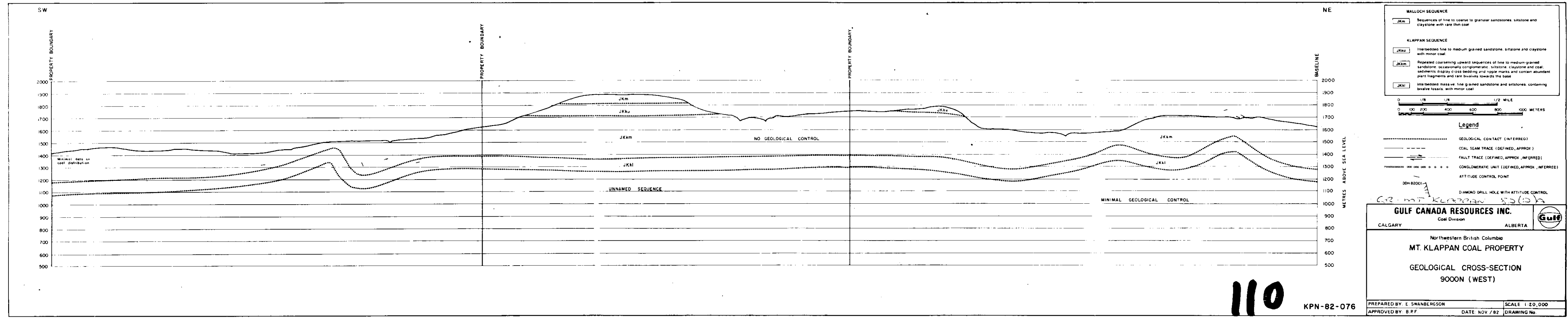
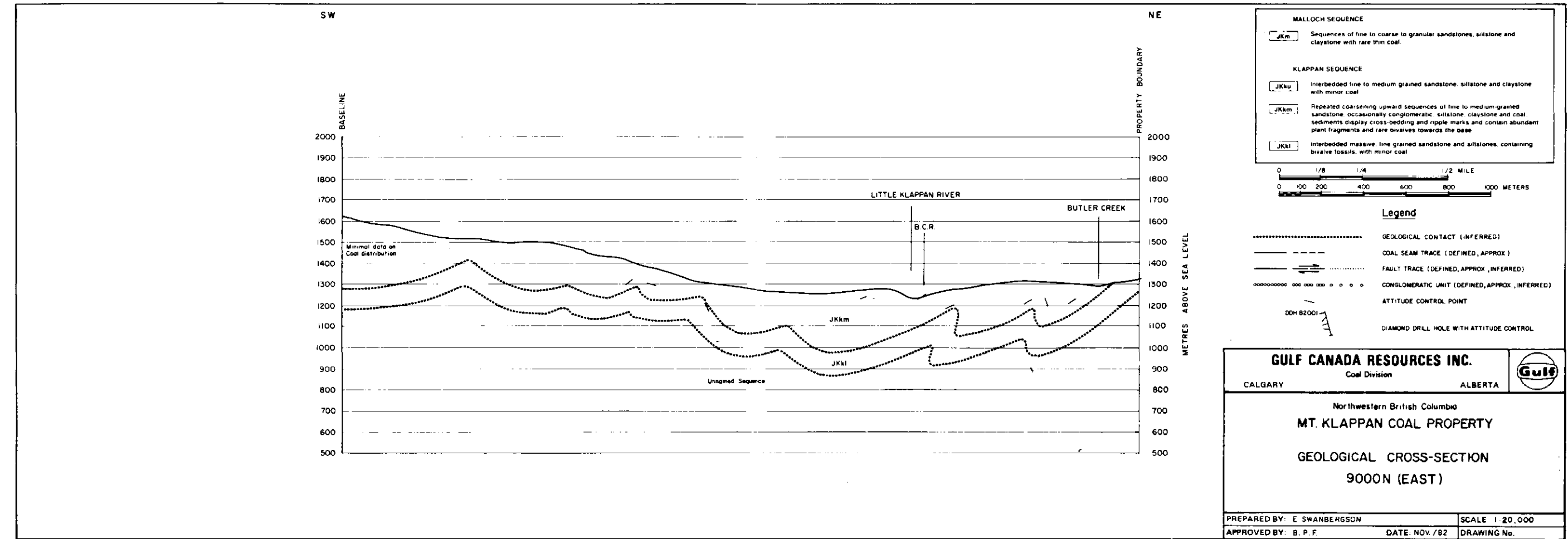


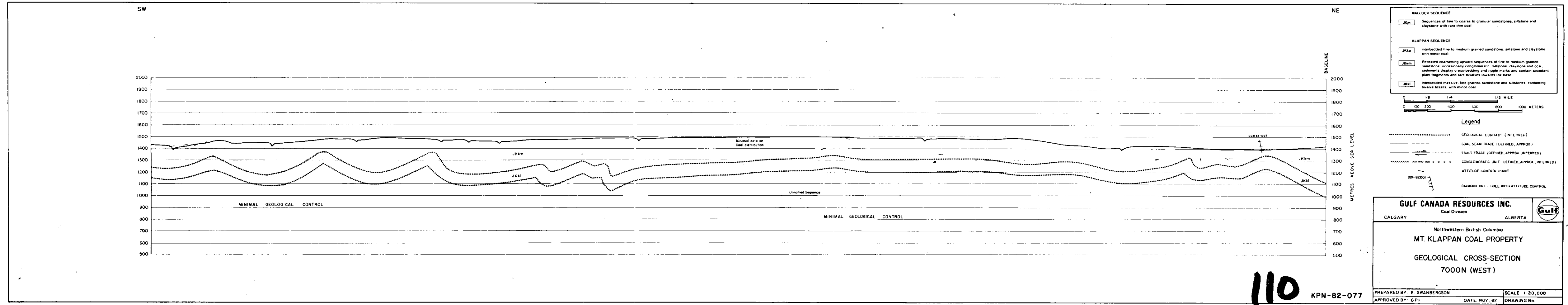
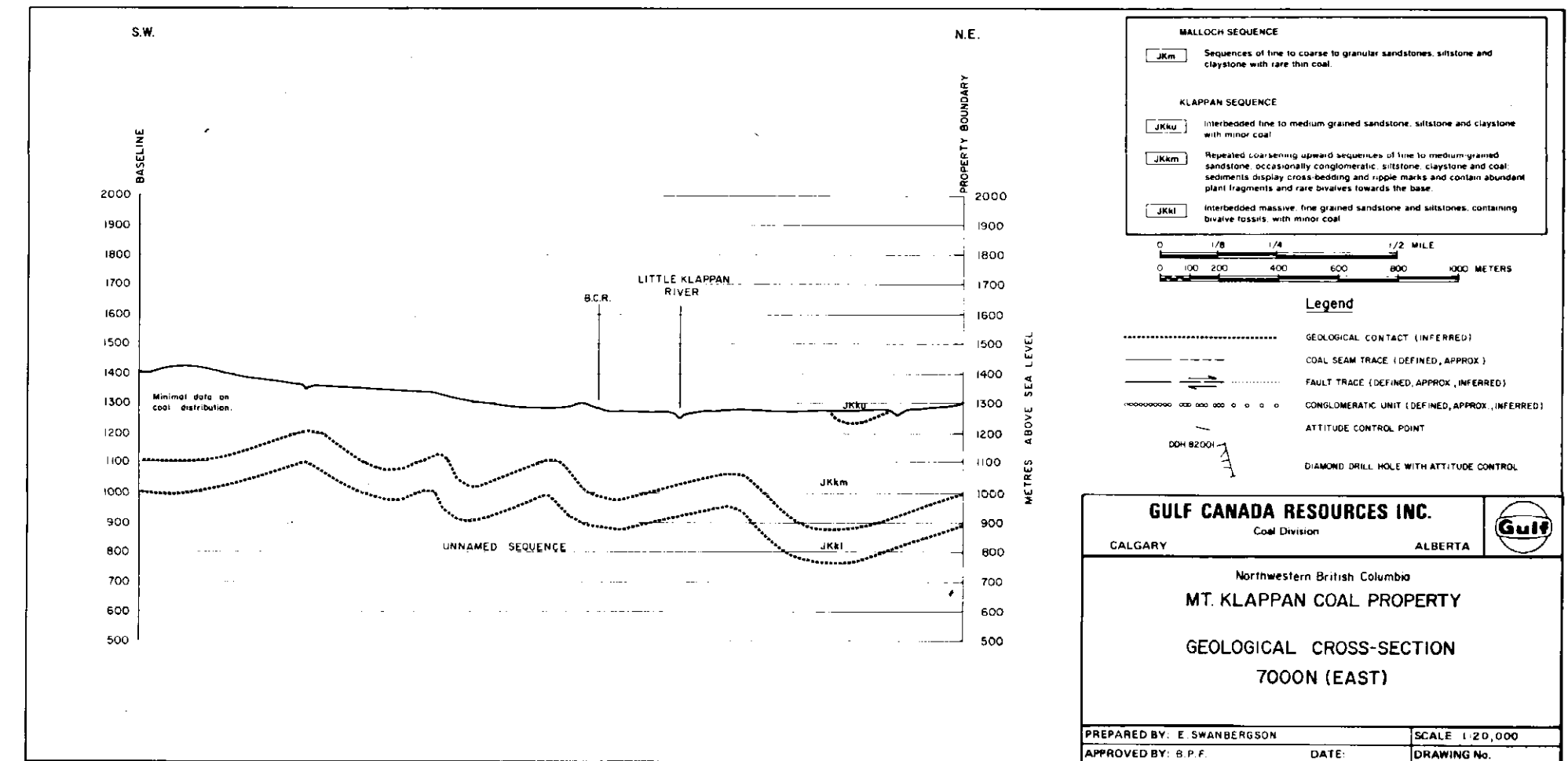
- Legend**
- GEOLOGICAL CONTACT (INFERRED)
 - - - - - COAL SEAM TRACE (DEFINED, APPROX)
 - =====> FAULT TRACE (DEFINED, APPROX, INFERRED)
 - o-o-o-o-o CONGLOMERATIC UNIT (DEFINED, APPROX, INFERRED)
 - ▲ ATTITUDE CONTROL POINT

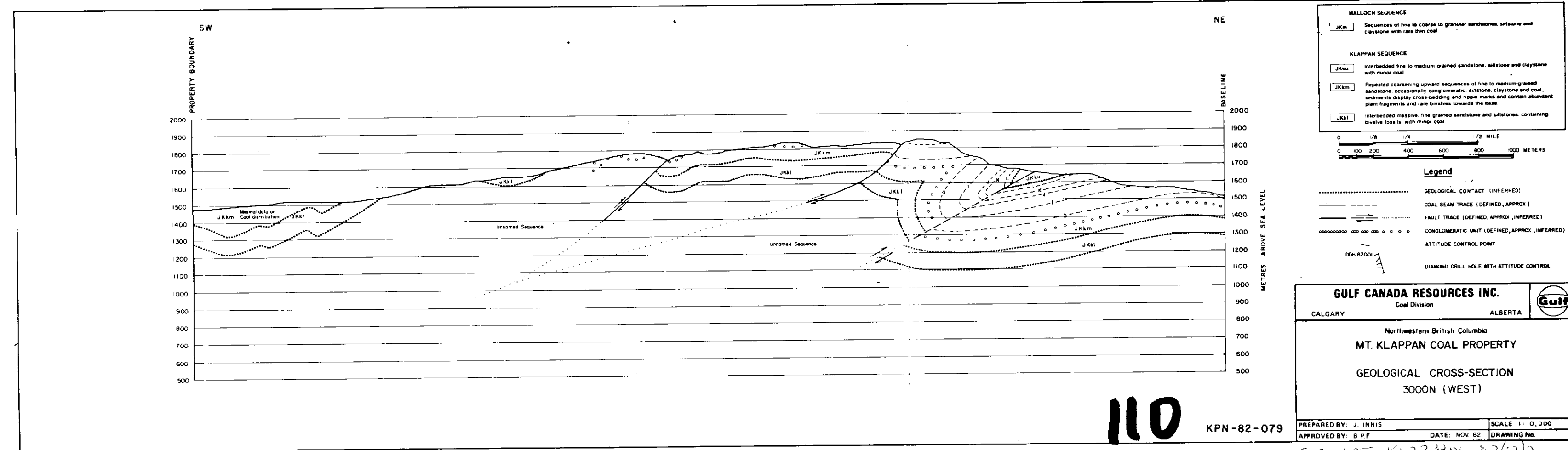
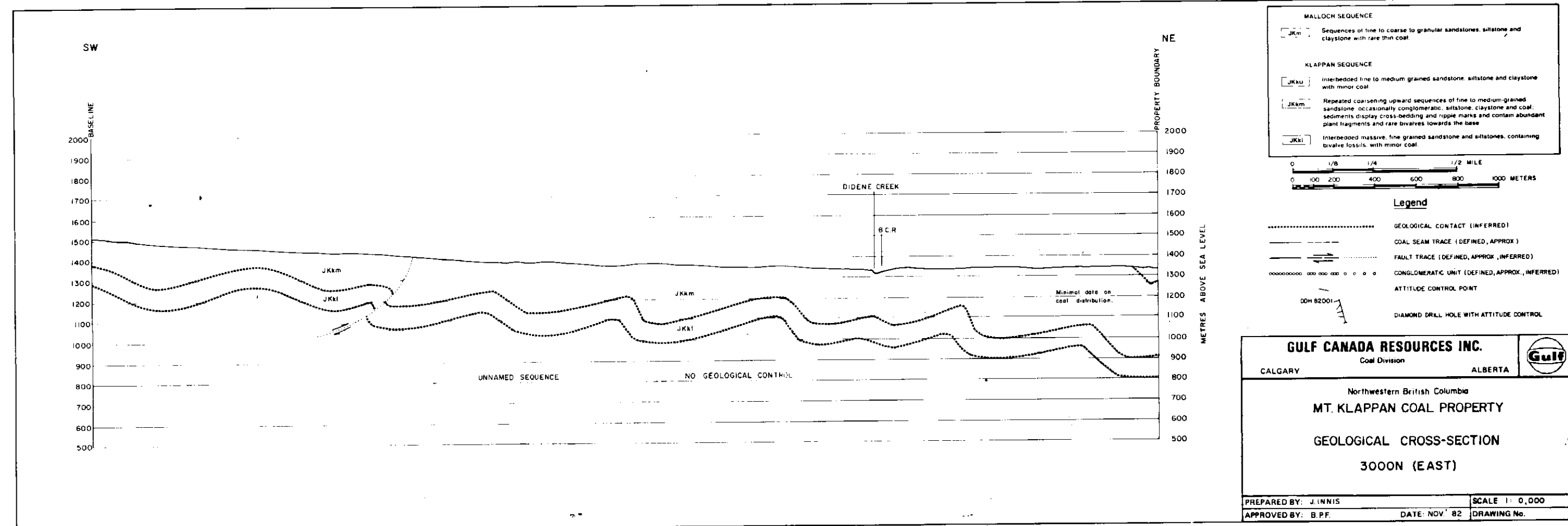
DDH 82001
 DIAMOND DRILL HOLE WITH ATTITUDE CONTROL
 82 MT. KLAPPAN 82(2)A

| | | |
|-----------------------------------|-----------------|-------------|
| GULF CANADA RESOURCES INC. | | |
| CALGARY | ALBERTA | |
| Northwestern British Columbia | | |
| MT. KLAPPAN COAL PROPERTY | | |
| GEOLOGICAL CROSS-SECTION | | |
| 11000N (EAST - WEST) | | |
| PREPARED BY: E SWANBERGSON | SCALE: 1:20,000 | |
| APPROVED BY: B P F. | DATE: NOV / 82 | DRAWING No. |

KPN-82-075



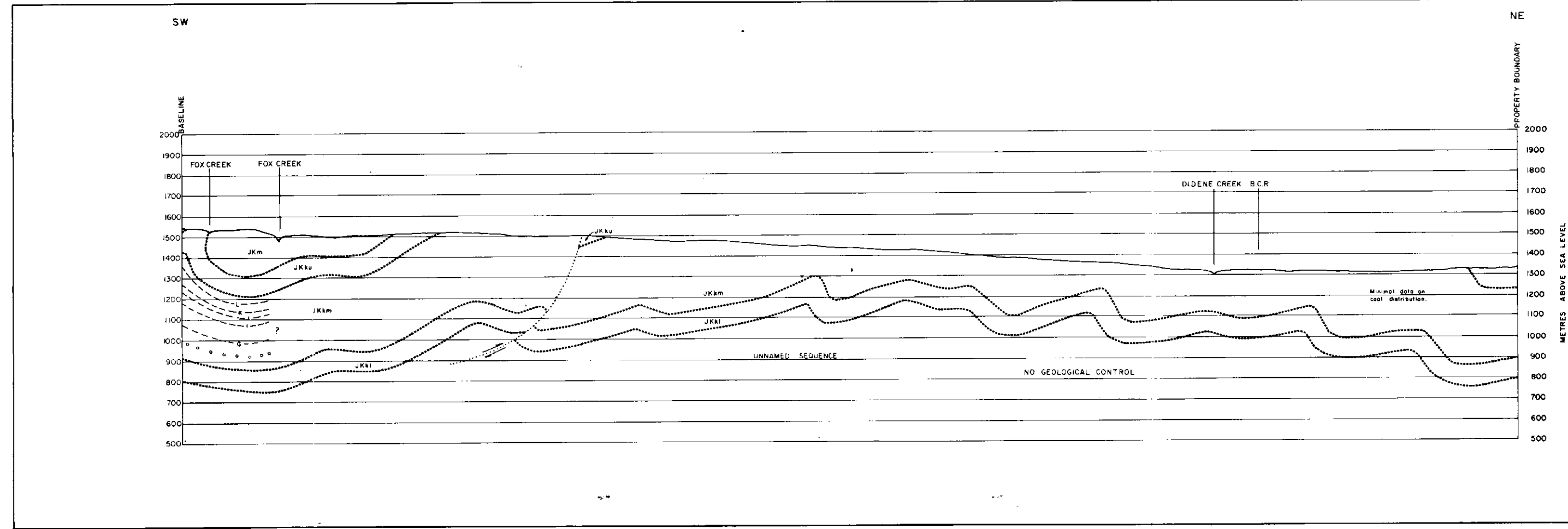




110

KPN-82-079

3000N - MT KLAPPAN 82(12)A



MALLOCH SEQUENCE
 JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal

KLAPPAN SEQUENCE
 JKku Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal
 JKkm Repeated coarsening upward sequences of fine to medium grained sandstone, occasionally conglomeratic, siltstone, claystone and coal. Sediments display cross bedding and ripple marks and contain abundant plant fragments and rare brachiopods towards the base
 JKki Interbedded massive fine grained sandstone and siltstones containing brachiopod fossils with minor coal

0 1/8 1/4 1/2 MILE
 0 100 200 400 600 800 1000 METERS

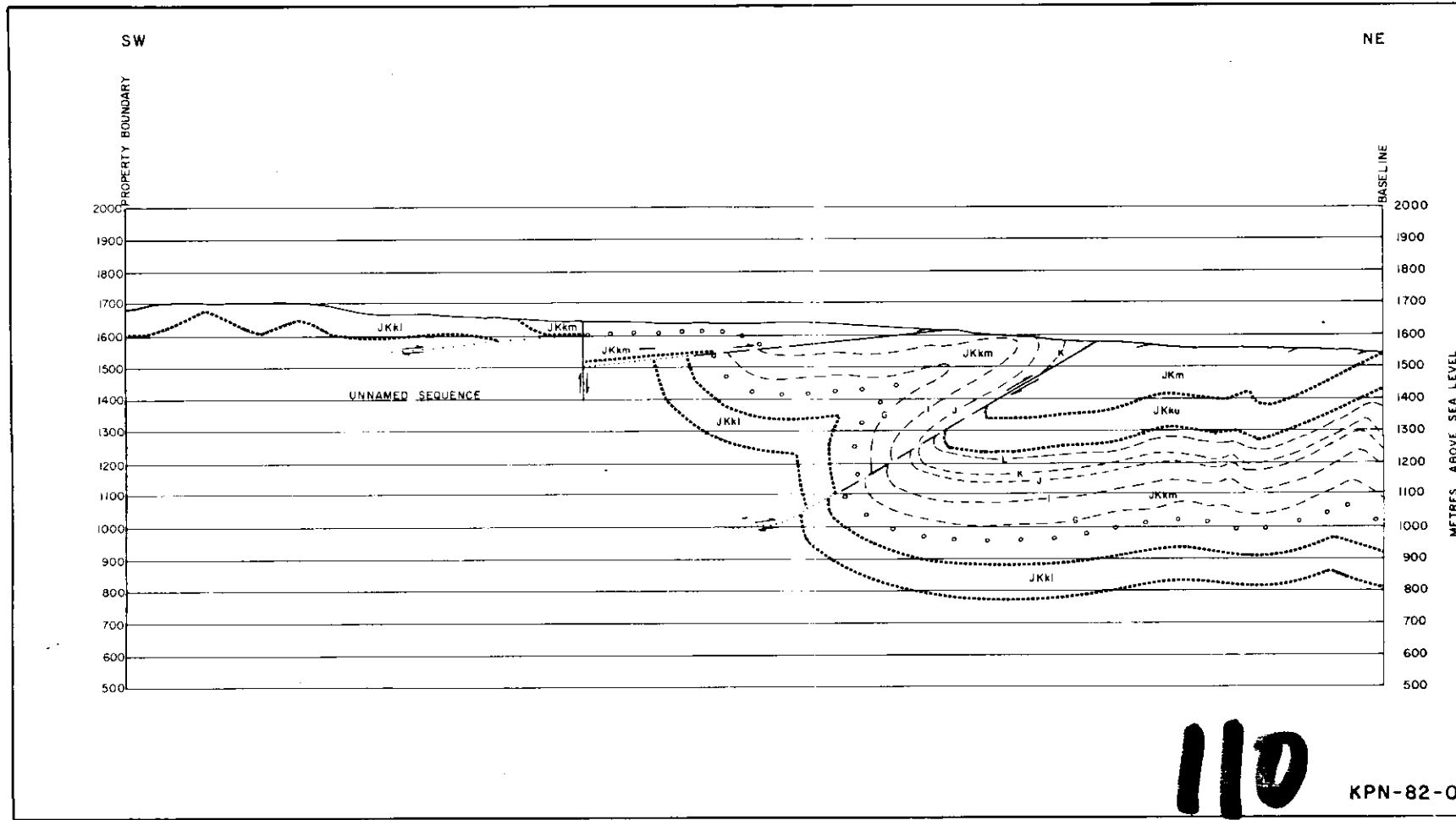
Legend

..... GEOLOGICAL CONTACT (INFERRED)
 - - - - - COAL SEAM TRACE (DEFINED, APPROX.)
 - - - - - FAULT TRACE (DEFINED, APPROX., INFERRED)
 ○ ○ ○ ○ ○ CONGLOMERATIC UNIT (DEFINED, APPROX., INFERRED)
 ○ ○ ○ ○ ○ ATTITUDE CONTROL POINT
 DDIH 82001 DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

GULF CANADA RESOURCES INC.
 Coal Division CALGARY ALBERTA

Northwestern British Columbia
MT. KLAPPAN COAL PROPERTY
GEOLOGICAL CROSS-SECTION
1000N (EAST)

PREPARED BY: J. INNIS SCALE 1:20,000
 APPROVED BY: B.P.F. DATE: NOV. 82 DRAWING No.



MALLOCH SEQUENCE
 JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal

KLAPPAN SEQUENCE
 JKku Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal
 JKkm Repeated coarsening upward sequences of fine to medium grained sandstone, occasionally conglomeratic, siltstone, claystone and coal. Sediments display cross bedding and ripple marks and contain abundant plant fragments and rare brachiopods towards the base
 JKki Interbedded massive fine grained sandstone and siltstones containing brachiopod fossils with minor coal

0 1/8 1/4 1/2 MILE
 0 100 200 400 600 800 1000 METERS

Legend

..... GEOLOGICAL CONTACT (INFERRED)
 - - - - - COAL SEAM TRACE (DEFINED, APPROX.)
 - - - - - FAULT TRACE (DEFINED, APPROX., INFERRED)
 ○ ○ ○ ○ ○ CONGLOMERATIC UNIT (DEFINED, APPROX., INFERRED)
 ○ ○ ○ ○ ○ ATTITUDE CONTROL POINT
 DDIH 82001 DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

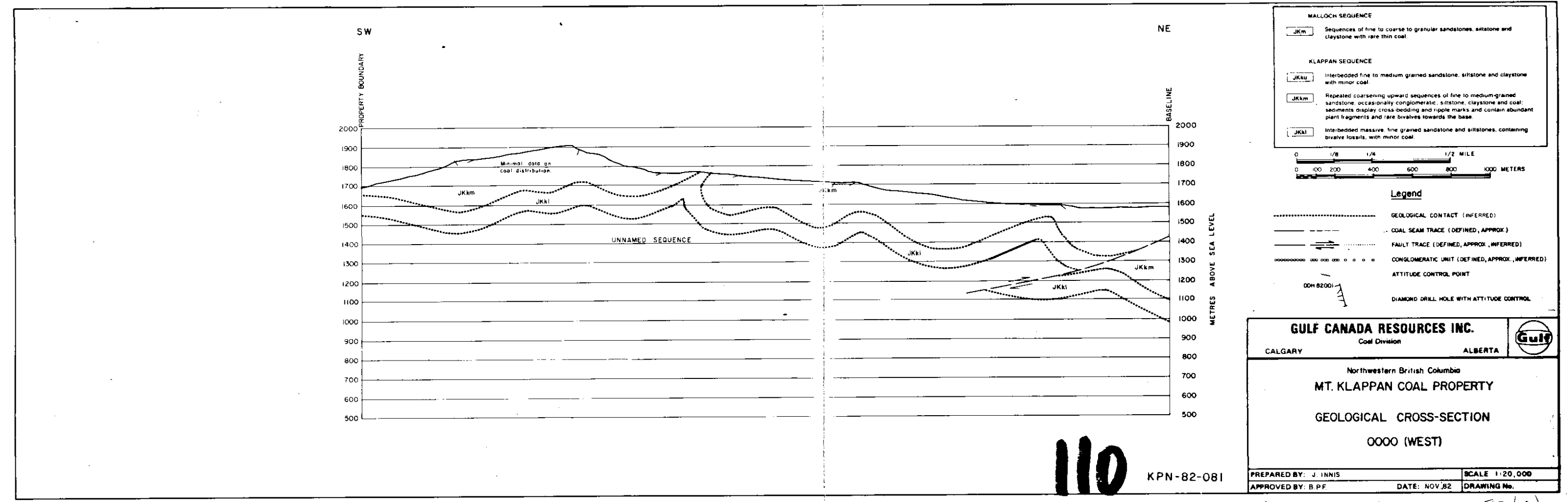
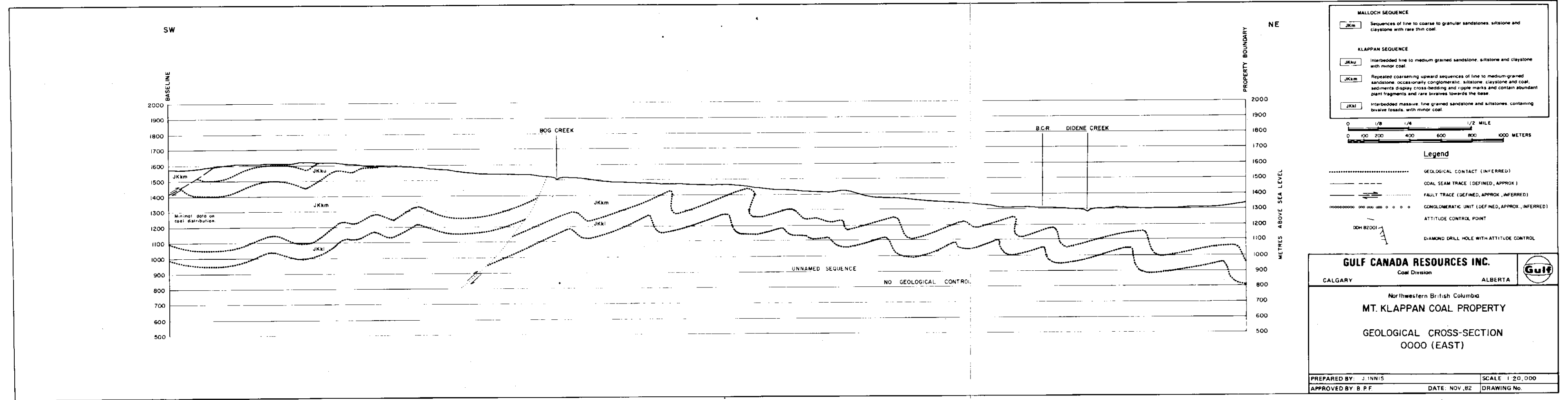
GULF CANADA RESOURCES INC.
 Coal Division CALGARY ALBERTA

Northwestern British Columbia
MT. KLAPPAN COAL PROPERTY
GEOLOGICAL CROSS-SECTION
1000N (WEST)

PREPARED BY: J. INNIS SCALE 1:20,000
 APPROVED BY: B.P.F. DATE: NOV. 82 DRAWING No.

110 KPN-82-080

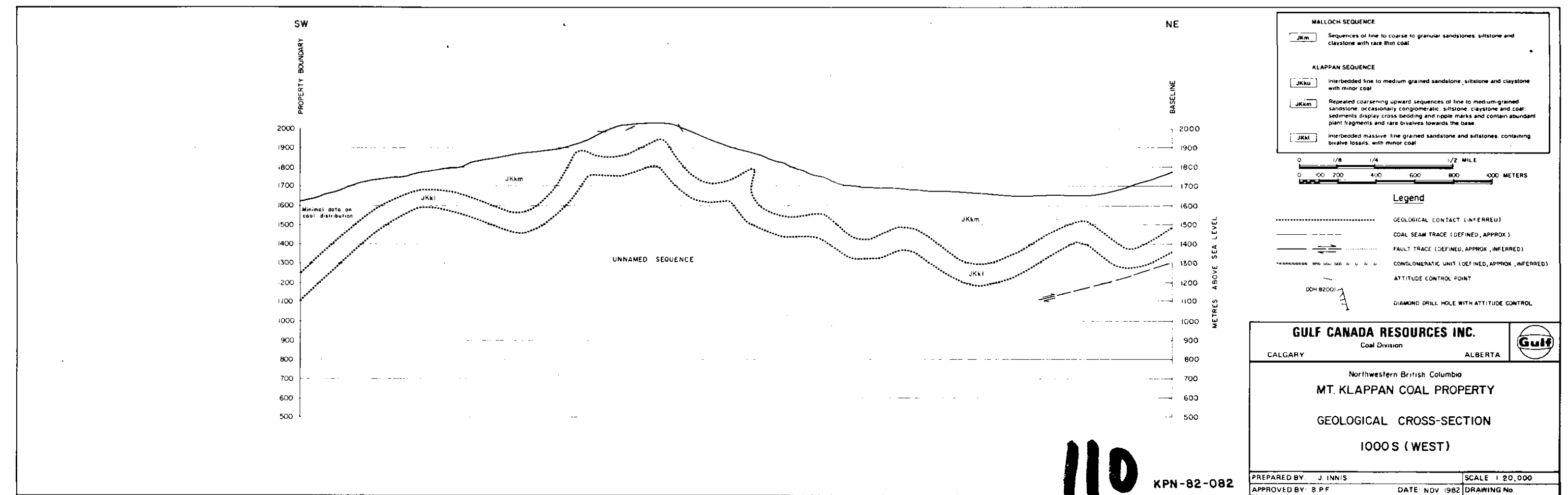
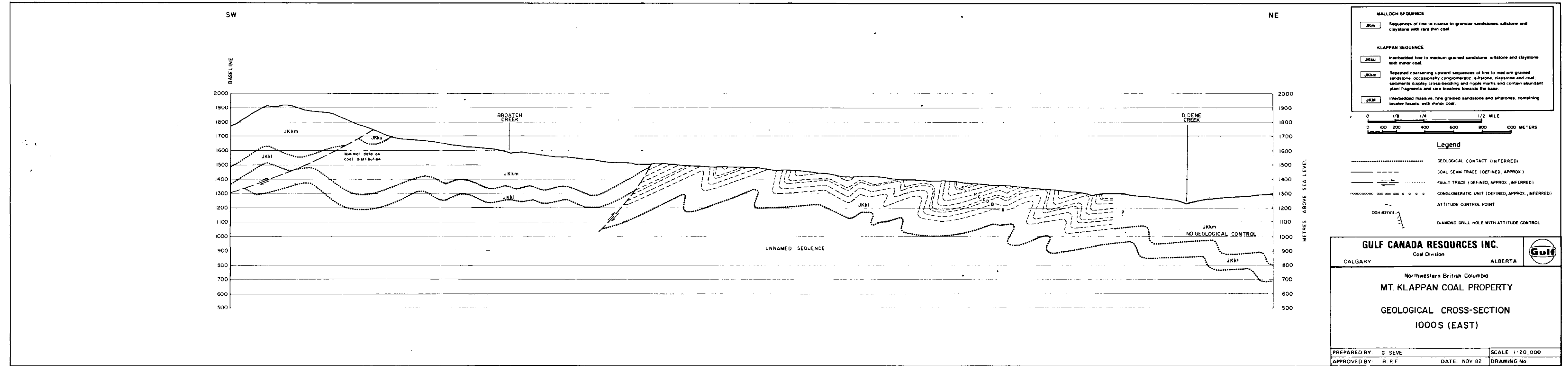
82- MT KLAPPAN 82(110)



110

KPN-82-081

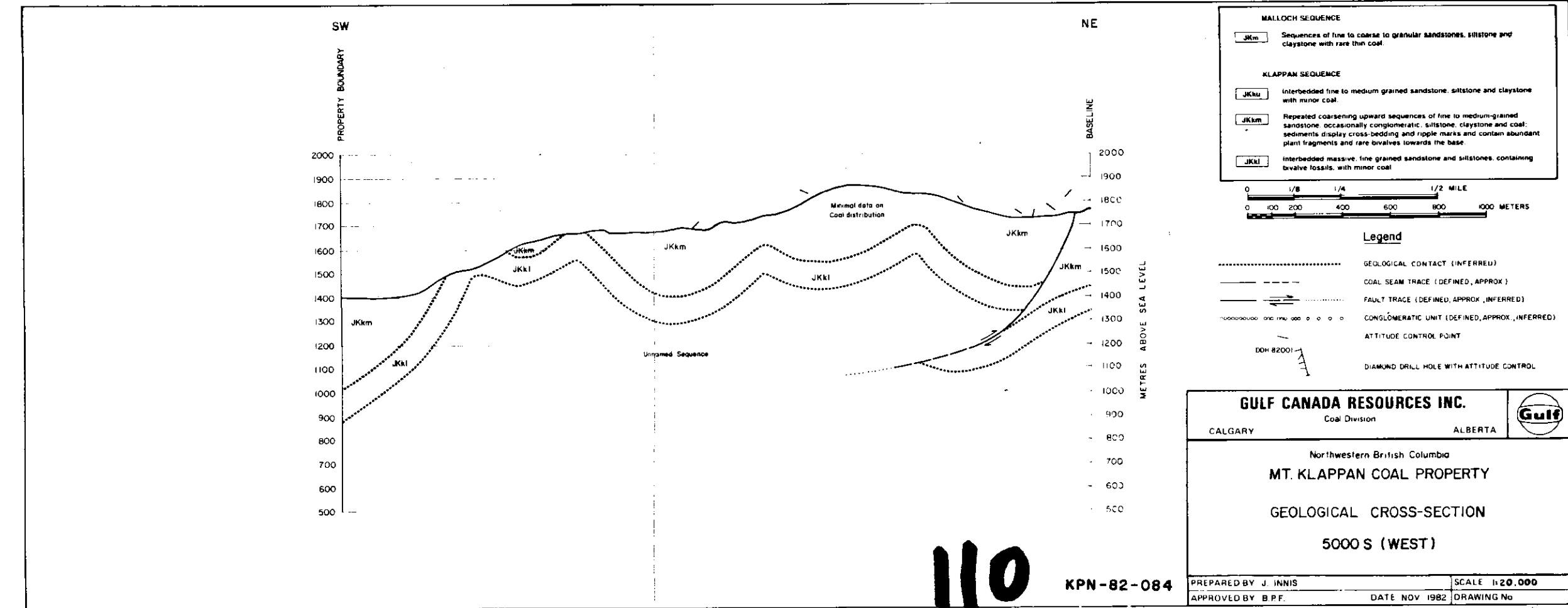
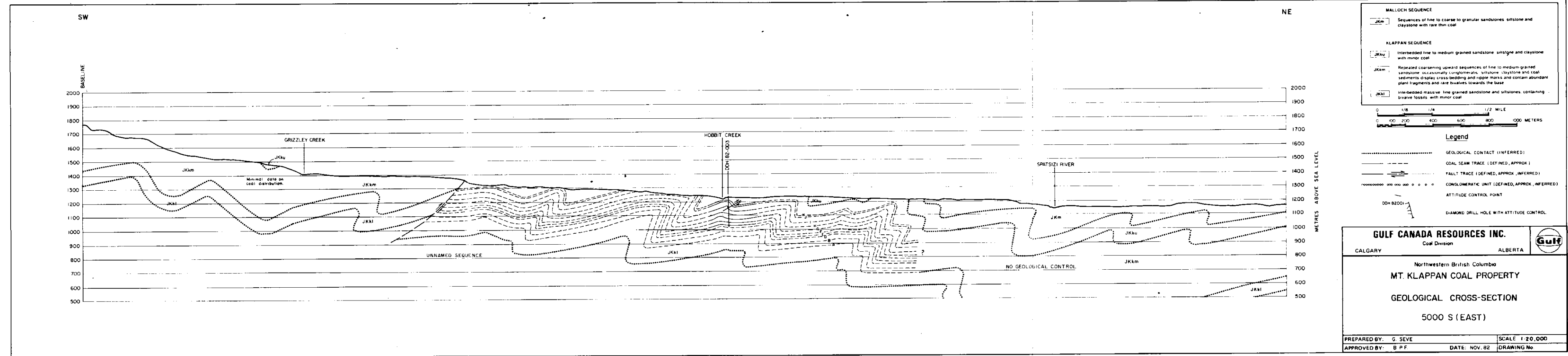
82-MT. KLAPPAN 8212H



110

KPN-82-082

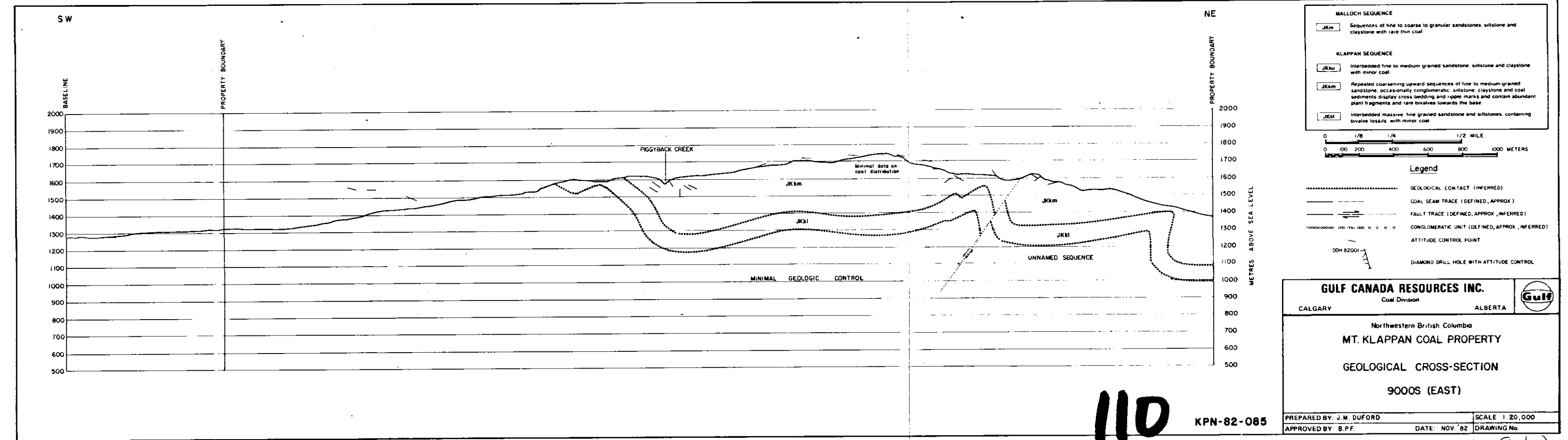
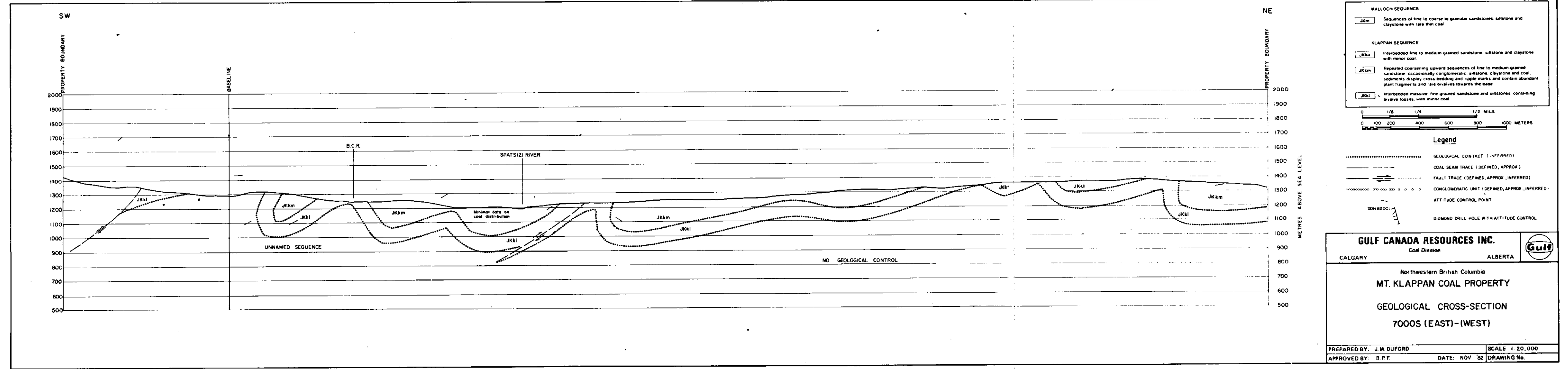
102-MT. KLAPPAN 8201A



110

KPN-82-084

GR-MT. KLAPPAN 82121A



110

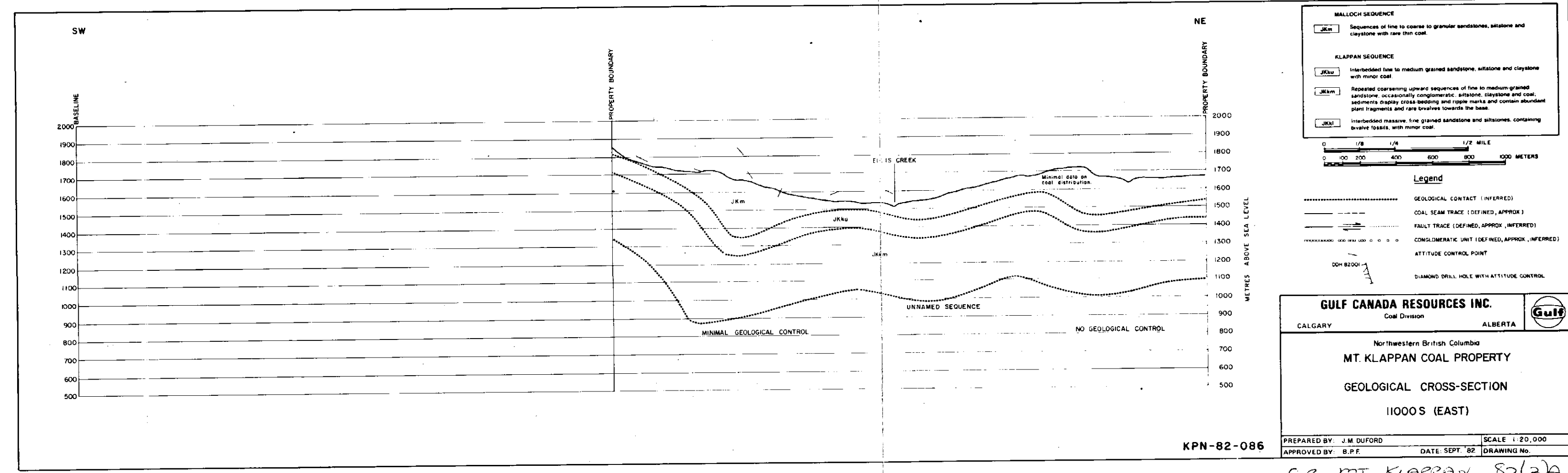
KPN-82-085

GULF CANADA RESOURCES INC.
 Coal Division
 CALGARY ALBERTA

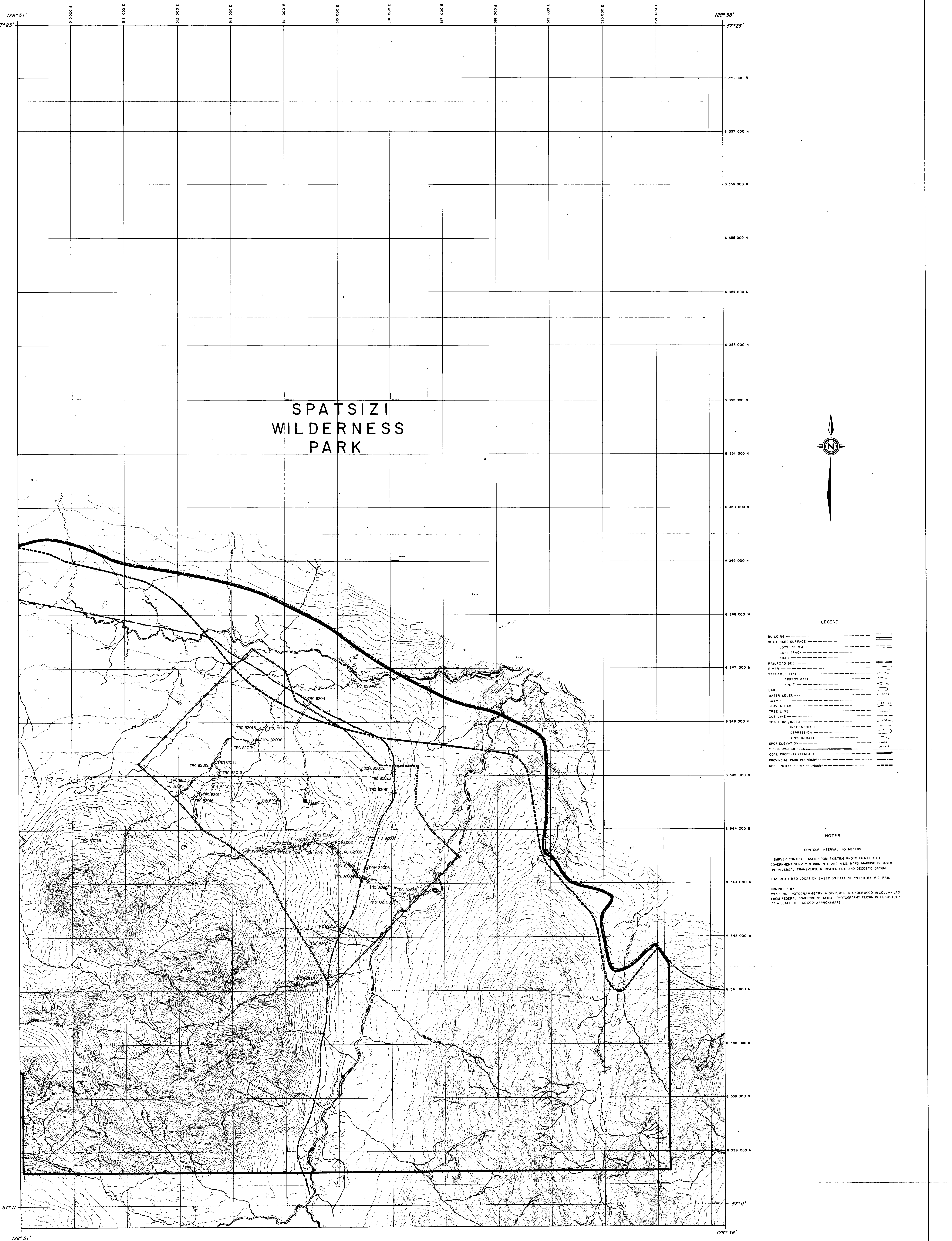
Northwestern British Columbia
MT. KLAPPAN COAL PROPERTY
 GEOLOGICAL CROSS-SECTION
 9000S (EAST)

PREPARED BY: J. M. DUFORD SCALE: 1:20,000
 APPROVED BY: B. P. F. DATE: NOV '82 DRAWING No.

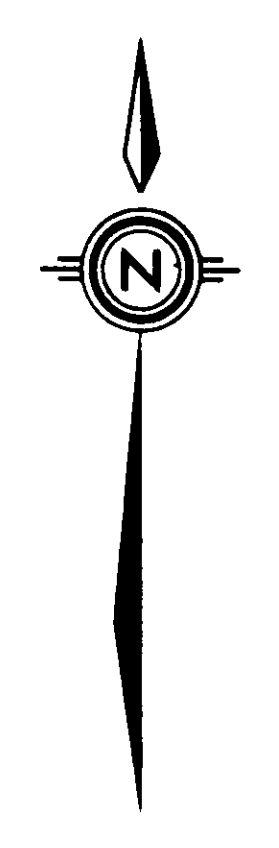
GR-MT. KLAPPAN 8020A



110



SPATSIZI
WILDERNESS
PARK

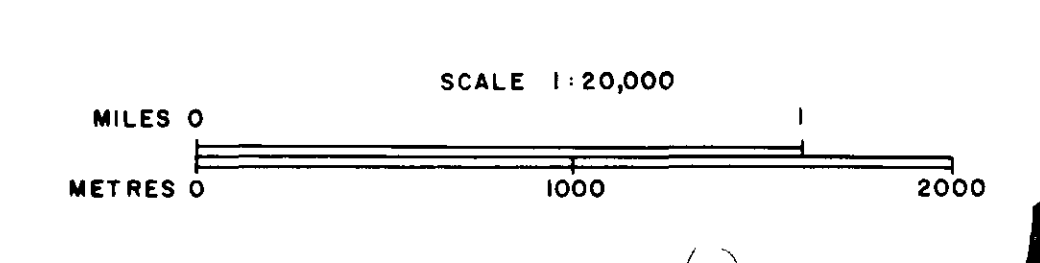


LEGEND

| | | |
|-----------------------------|-----|----------|
| BUILDING | --- | [Symbol] |
| ROAD, HARD SURFACE | --- | [Symbol] |
| LOOSE SURFACE | --- | [Symbol] |
| CART TRACK | --- | [Symbol] |
| TRAIL | --- | [Symbol] |
| RAILROAD BED | --- | [Symbol] |
| RIVER | --- | [Symbol] |
| STREAM, DEFINITE | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPLIT | --- | [Symbol] |
| LAKE | --- | [Symbol] |
| WATER LEVEL | --- | [Symbol] |
| SWAMP | --- | [Symbol] |
| BEAVER DAM | --- | [Symbol] |
| TREE LINE | --- | [Symbol] |
| CUT LINE | --- | [Symbol] |
| CONTOURS, INTERMEDIATE | --- | [Symbol] |
| DEPRESSION | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPOT ELEVATION | --- | [Symbol] |
| FIELD CONTROL POINT | --- | [Symbol] |
| COAL PROPERTY BOUNDARY | --- | [Symbol] |
| PROVINCIAL PARK BOUNDARY | --- | [Symbol] |
| REDEFINED PROPERTY BOUNDARY | --- | [Symbol] |

NOTES

CONTOUR INTERVAL 10 METERS
 SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE
 GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED
 ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM
 RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL
 COMPILED BY
 WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD WELLS LTD.
 FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67
 AT A SCALE OF 1:60,000 (APPROXIMATE).



- TRC 82009 Trench & Trench Number
- DDH 82003 Diamond Drill Hole
- Resource Area Boundary

110

GULF CANADA RESOURCES INC.
 Coal Division

CALGARY ALBERTA

MOUNT KLAPPAN COAL PROPERTY

DRILL HOLE AND TRENCH LOCATION

EAST SHEET

PREPARED BY: G. SEVE DRAWING No. KPM-82-087
 APPROVED BY: B. P. F. DATE: JULY 82

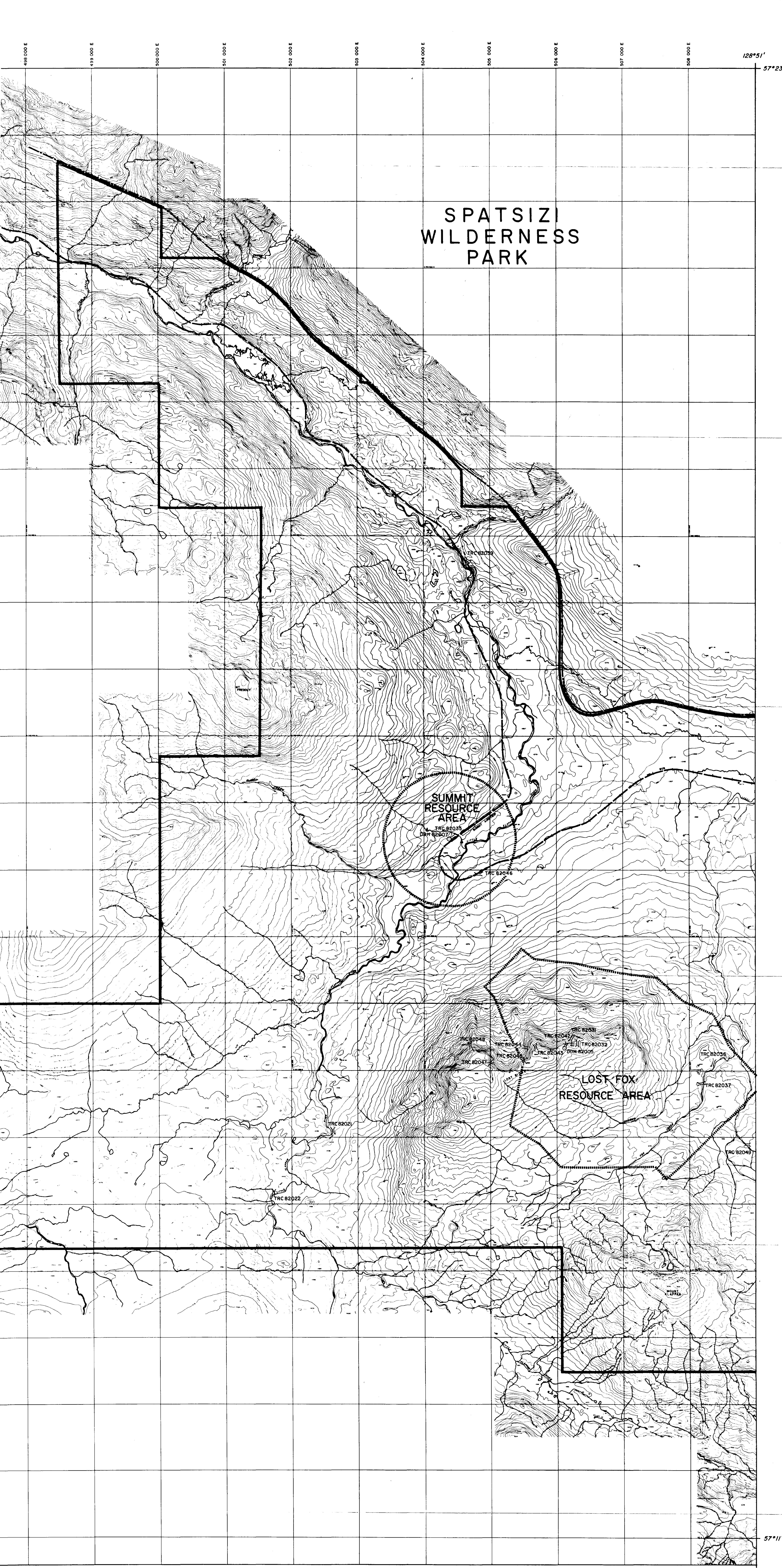


SPATSIZI
WILDERNESS
PARK

SUMMIT
RESOURCE
AREA

LOST FOX
RESOURCE AREA

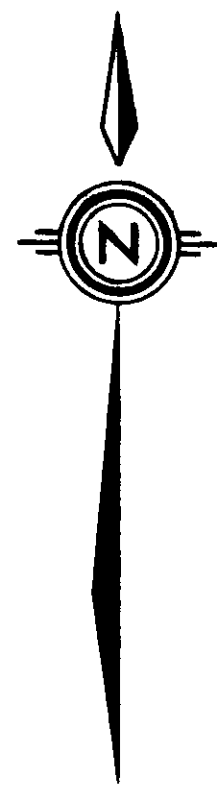
TRC 82049 Trench & Trench Number
 DDM 82005 Diamond Drill Hole
 Resource Area Boundary



SPATSIZI
WILDERNESS
PARK

SUMMIT
RESOURCE
AREA

LOST FOX
RESOURCE
AREA

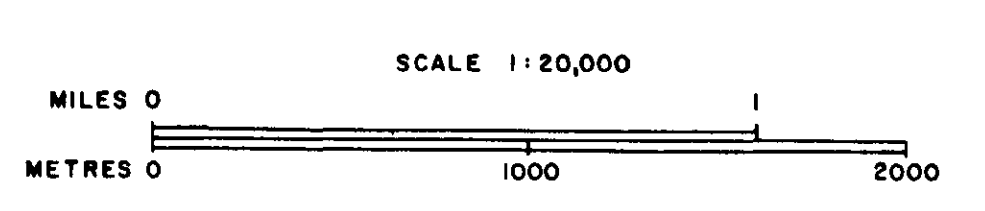


LEGEND

| | | |
|--------------------------|-----|----------|
| BUILDING | --- | [Symbol] |
| ROAD, HARD SURFACE | --- | [Symbol] |
| ROAD, LODGE SURFACE | --- | [Symbol] |
| CART TRACK | --- | [Symbol] |
| TRAIL | --- | [Symbol] |
| RAILROAD BED | --- | [Symbol] |
| RIVER | --- | [Symbol] |
| STREAM, DEFINITE | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPLY | --- | [Symbol] |
| LAKE | --- | [Symbol] |
| WATER LEVEL | --- | [Symbol] |
| SWAMP | --- | [Symbol] |
| BEAVER DAM | --- | [Symbol] |
| TREE LINE | --- | [Symbol] |
| CUT LINE | --- | [Symbol] |
| CONTOURS, INDEX | --- | [Symbol] |
| INTERMEDIATE | --- | [Symbol] |
| DEPRESSION | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPOT ELEVATION | --- | [Symbol] |
| FIELD CONTROL POINT | --- | [Symbol] |
| COAL PROPERTY BOUNDARY | --- | [Symbol] |
| PROVINCIAL PARK BOUNDARY | --- | [Symbol] |

NOTES

CONTOUR INTERVAL 10 METERS
 SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE
 GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED
 ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.
 RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL
 COMPILED BY
 WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLELLAN LTD.,
 FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST 76*
 AT A SCALE OF 1:60,000 (APPROXIMATE)



TRC 82049 Trench & Trench Number
 DDH 82005 Diamond Drill Hole
 Resource Area Boundary

SCALE 1:20,000

GULF CANADA RESOURCES INC.
 Coal Division ALBERTA

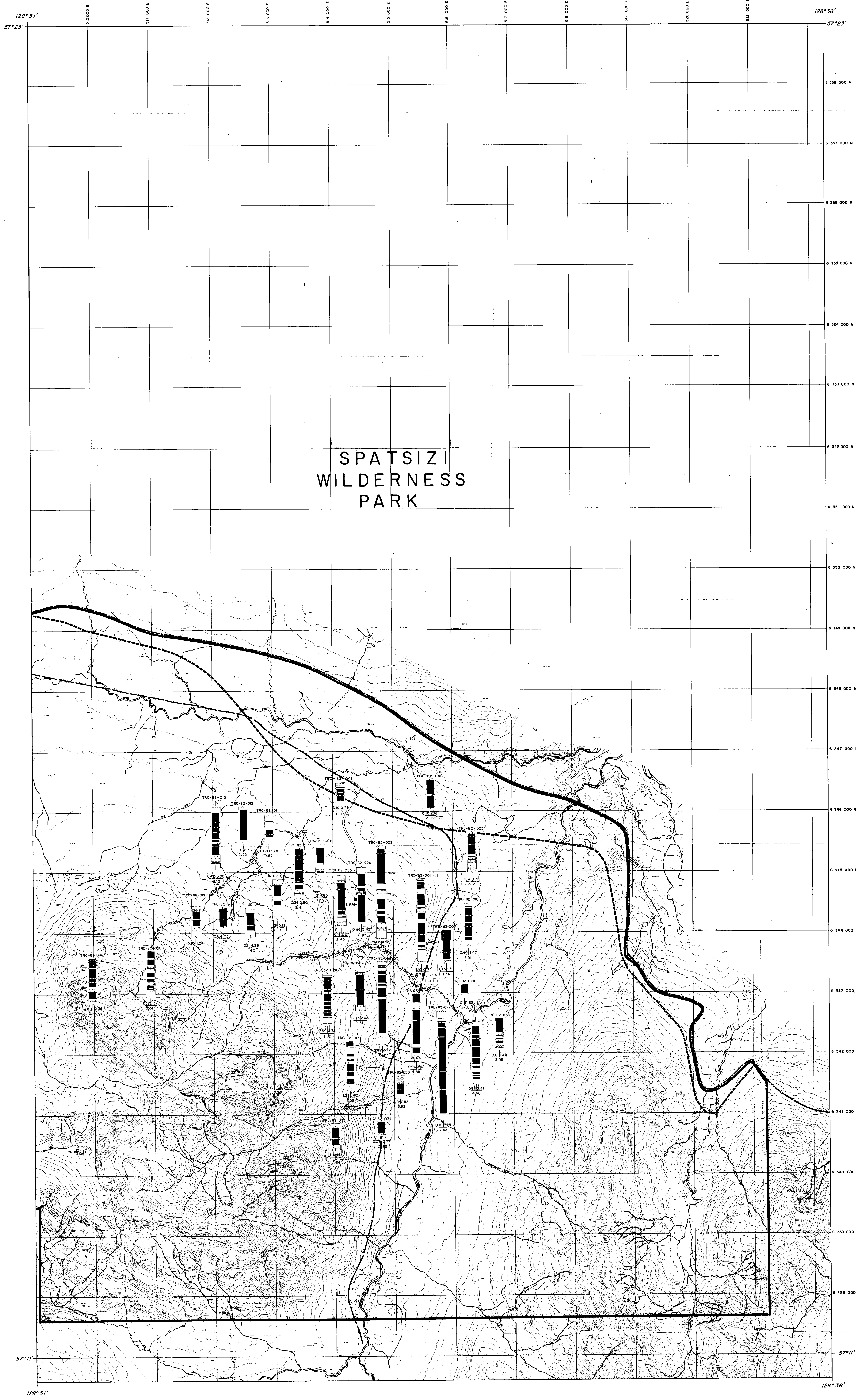
MOUNT KLAPPAN COAL PROPERTY

DRILL HOLE AND TRENCH LOCATION

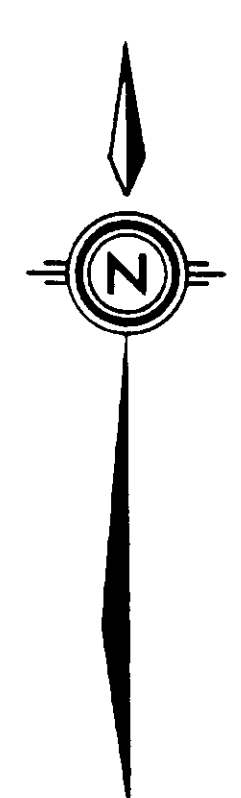
WEST SHEET

PREPARED BY: G. SEVE DRAWING No.
 APPROVED BY: B. P. F. DATE: JULY 82 KPN-82-088

110



SPATSIZI
WILDERNESS
PARK



LEGEND

| | |
|-----------------------------|----------|
| BUILDING | [Symbol] |
| ROAD, HARD SURFACE | [Symbol] |
| LOOSE SURFACE | [Symbol] |
| CART TRACK | [Symbol] |
| TRAIL | [Symbol] |
| RAILROAD BED | [Symbol] |
| RIVER | [Symbol] |
| STREAM, DEFINITE | [Symbol] |
| APPROXIMATE | [Symbol] |
| SPLIT | [Symbol] |
| LAKE | [Symbol] |
| WATER LEVEL | [Symbol] |
| SWAMP | [Symbol] |
| BEAVER DAM | [Symbol] |
| TREE LINE | [Symbol] |
| CUT LINE | [Symbol] |
| CONTOURS, INDEX | [Symbol] |
| INTERMEDIATE | [Symbol] |
| DEPRESSION | [Symbol] |
| APPROXIMATE | [Symbol] |
| SPOT ELEVATION | [Symbol] |
| FIELD CONTROL POINT | [Symbol] |
| COAL PROPERTY BOUNDARY | [Symbol] |
| PROVINCIAL PARK BOUNDARY | [Symbol] |
| REDEFINED PROPERTY BOUNDARY | [Symbol] |

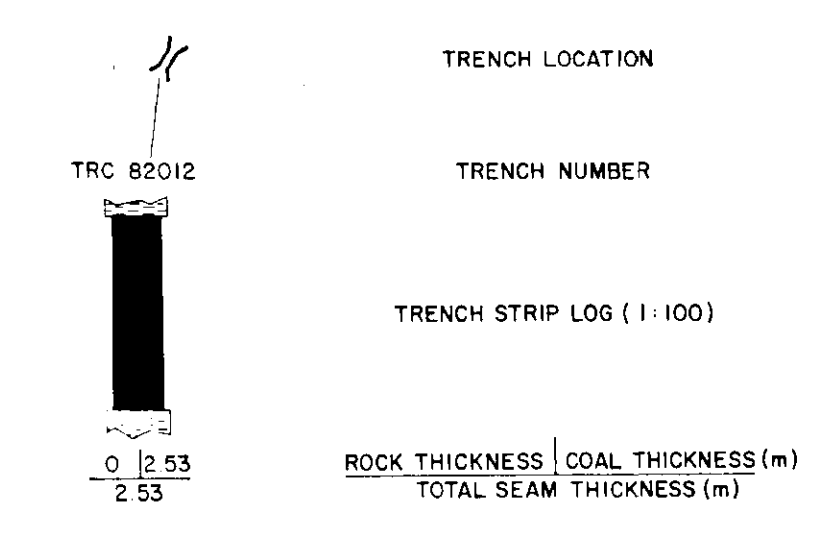
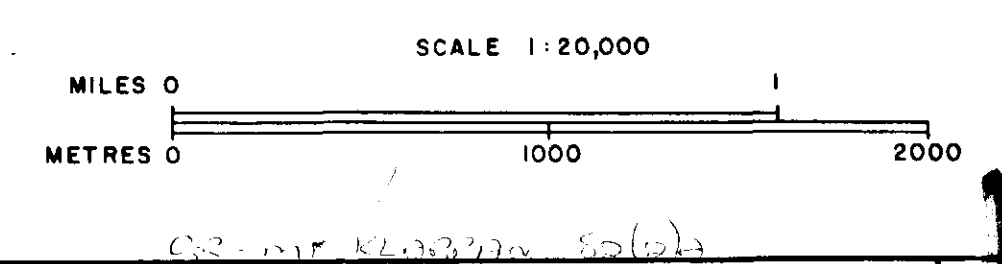
NOTES

CONTOUR INTERVAL: 10 METERS

SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY R.C. RAIL

COMPILED BY WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLENN LTD FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67 AT A SCALE OF 1:60,000 (APPROXIMATE).



GULF CANADA RESOURCES INC.
Coal Division ALBERTA

MOUNT KLAPPAN COAL PROPERTY

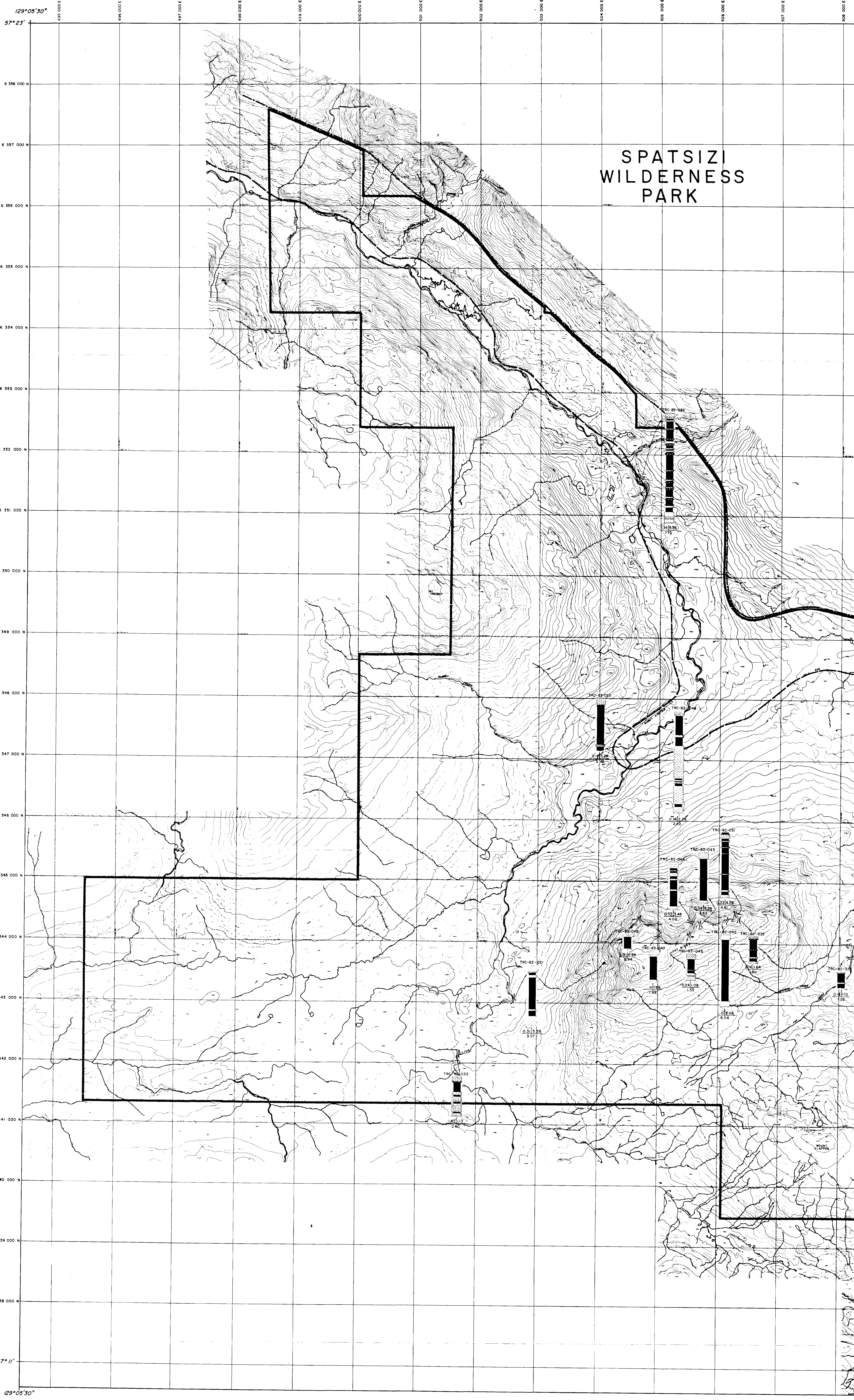
COAL SEAM DISTRIBUTION

EAST SHEET

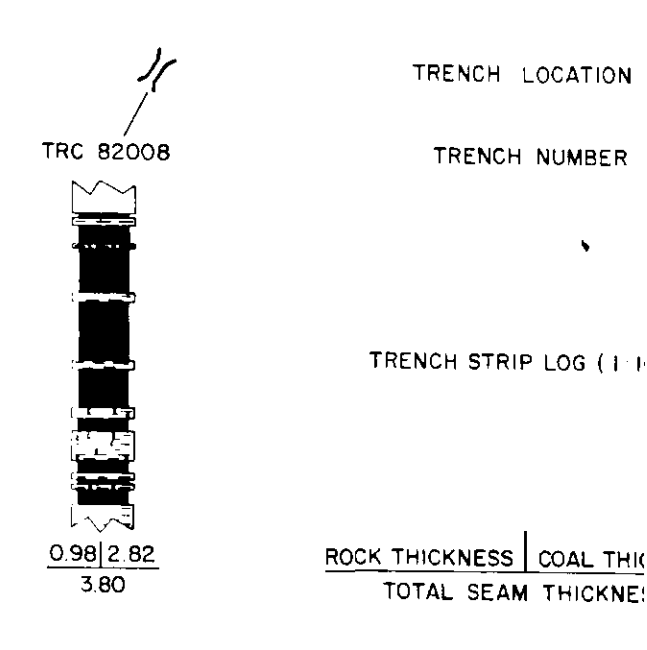
PREPARED BY: C. LOUIE
APPROVED BY: S.P.F.

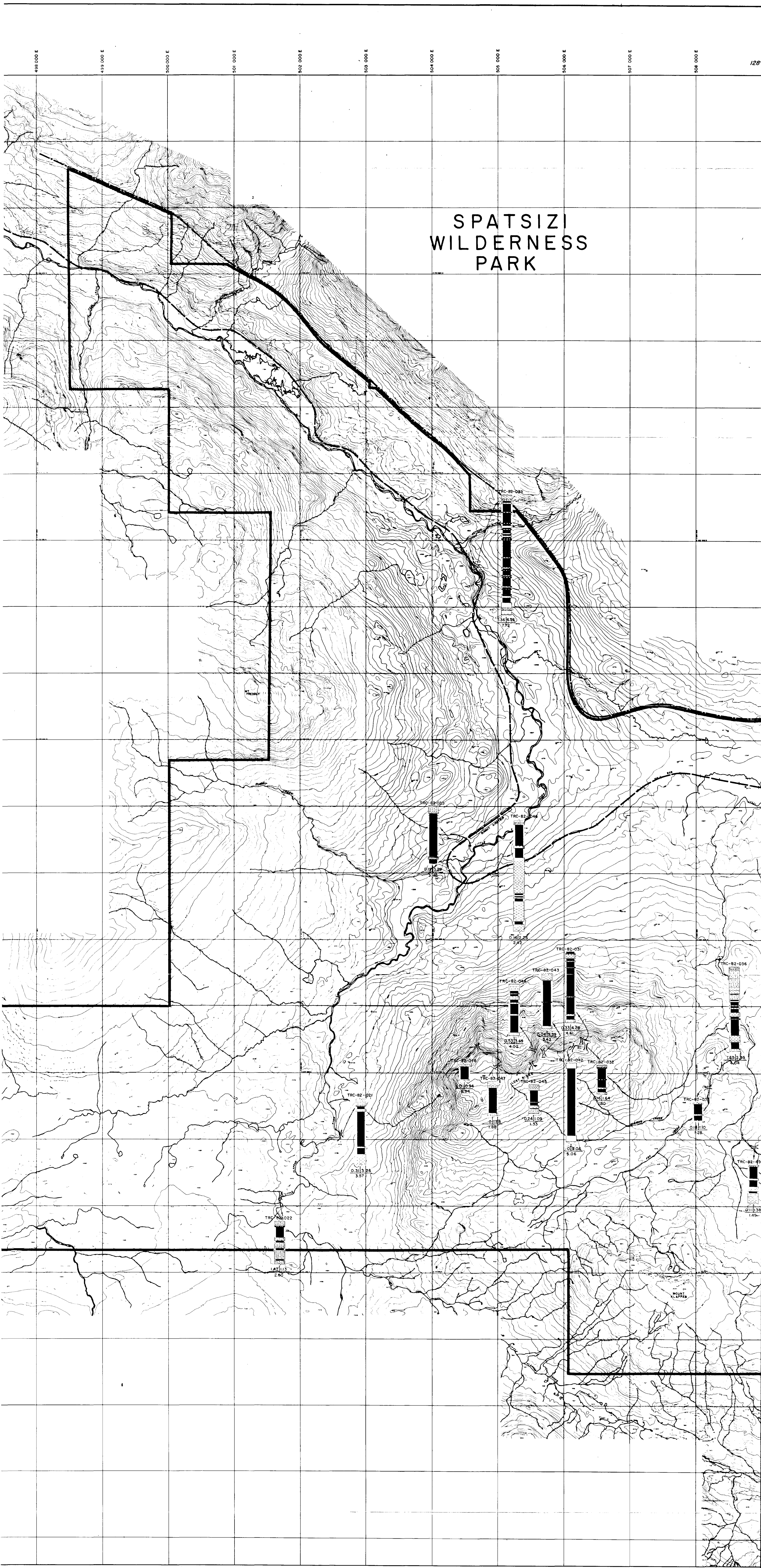
DATE: JULY 82
DRAWING No. KPM-82-089

90°

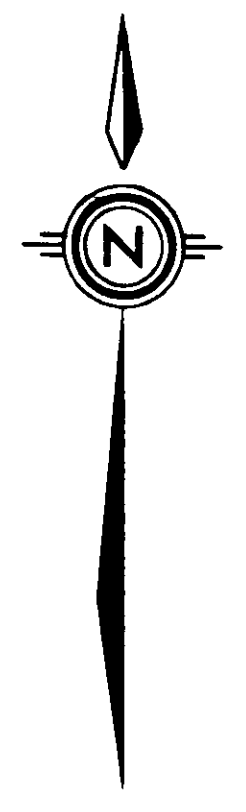


SPATSIZI
WILDERNESS
PARK





SPATSIZI
WILDERNESS
PARK



LEGEND

| | | |
|--------------------------|-----|----------|
| BUILDING | --- | [Symbol] |
| ROAD, HARD SURFACE | --- | [Symbol] |
| LOOSE SURFACE | --- | [Symbol] |
| CART TRACK | --- | [Symbol] |
| TRAIL | --- | [Symbol] |
| RAILROAD BED | --- | [Symbol] |
| RIVER | --- | [Symbol] |
| STREAM, DEFINITE | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPLIT | --- | [Symbol] |
| LAKE | --- | [Symbol] |
| WATER LEVEL | --- | [Symbol] |
| SWAMP | --- | [Symbol] |
| BEAVER DAM | --- | [Symbol] |
| TREE LINE | --- | [Symbol] |
| CUT LINE | --- | [Symbol] |
| CONTOURS, INDEX | --- | [Symbol] |
| INTERMEDIATE | --- | [Symbol] |
| DEPRESSION | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPOT ELEVATION | --- | [Symbol] |
| FIELD CONTROL POINT | --- | [Symbol] |
| COAL PROPERTY BOUNDARY | --- | [Symbol] |
| PROVINCIAL PARK BOUNDARY | --- | [Symbol] |

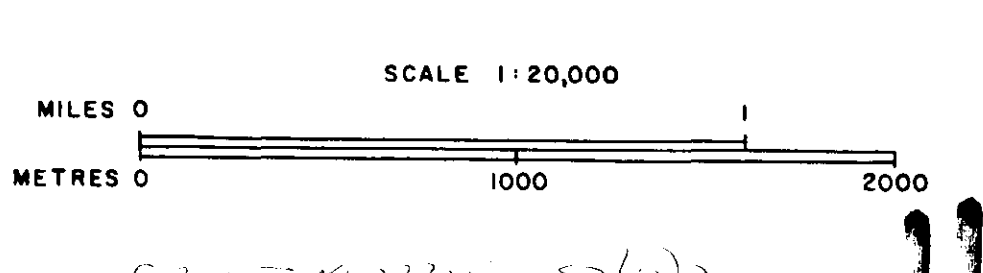
NOTES

CONTOUR INTERVAL 10 METERS

SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL.

COMPILED BY WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD McLELLAN LTD., FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST '67 AT A SCALE OF 1:60,000 (APPROXIMATE).



| | |
|-----------|-------------------------------------|
| TRC 82008 | TRENCH LOCATION |
| [Symbol] | TRENCH NUMBER |
| [Symbol] | TRENCH STRIP LOG (1:100) |
| [Symbol] | ROCK THICKNESS COAL THICKNESS (m) |
| [Symbol] | TOTAL SEAM THICKNESS (m) |

110

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MOUNT KLAPPAN COAL PROPERTY

COAL SEAM DISTRIBUTION

WEST SHEET

PREPARED BY: C. LOUIE
APPROVED BY: B. P. F.

DATE: JULY 82
DRAWING No. KPN-82-090

128° 57'

128° 50' 02"

57° 16' 04"

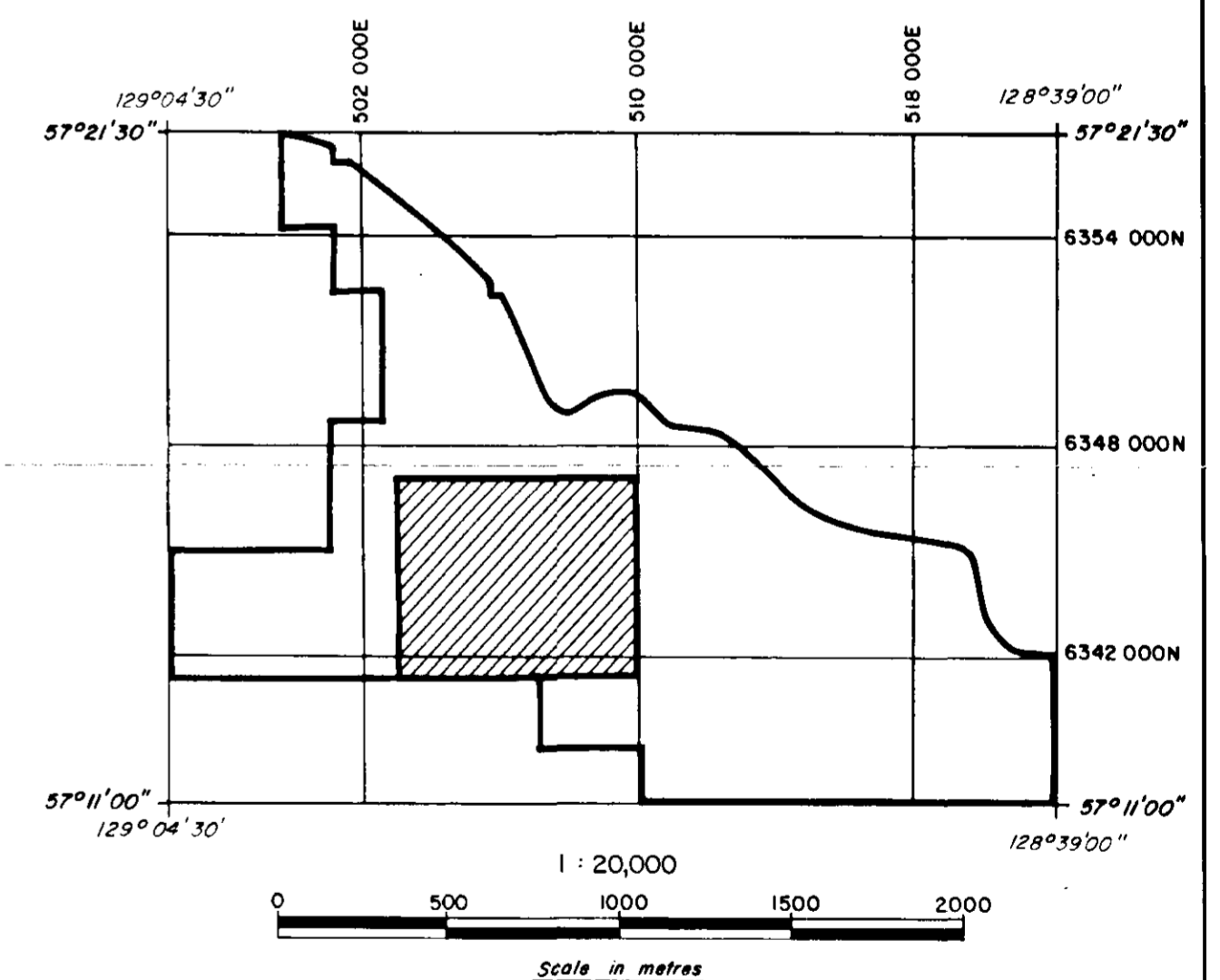
57° 16' 04"



LEGEND

| | | |
|------------------------|-----|----------|
| RAILROAD BED | --- | |
| RIVER | --- | |
| STREAM, DEFINITE | --- | |
| APPROXIMATE | --- | |
| SPLIT | --- | |
| LAKE | --- | |
| SWAMP | --- | |
| WATER LEVEL | --- | FL 505.2 |
| TREE LINE | --- | |
| CONTOURS, INDEX | --- | 1750 |
| INTERMEDIATE | --- | |
| DEPRESSION | --- | |
| APPROXIMATE | --- | |
| SPOT ELEVATION | --- | 7654 |
| RESOURCE AREA BOUNDARY | --- | |

LOST-FOX RESOURCE AREA INDEX MAP



57° 13' 08"

128° 57'

128° 50' 02"

57° 13' 08"

| | |
|------------------|--|
| MÁLLOCH SEQUENCE | |
| JKm | Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal. |
| KLAPPAN SEQUENCE | |
| JKku | Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal. |
| JKkm | Repeated coarsening upward sequences of fine to medium-grained sandstone, occasionally conglomeratic, siltstone, claystone and coal; sediments display cross-bedding and ripple marks and contain abundant plant fragments and rare bivalves towards the base. |
| JKki | Interbedded massive, fine grained sandstone and siltstones, containing bivalve fossils, with minor coal. |

LEGEND

| | |
|-----|---|
| --- | LICENCE BOUNDARY |
| --- | GEOLOGICAL CONTACT (INFERRED) |
| --- | COAL SEAM (OUTCROP, INFERRED) |
| --- | ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| --- | SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| --- | OVERTURNED ANTICLINE (DEFINED, APPROXIMATE) |
| --- | OVERTURNED SYNCLINE (DEFINED, APPROXIMATE) |
| --- | BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL) |
| --- | THRUST FAULT (DEFINED, APPROXIMATE, INFERRED) TEETH INDICATE UP THRUST SIDE |
| --- | FAULT (DEFINED, APPROXIMATE, INFERRED) SOLID CIRCLE INDICATES DOWNTHRUST SIDE |
| --- | TRENCH LOCATION |
| --- | MEASURED SECTION LOCATION |
| --- | CROSS-SECTION LOCATION |
| --- | DIAMOND DRILLHOLE LOCATION (VERTICAL, INCLINED WITH SURFACE PROJECTION) |

GULF CANADA RESOURCES INC.

CALGARY Coal Division ALBERTA

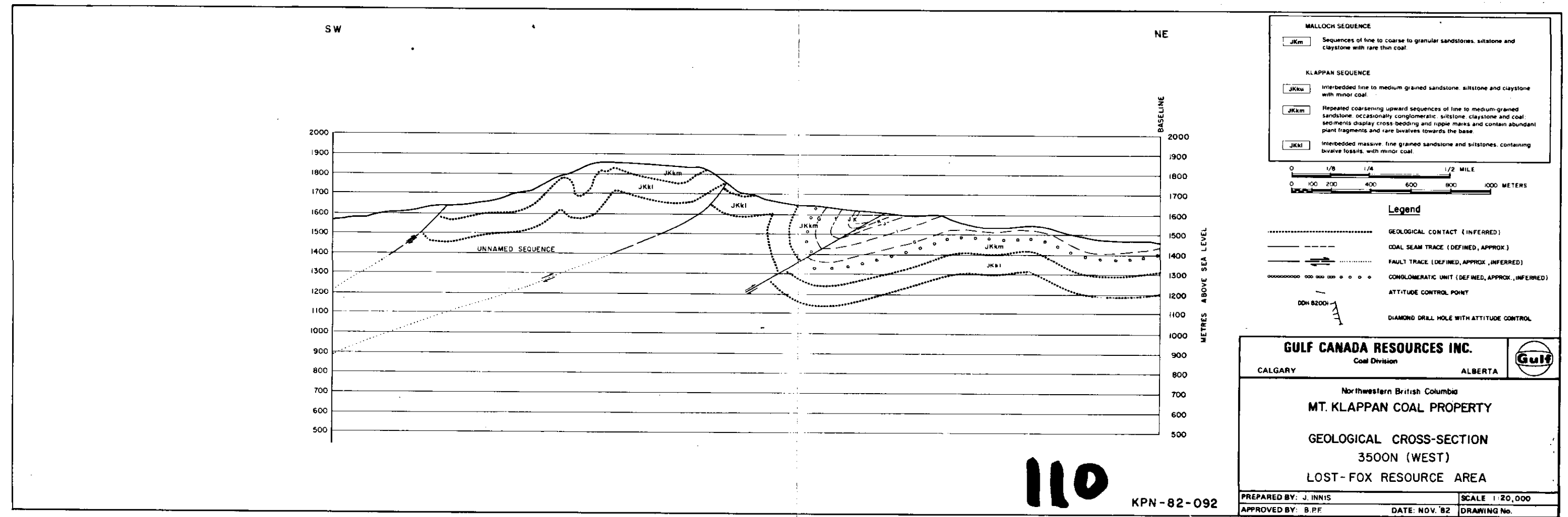
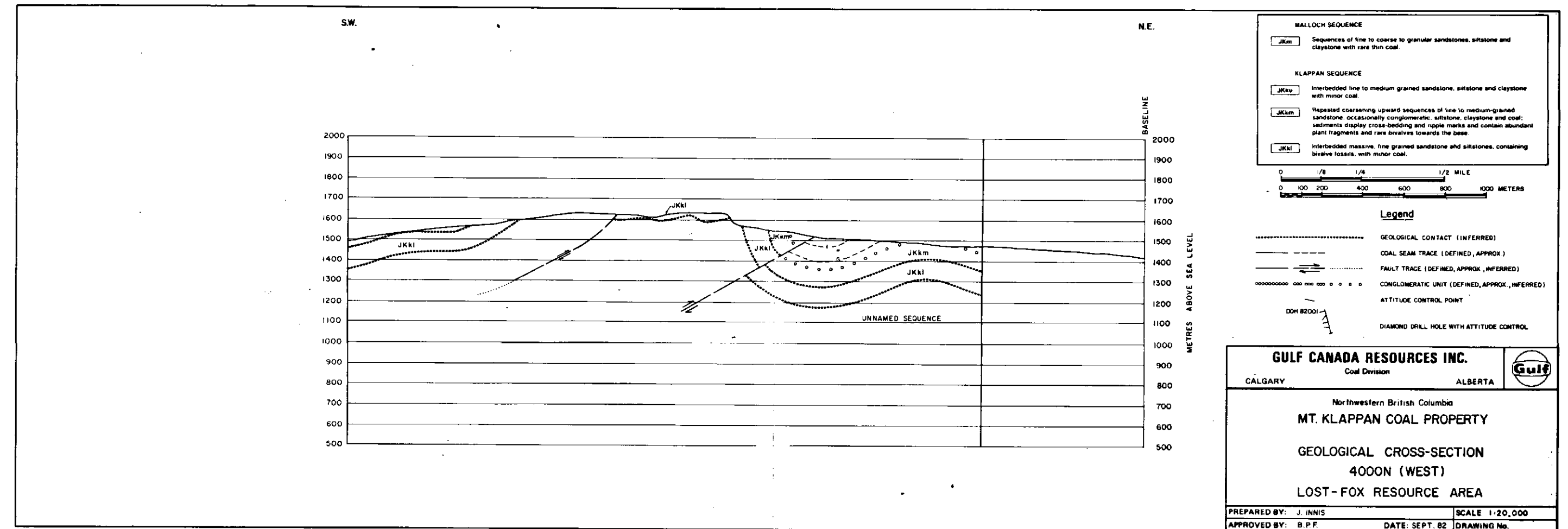


MT. KLAPPAN COAL PROPERTY

LOST-FOX RESOURCE AREA GEOLOGY

PREPARED BY: G. SEVE SCALE 1:20,000
APPROVED BY: B. P. F. DATE: OCT. 82 DRAWING No. KPN-82-007 091

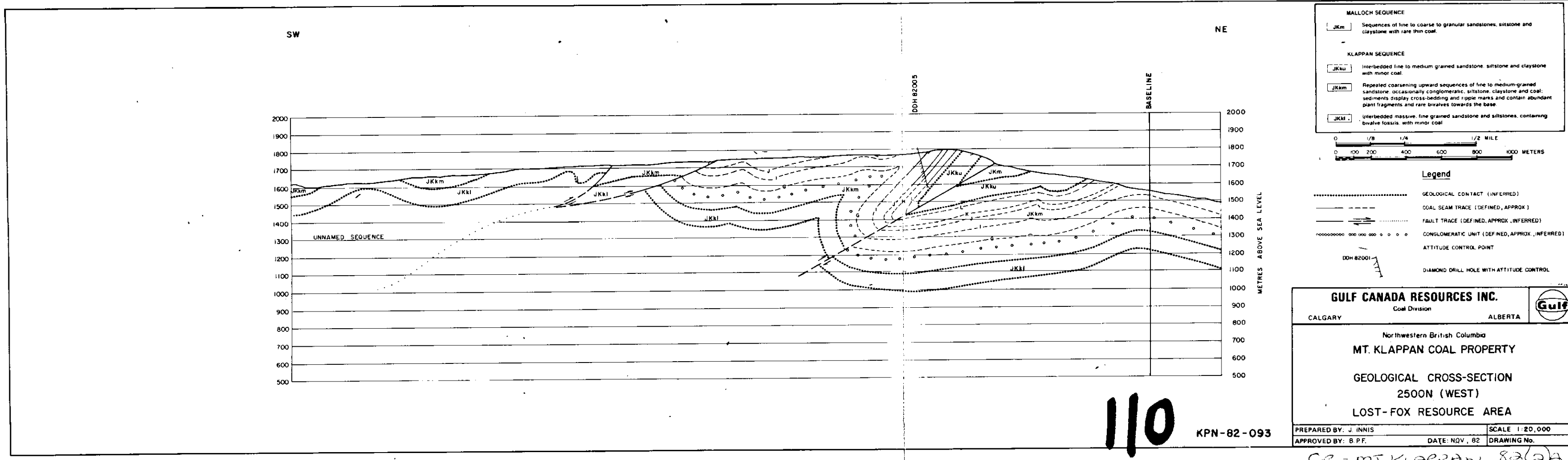
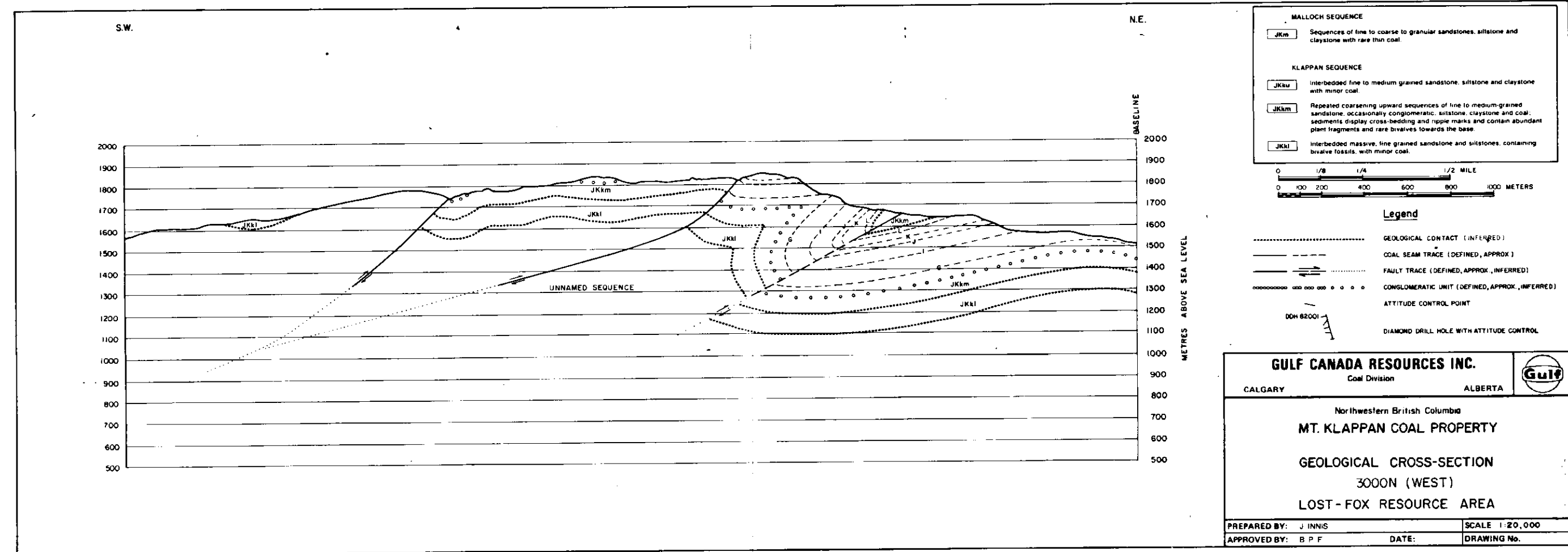
11P

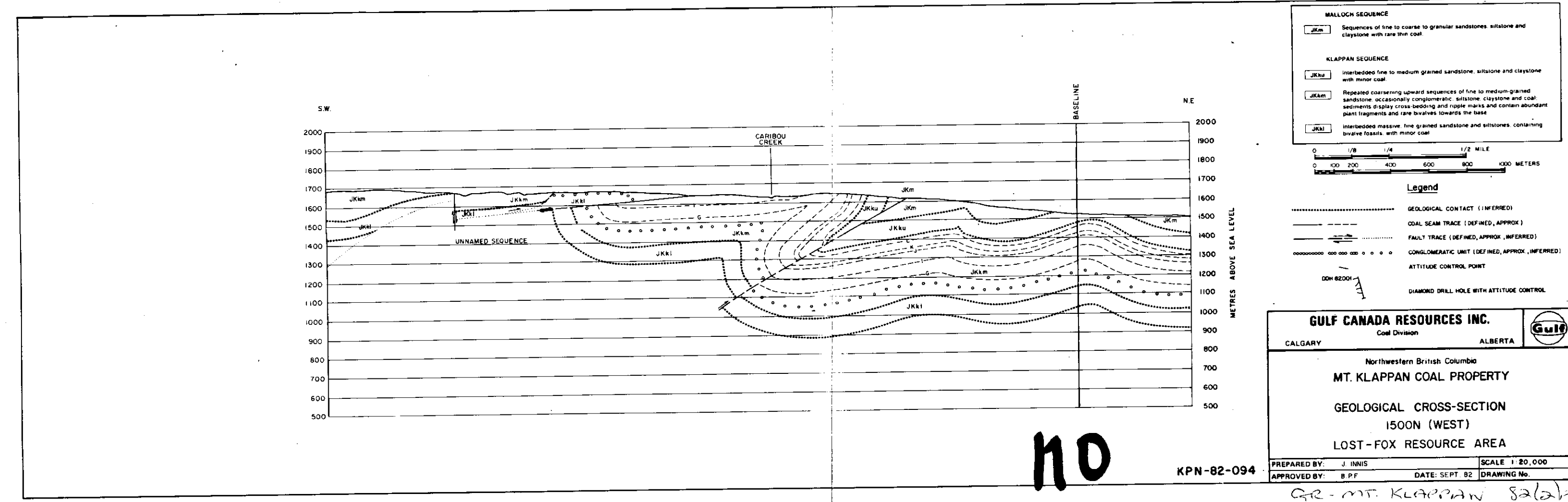
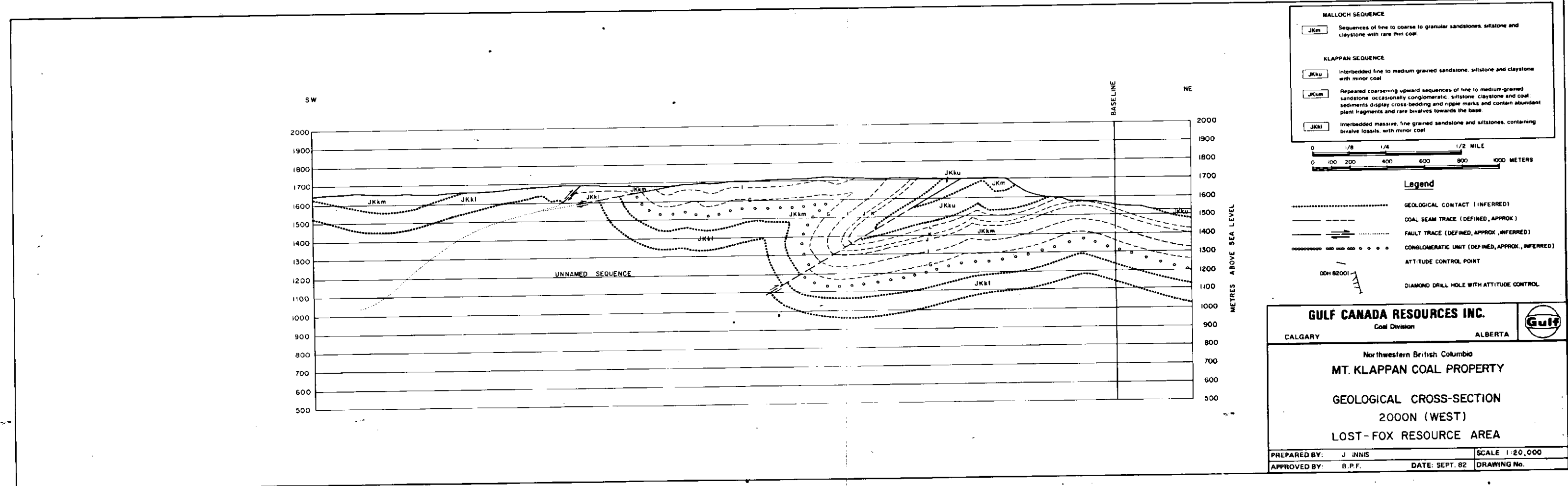


110

KPN-82-092

GR-MT. KLAPPAN 82(2)A





NO

KPN-82-094

GR - MT. KLAPPAN 2/2/82

128°57'
57°16'04"

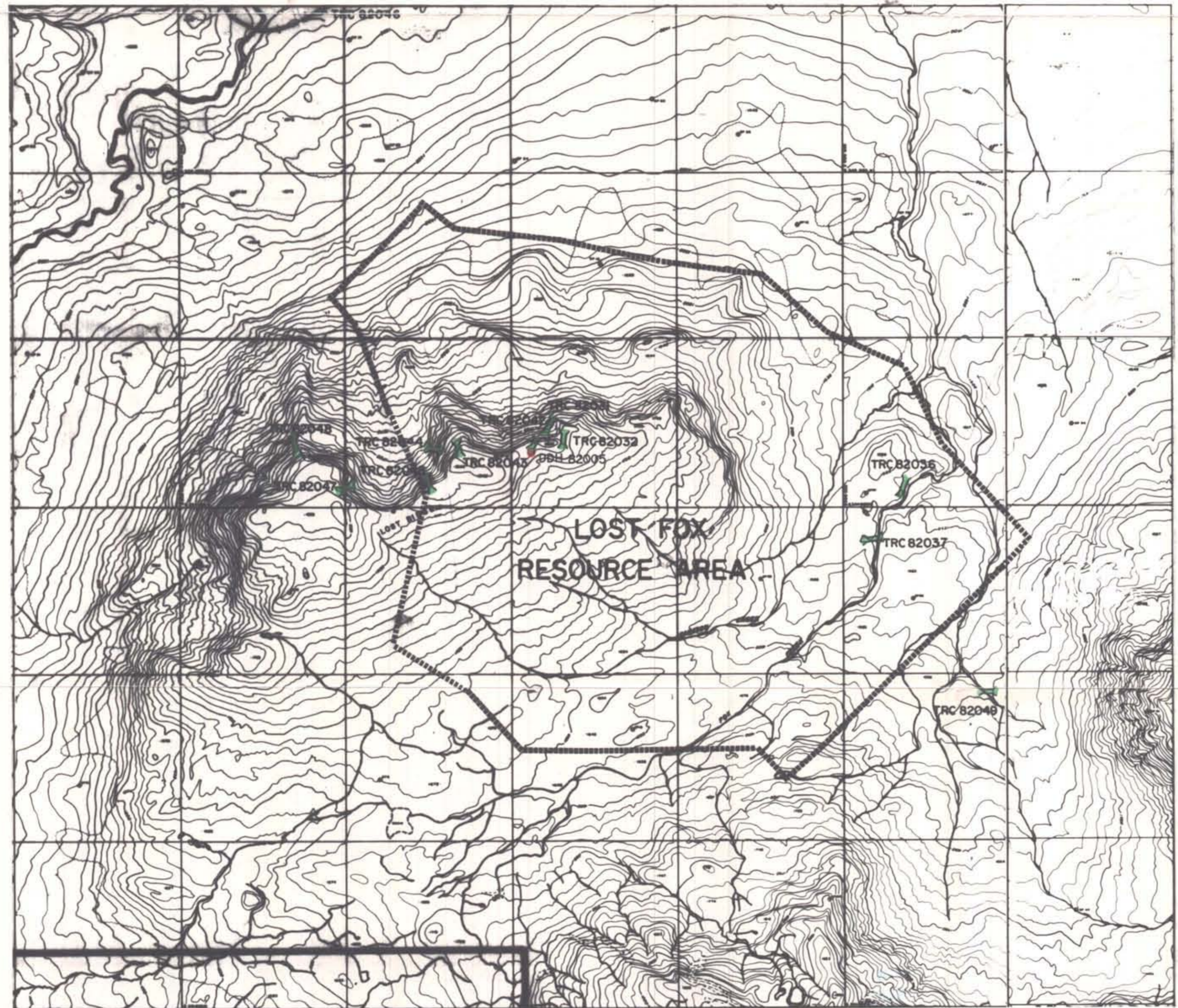
128°50'02"

57°16'04"



LEGEND

| | | |
|-----------------------|-----|--------|
| RAILROAD BED | --- | |
| RIVER | --- | |
| STREAM, DEFINITE | --- | |
| APPROXIMATE | --- | |
| SPLIT | --- | |
| LAKE | --- | |
| SWAMP | --- | |
| WATER LEVEL | --- | EL 505 |
| TREE LINE | --- | |
| CONTOURS, INDEX | --- | 1750 |
| INTERMEDIATE | --- | |
| DEPRESSION | --- | |
| APPROXIMATE | --- | |
| SPOT ELEVATION | --- | 7654 |
| COAL LICENCE BOUNDARY | --- | |



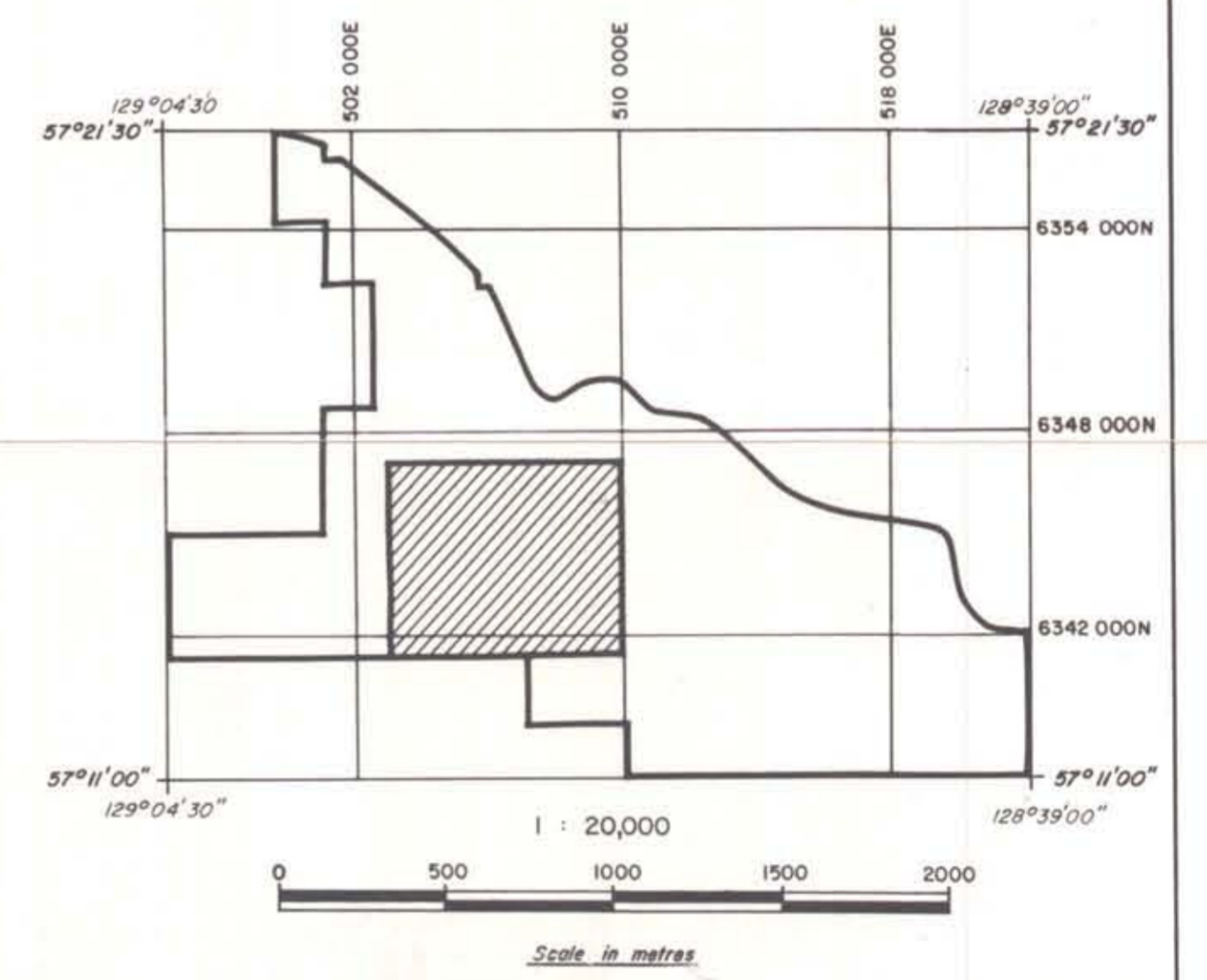
57°13'08"

128°57'

128°50'02"

57°13'08"

LOST-FOX RESOURCE AREA
INDEX MAP



| | |
|-----------|------------------------|
| TRC 82009 | Trench & Trench Number |
| DDH 82003 | Diamond Drill Hole |
| ----- | Resource Area Boundary |

GRE-MT KLAPPAN 82(2)

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY

LOST-FOX
RESOURCE AREA
TRENCH & DRILL HOLE LOCATIONS

PREPARED BY: G. SEVE SCALE 1:20,000
APPROVED BY: B. P. F. DATE: NOV. 82 DRAWING No. KPN-82-096

110

128°50'02"
57°17'10"

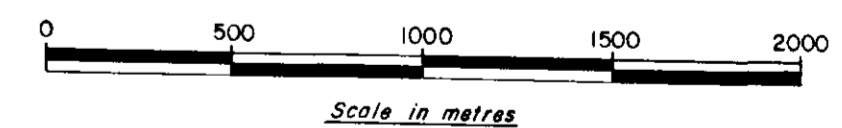
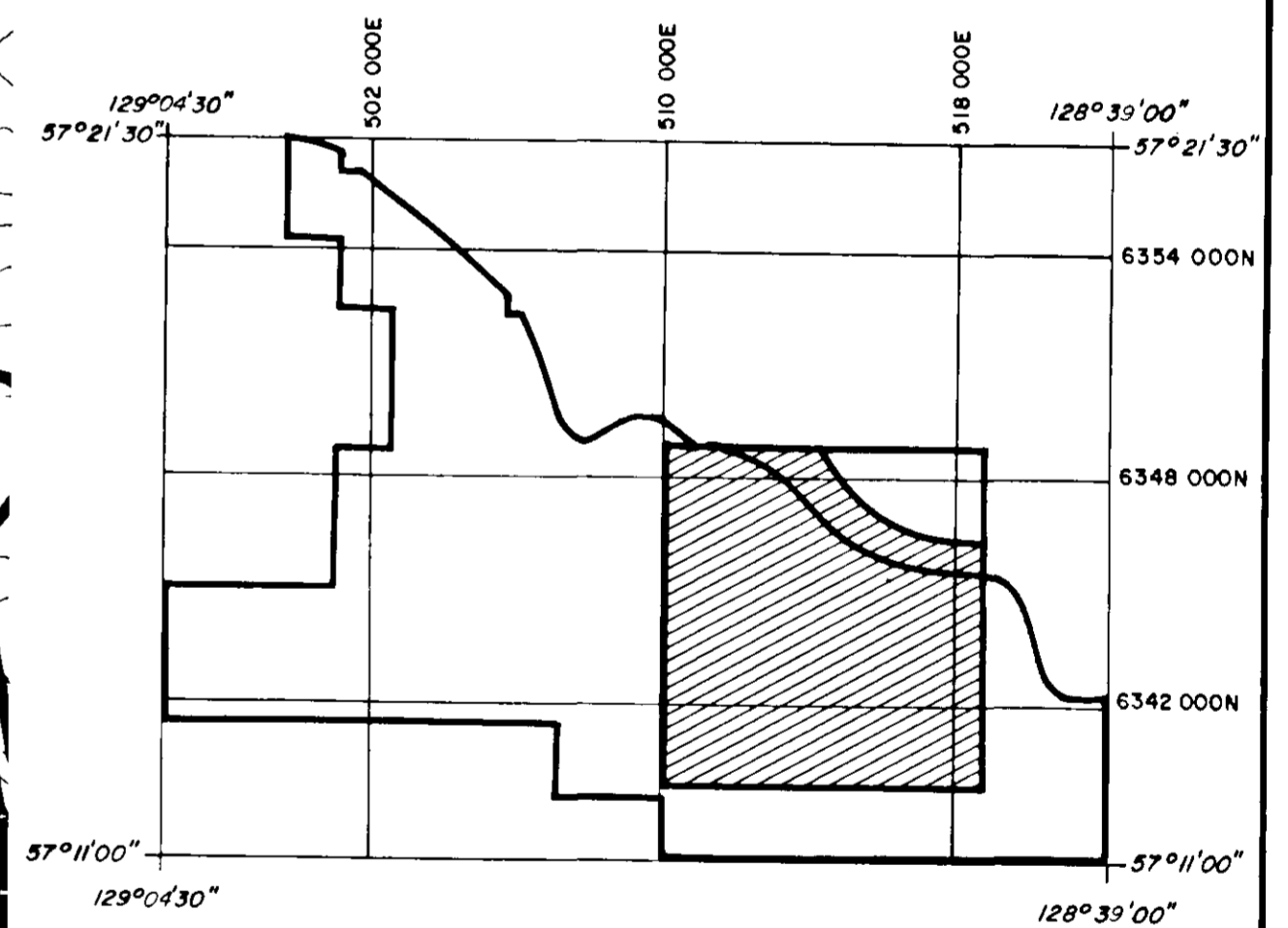
128°40'04"
57°17'10"



LEGEND

| | | |
|----------------------------|-----|----------|
| RAILROAD BED | --- | |
| RIVER | --- | |
| STREAM, DEFINITE | --- | |
| APPROXIMATE | --- | |
| SPLIT | --- | |
| LAKE | --- | |
| SWAMP | --- | |
| WATER LEVEL | --- | EL 505.2 |
| TREE LINE | --- | --- |
| CONTOURS, INDEX | --- | 1750 |
| INTERMEDIATE | --- | --- |
| DEPRESSION | --- | --- |
| APPROXIMATE | --- | --- |
| SPOT ELEVATION | --- | 7654 |
| COAL LICENCE BOUNDARY | --- | --- |
| REDEFINED LICENCE BOUNDARY | --- | --- |
| RESOURCE AREA BOUNDARY | --- | --- |

HOBBIT-BROATCH RESOURCE AREA
INDEX MAP



57°12'08"
128°50'02"

57°12'08"
128°40'04"

AREA OF
NO OUTCROP

MALLOCH SEQUENCE

JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal.

KLAPPAN SEQUENCE

- JKku Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal.
- JKkm Repeated coarsening upward sequences of fine to medium-grained sandstone, occasionally conglomeratic, siltstone, claystone and coal; sediments display cross-bedding and ripple marks and contain abundant plant fragments and rare bivalves towards the base.
- JKkl Interbedded massive, fine grained sandstone and siltstones, containing bivalve fossils, with minor coal.

LEGEND

| | |
|-----|---|
| --- | LICENCE BOUNDARY |
| --- | GEOLOGICAL CONTACT (INFERRED) |
| --- | COAL SEAM / OUTCROP (INFERRED) |
| --- | ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| --- | SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION |
| --- | OVERTURNED ANTICLINE (DEFINED, APPROXIMATE) |
| --- | OVERTURNED SYNCLINE (DEFINED, APPROXIMATE) |
| --- | BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL) |
| --- | THRUST FAULT (DEFINED, APPROXIMATE, INFERRED) TEETH INDICATE UPRHURST SIDE |
| --- | FAULT (DEFINED, APPROXIMATE, INFERRED) SOLID CIRCLE INDICATES DOWNTHROWN SIDE |
| --- | TRENCH LOCATION |
| --- | CROSS-SECTION LOCATION |
| --- | MEASURED SECTION LOCATION |
| --- | DIAMOND DRILLHOLE LOCATION (VERTICAL, INCLINED WITH SURFACE PROJECTION) |

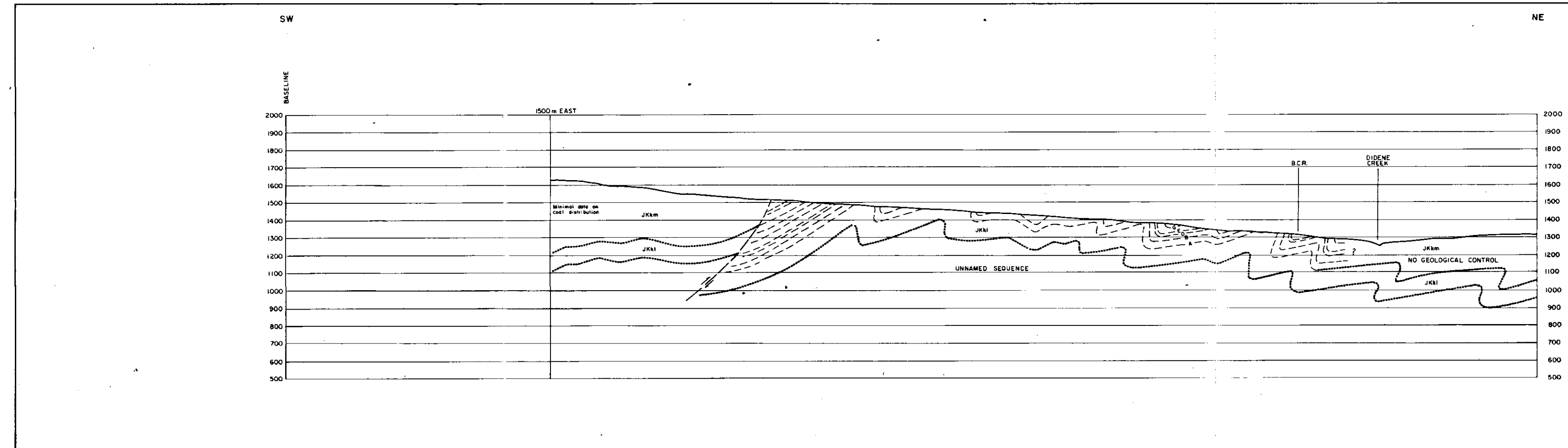
GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY
HOBBIT-BROATCH RESOURCE AREA GEOLOGY

PREPARED BY: G. SEVE
APPROVED BY: B. P. F.

SCALE: 1:20,000
DATE: NOV. 82
DRAWING No. KPN-82-091



GULF CANADA RESOURCES INC.
Coal Division

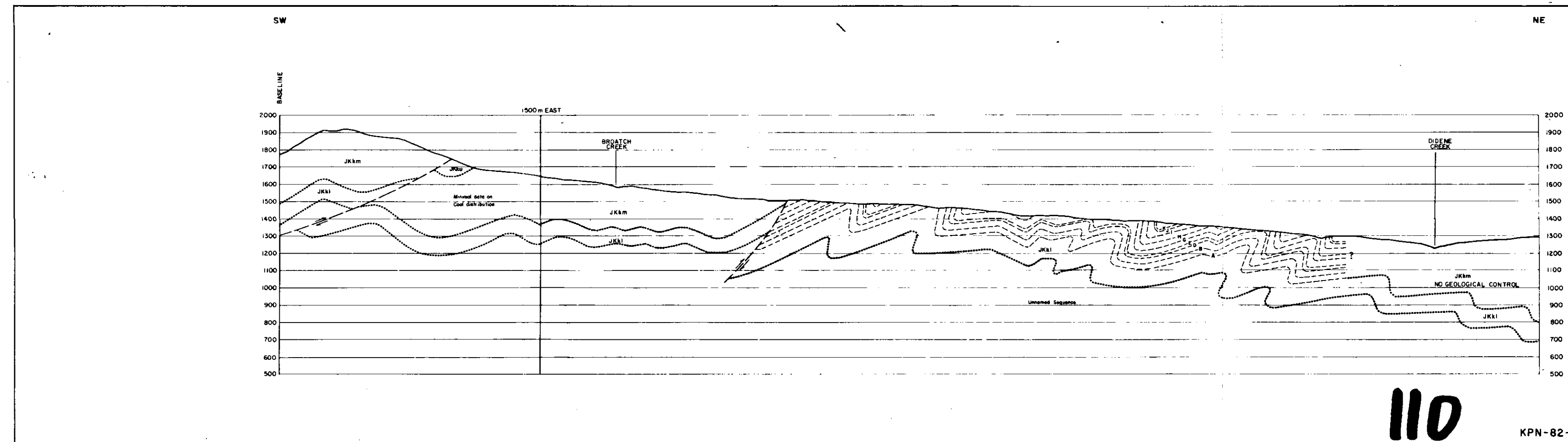
CALGARY ALBERTA

Northwestern British Columbia

MT. KLAPPAN COAL PROPERTY

GEOLOGICAL CROSS-SECTION
500 S (EAST)
HOBBIT-BROATCH RESOURCE AREA

PREPARED BY: G. SEVE SCALE: 1:20,000
APPROVED BY: B. P.F. DATE: NOV. 82 DRAWING No.



GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

Northwestern British Columbia

MT. KLAPPAN COAL PROPERTY

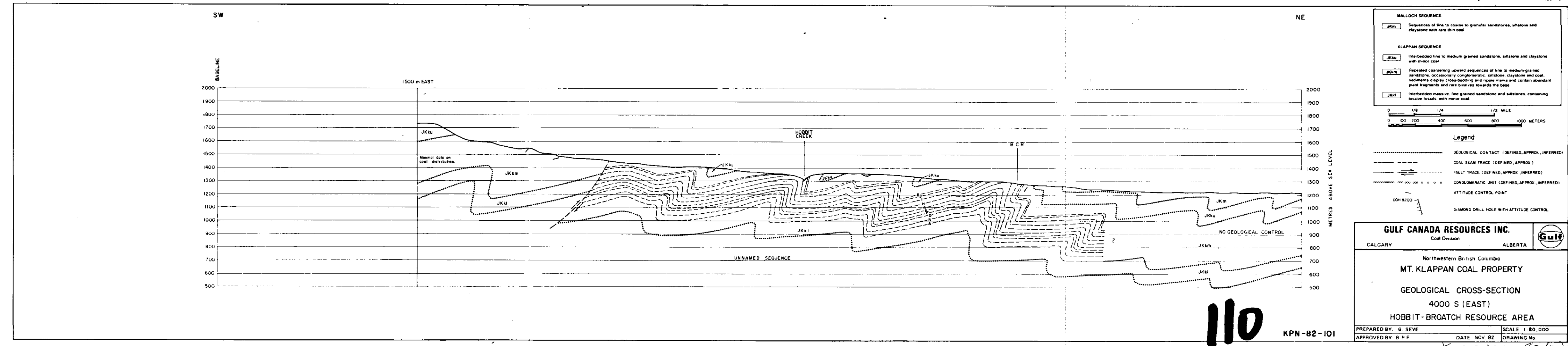
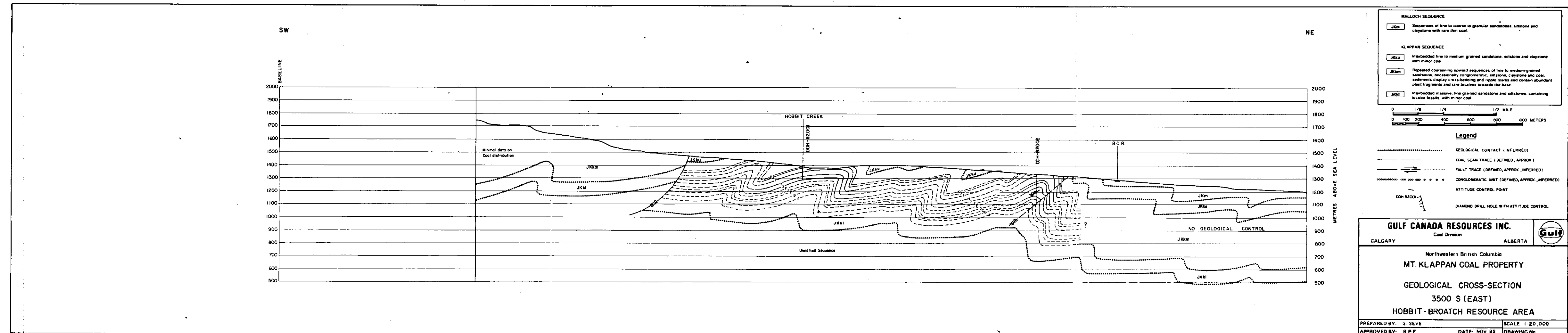
GEOLOGICAL CROSS-SECTION
1000 S (EAST)
HOBBIT-BROATCH RESOURCE AREA

PREPARED BY: G. SEVE SCALE: 1:20,000
APPROVED BY: B. P.F. DATE: NOV. 82 DRAWING No.

110

KPN-82-098

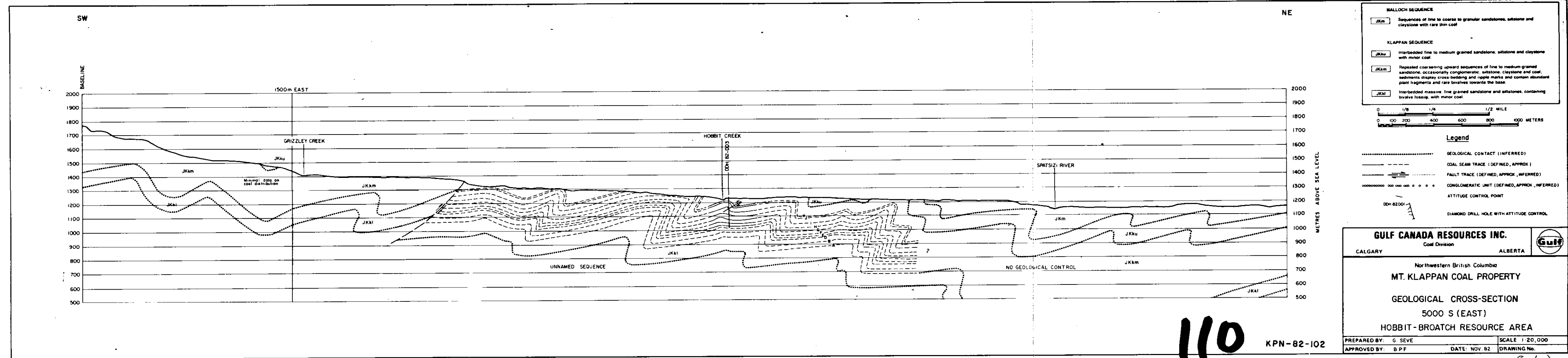
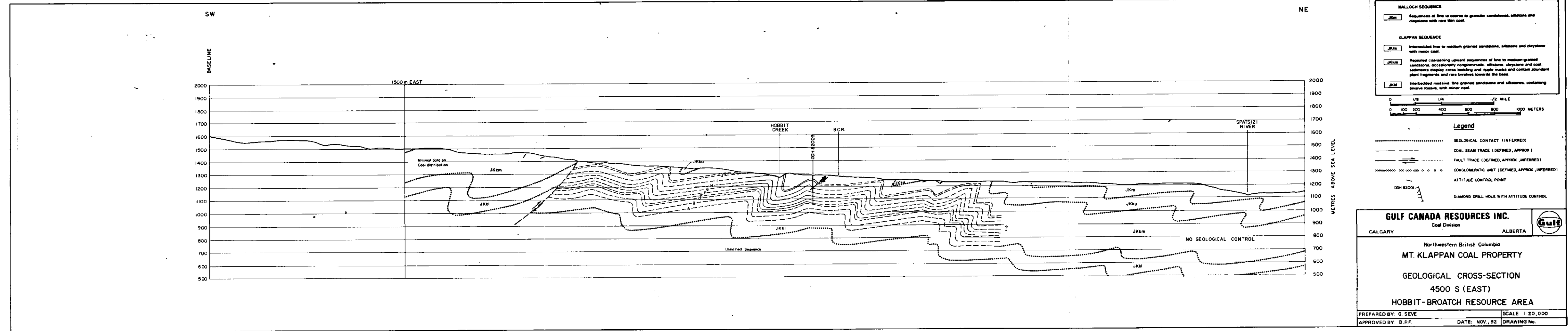
GR-MT. KLAPPAN 82(2)A



110

KPN-82-101

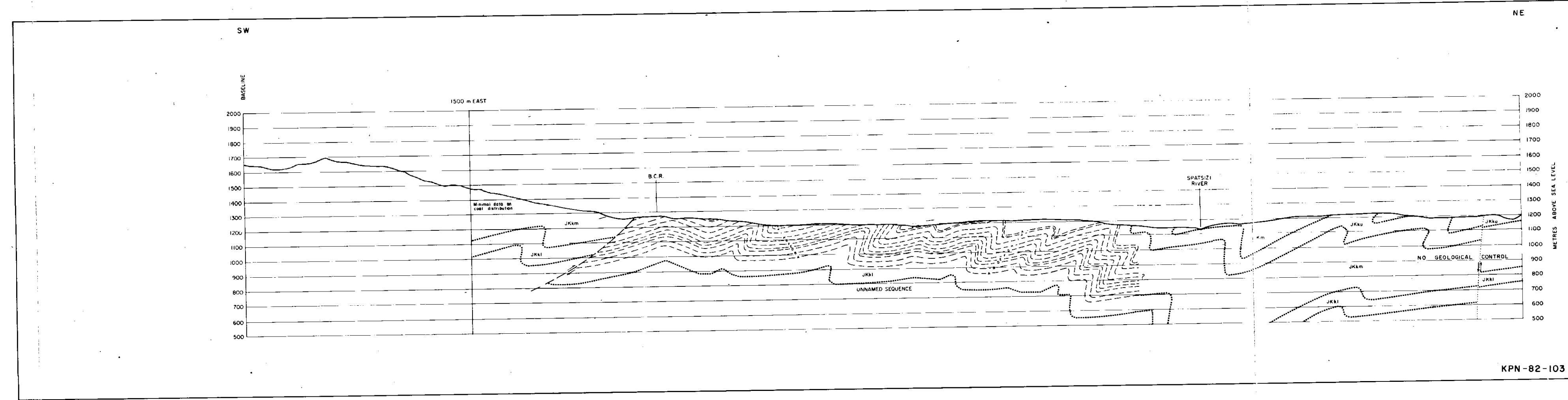
GR - MT. KLAPPAN 82016



110

KPN-82-102

GR - MT. KLAPPAN 82(2)A



MALLOCH SEQUENCE
 JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal.

KLAPPAN SEQUENCE
 JKsu Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal.
 JKkm Repeated coarsening upward sequences of fine to medium grained sandstone, occasionally conglomeratic, siltstone, claystone and coal; sediments display cross-bedding and ripple marks and contain abundant plant fragments and rare brachiopods towards the base.
 JKsl Interbedded massive, fine grained sandstone and siltstone, containing brachiopods, with minor coal.

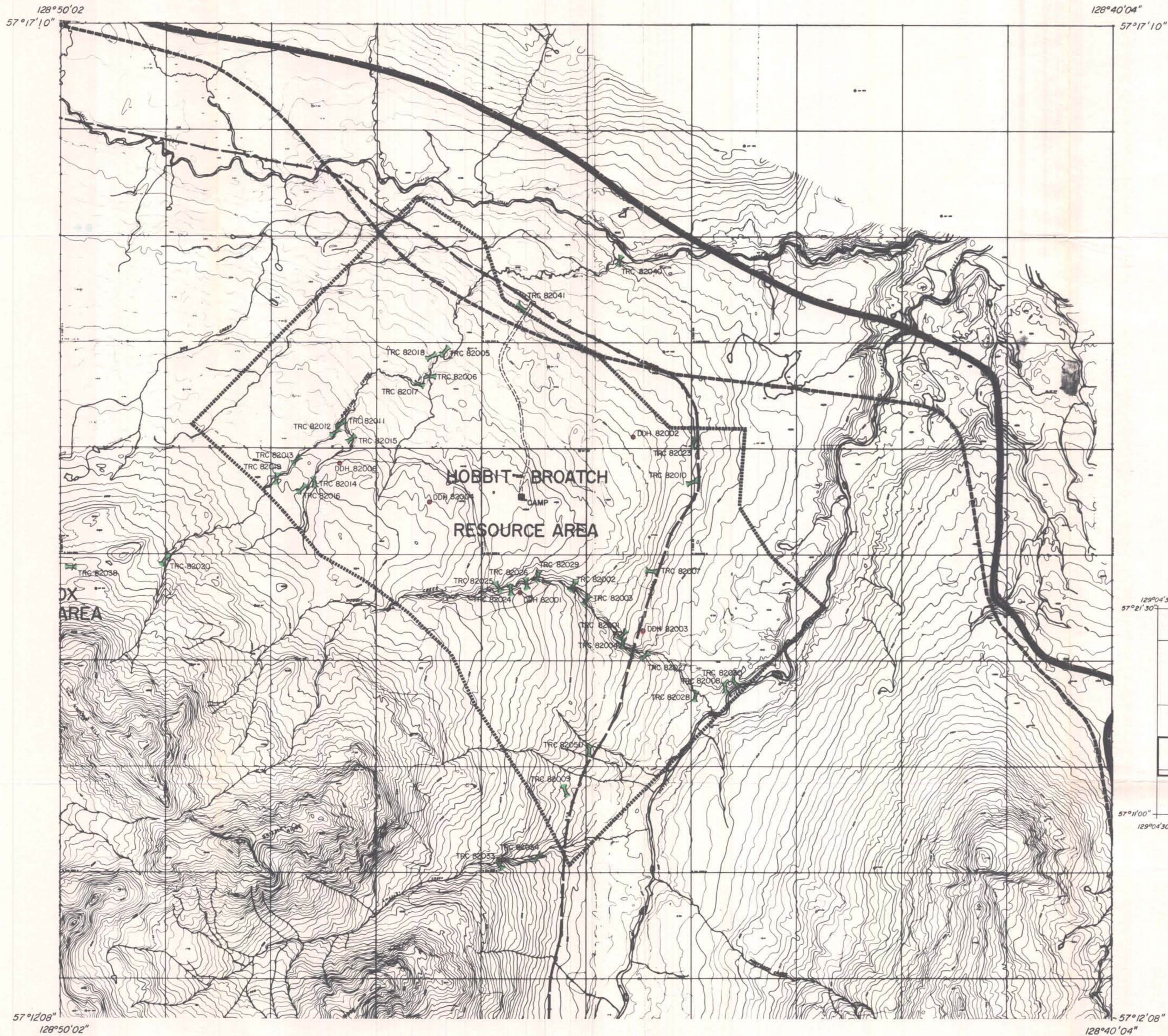
Legend
 GEOLOGICAL CONTACT (INFERRED)
 --- COAL SEAM TRACE (DEFINED, APPROX.)
 --- FAULT TRACE (DEFINED, APPROX., INFERRED)
 ○○○○○ CONGLOMERATIC UNIT (DEFINED, APPROX., INFERRED)
 ● ATTITUDE CONTROL POINT
 DIAM DRILL DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

GULF CANADA RESOURCES INC.
 Coal Division
 CALGARY ALBERTA

Northwestern British Columbia
MT. KLAPPAN COAL PROPERTY
 GEOLOGICAL CROSS-SECTION
 5500 S (EAST)
 HOBBIT - BROATCH RESOURCE AREA

PREPARED BY G. SEVE SCALE 1:80,000
 APPROVED BY S.P.F. DATE: NOV. '82 DRAWING No.

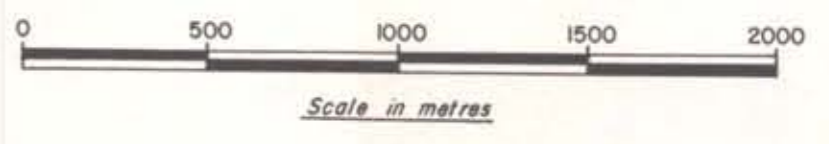
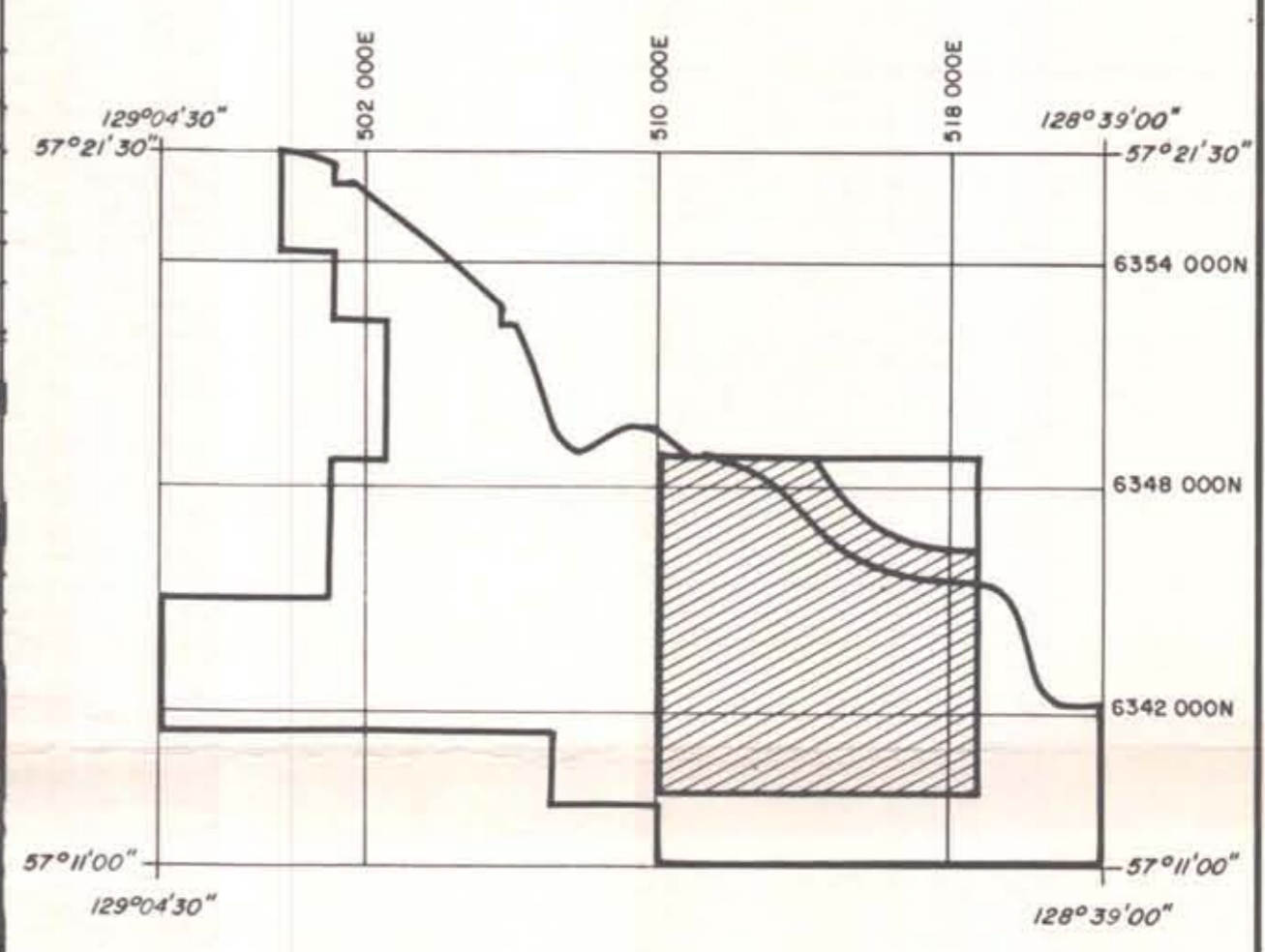
KPN-82-103
 GR-MT. KLAPPAN 82/103



LEGEND

| | | |
|----------------------------|-----|--|
| RAILROAD BED | --- | |
| RIVER | --- | |
| STREAM, DEFINITE | --- | |
| APPROXIMATE | --- | |
| SPLIT | --- | |
| LAKE | --- | |
| SWAMP | --- | |
| WATER LEVEL | --- | |
| TREE LINE | --- | |
| CONTOURS, INDEX | --- | |
| INTERMEDIATE | --- | |
| DEPRESSION | --- | |
| APPROXIMATE | --- | |
| SPOT ELEVATION | --- | |
| COAL LICENCE BOUNDARY | --- | |
| REDEFINED LICENCE BOUNDARY | --- | |

HOBBIT-BROATCH RESOURCE AREA
INDEX MAP



| | | |
|--|-----------|------------------------|
| | TRC 82009 | Trench & Trench Number |
| | DDH 82003 | Diamond Drill Hole |
| | | Resource Area Boundary |

CR Mt Klappan 82(2)A

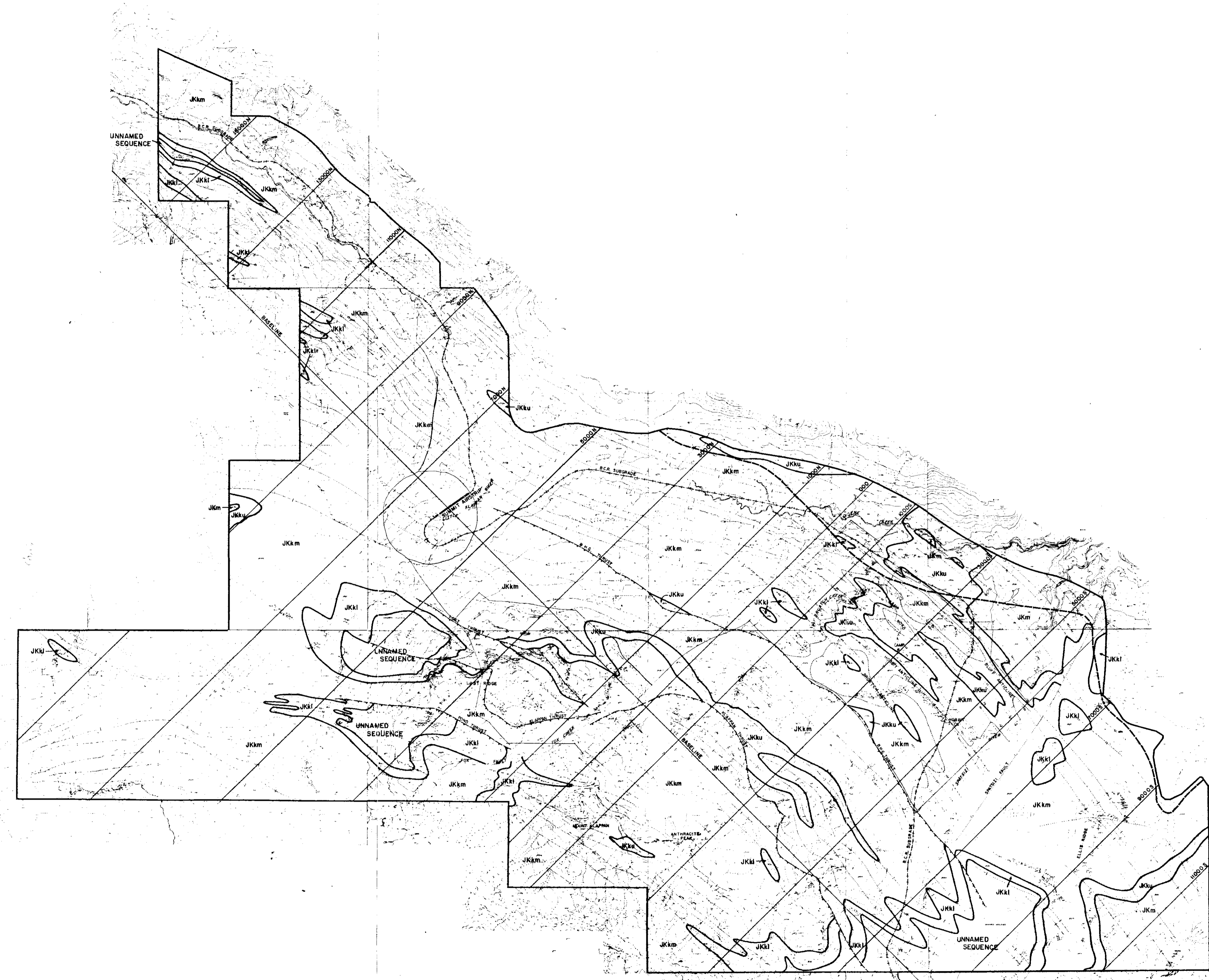
GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY
HOBBIT - BROATCH
RESOURCE AREA
TRENCH & DRILL HOLE LOCATIONS

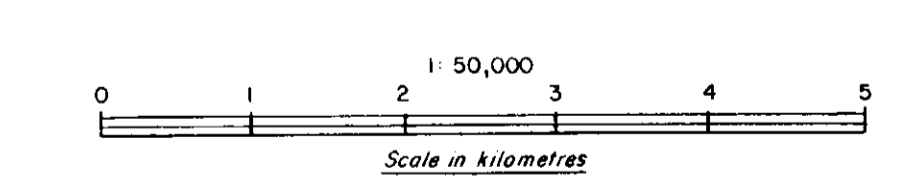
PREPARED BY: G. SEVE SCALE 1:20,000
APPROVED BY: B. P. F. DATE: NOV. 82 DRAWING No. KPN-82-104

110



- (22-1117-KLAPPAN-82-105)
- LEGEND**
- LICENCE BOUNDARY
 - GEOLOGICAL CONTACT (INFERRED)
 - COAL SEAM (OUTCROP, INFERRED)
 - ANTICLINE (DEFINED, APPROXIMATE) (ARROW INDICATES PLUNGE DIRECTION)
 - SYNCLINE (DEFINED, APPROXIMATE) (ARROW INDICATES PLUNGE DIRECTION)
 - OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
 - OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
 - BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL)
 - THRUST FAULT (DEFINED, APPROXIMATE, INFERRED) (TEETH INDICATE UP THRUST SIDE)
 - FAULT (DEFINED, APPROXIMATE, INFERRED) (SOLID CIRCLE INDICATES DOWN THROWN SIDE)
 - TRENCH LOCATION
 - MEASURED SECTION LOCATION
 - DIAMOND DRILLHOLE LOCATION (VERTICAL, INCLINED WITH SURFACE PROJECTION)
 - REDEFINED PROPERTY BOUNDARY

- MALLOCH SEQUENCE**
- JKm Sequences of fine to coarse to granular sandstones, siltstone and claystone with rare thin coal.
- KLAPPAN SEQUENCE**
- JKku Interbedded fine to medium grained sandstone, siltstone and claystone with minor coal.
 - JKkm Repeated coarsening upward sequences of fine to medium-grained sandstone, occasionally conglomeratic, siltstone, claystone and coal; sediments display cross-bedding and ripple marks and contain abundant plant fragments and rare bivalves towards the base.
 - JKki Interbedded massive, fine grained sandstone and siltstones, containing bivalve fossils, with minor coal.



110

(22-1117-KLAPPAN-82-105)

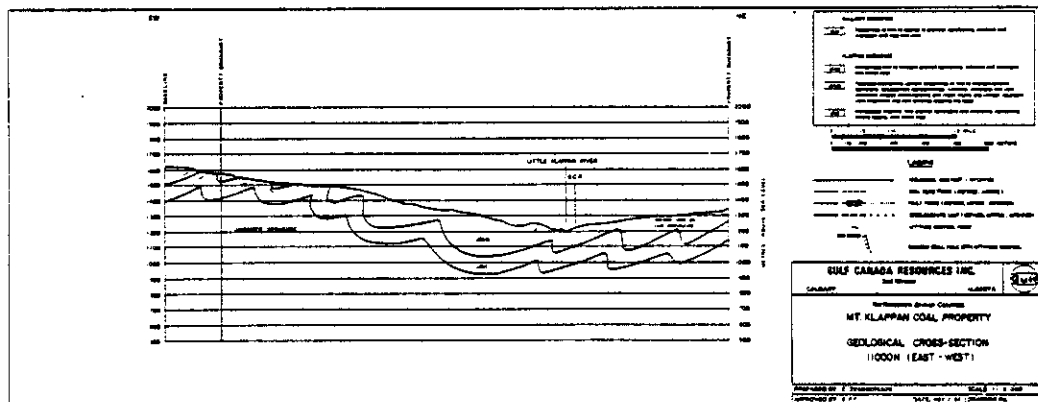
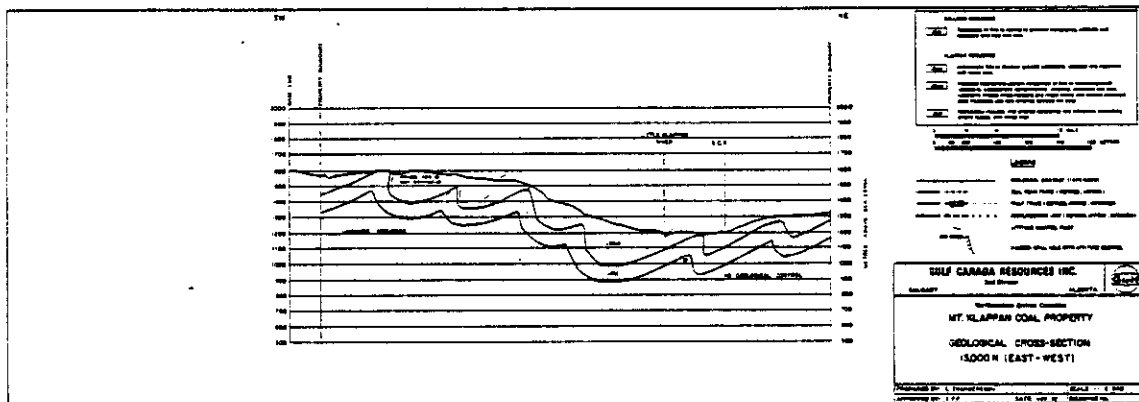
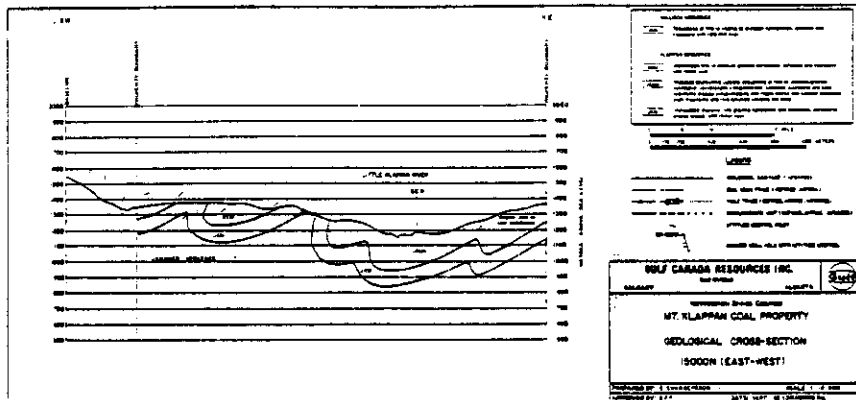
GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY

GEOLOGY

PREPARED BY: G SEVE SCALE: 1:50,000
 APPROVED BY: B P F DATE: NOV, 1982 DRAWING NO. KPN-82-105

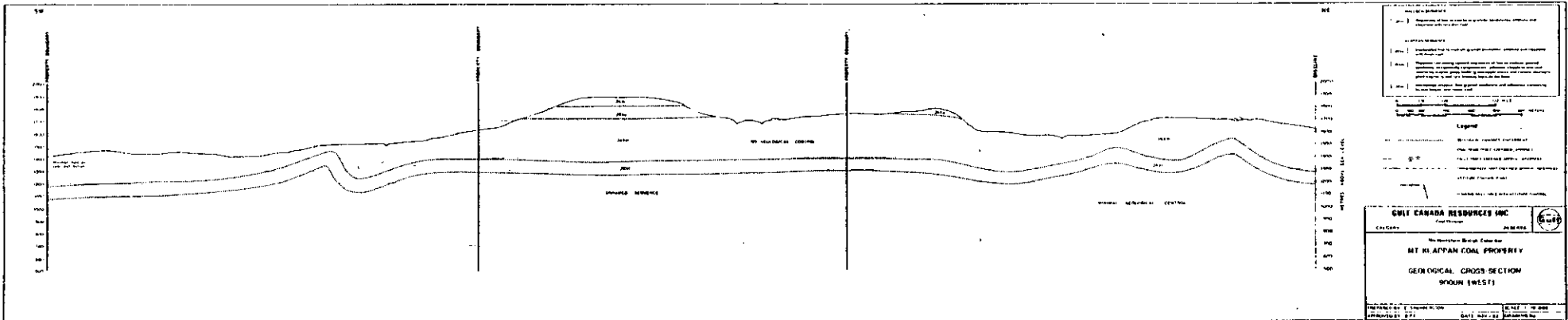
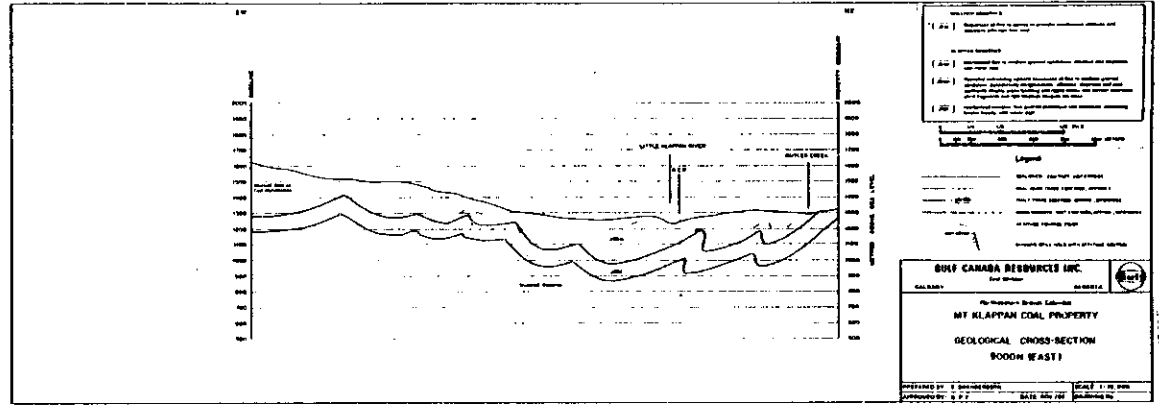


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KPN-82-106

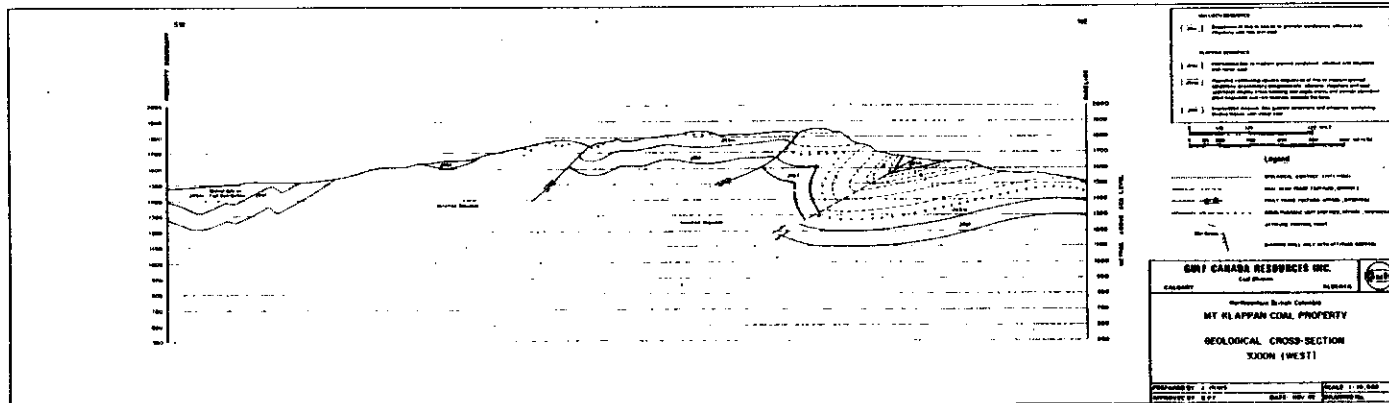
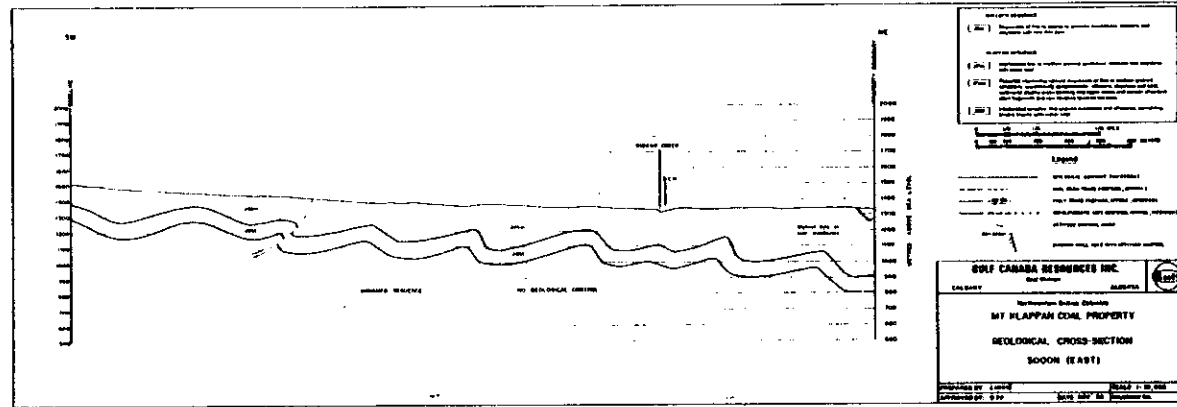
GE- MT. KLAPPAN 82(2A)



110

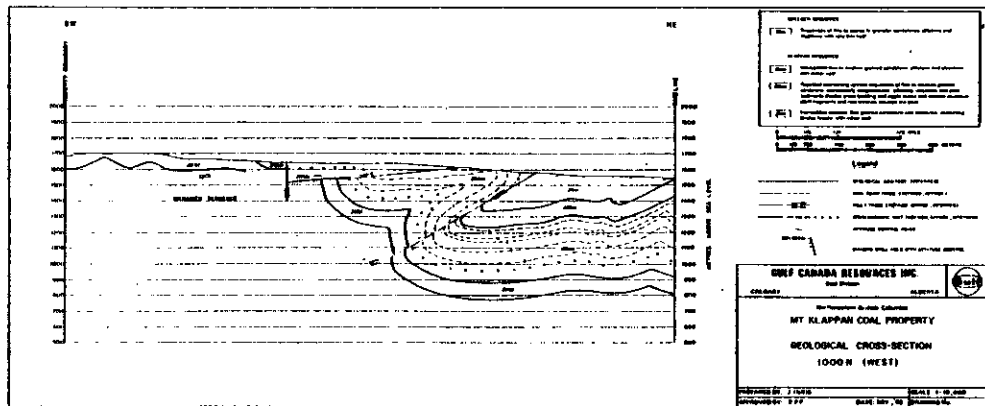
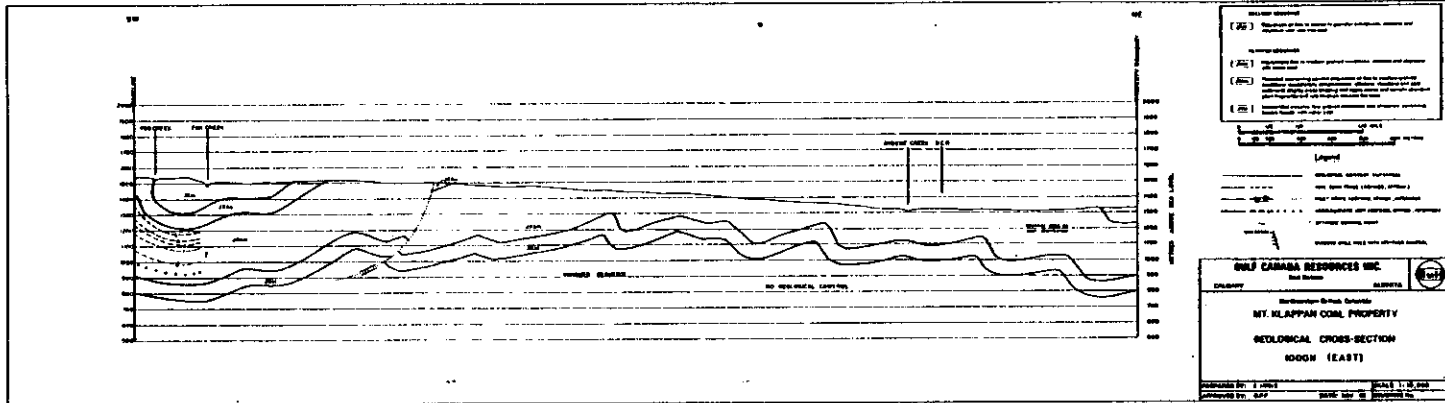
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KPN-82-107



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KPN-82-110

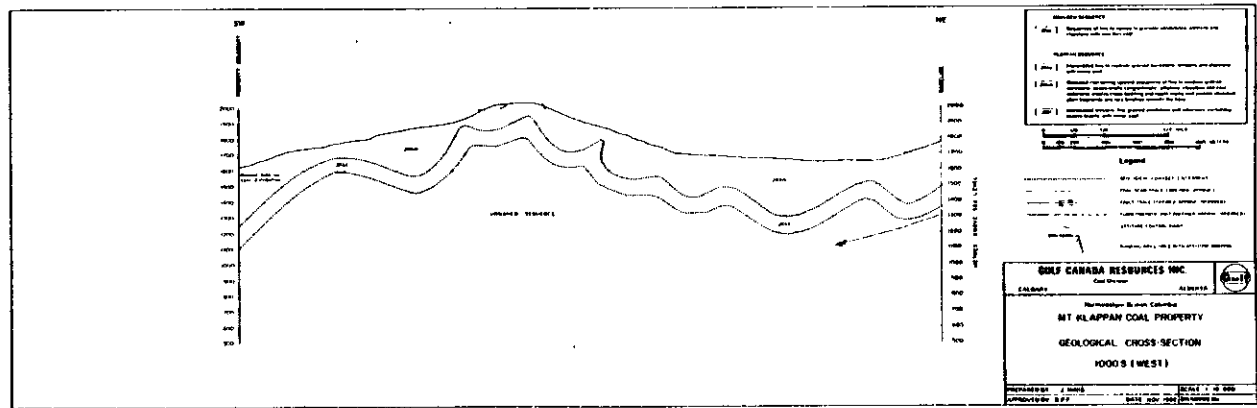
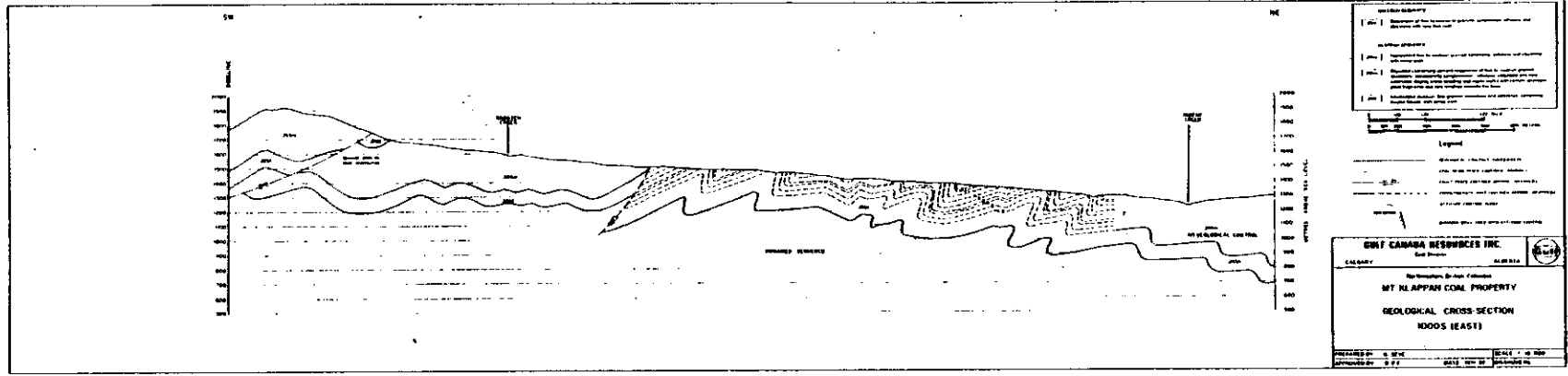
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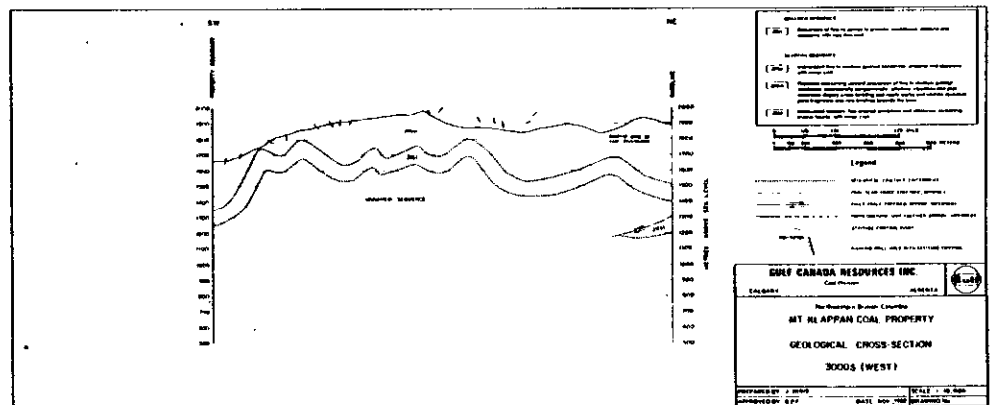
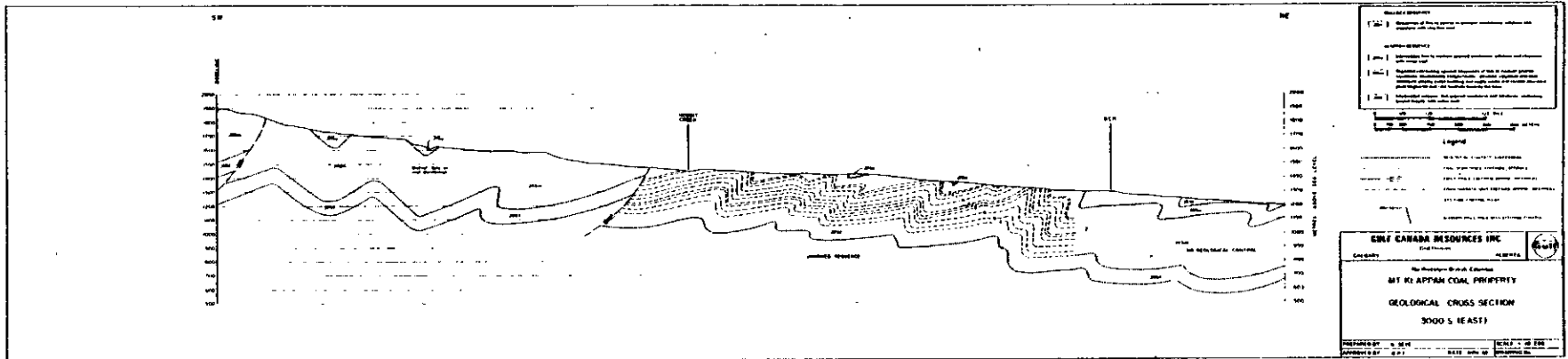
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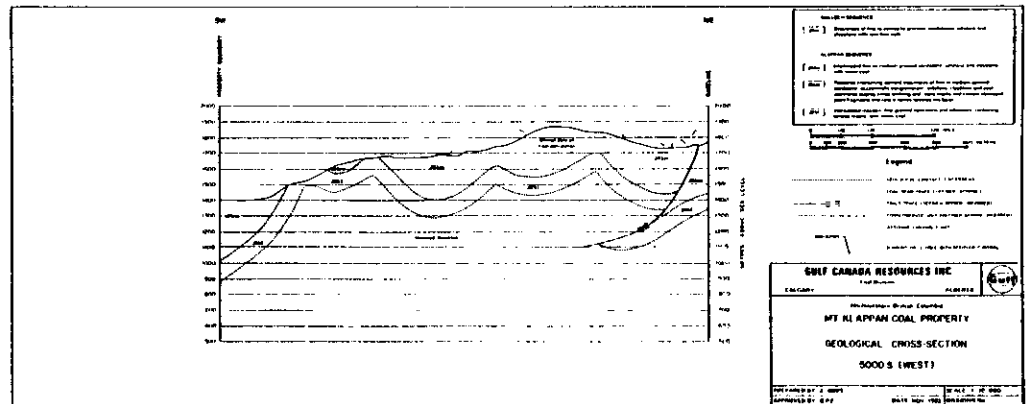
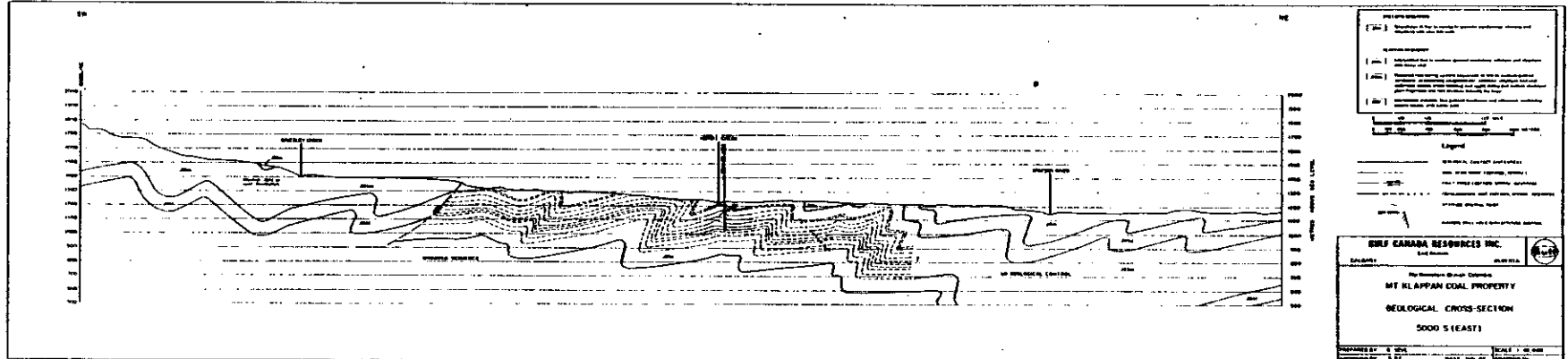


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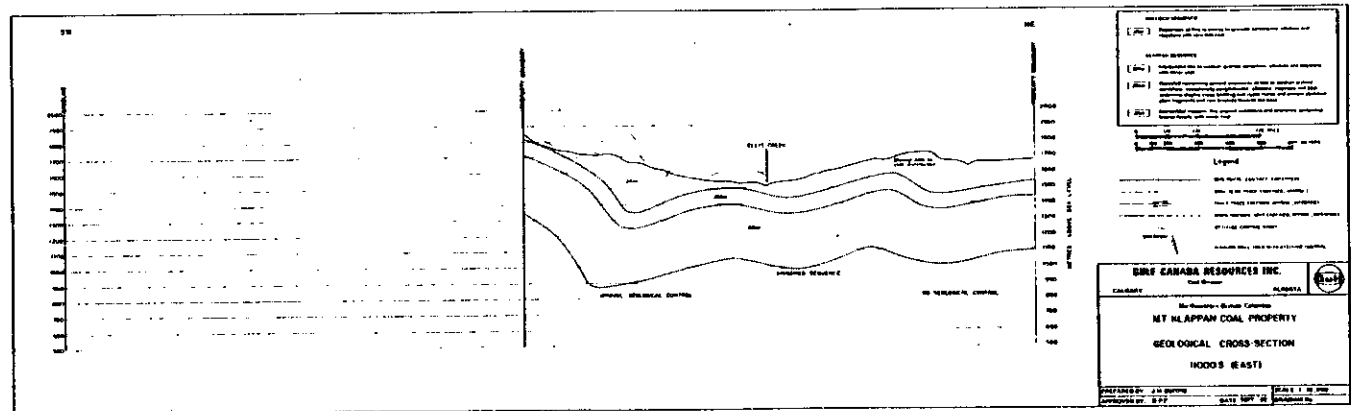
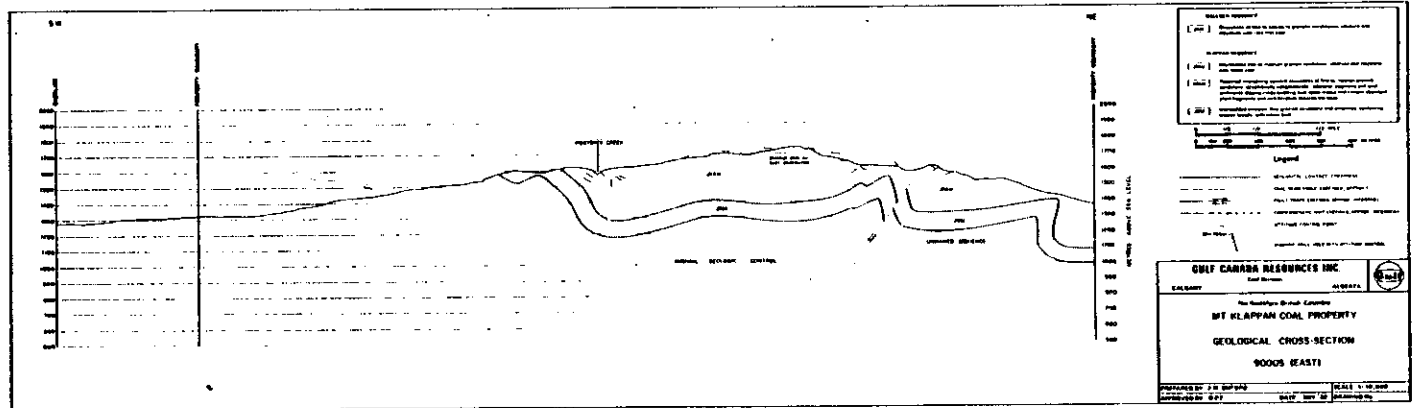
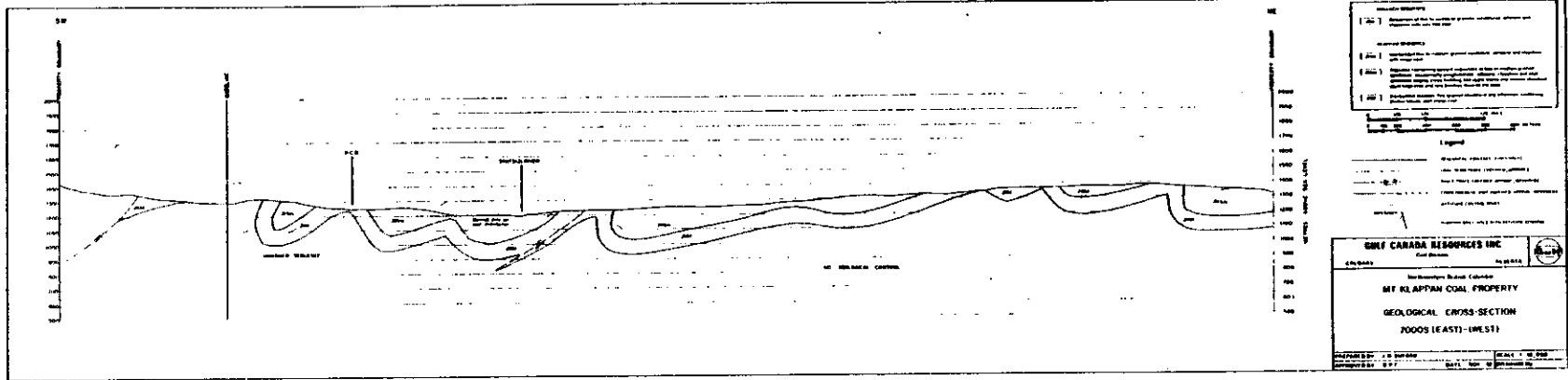




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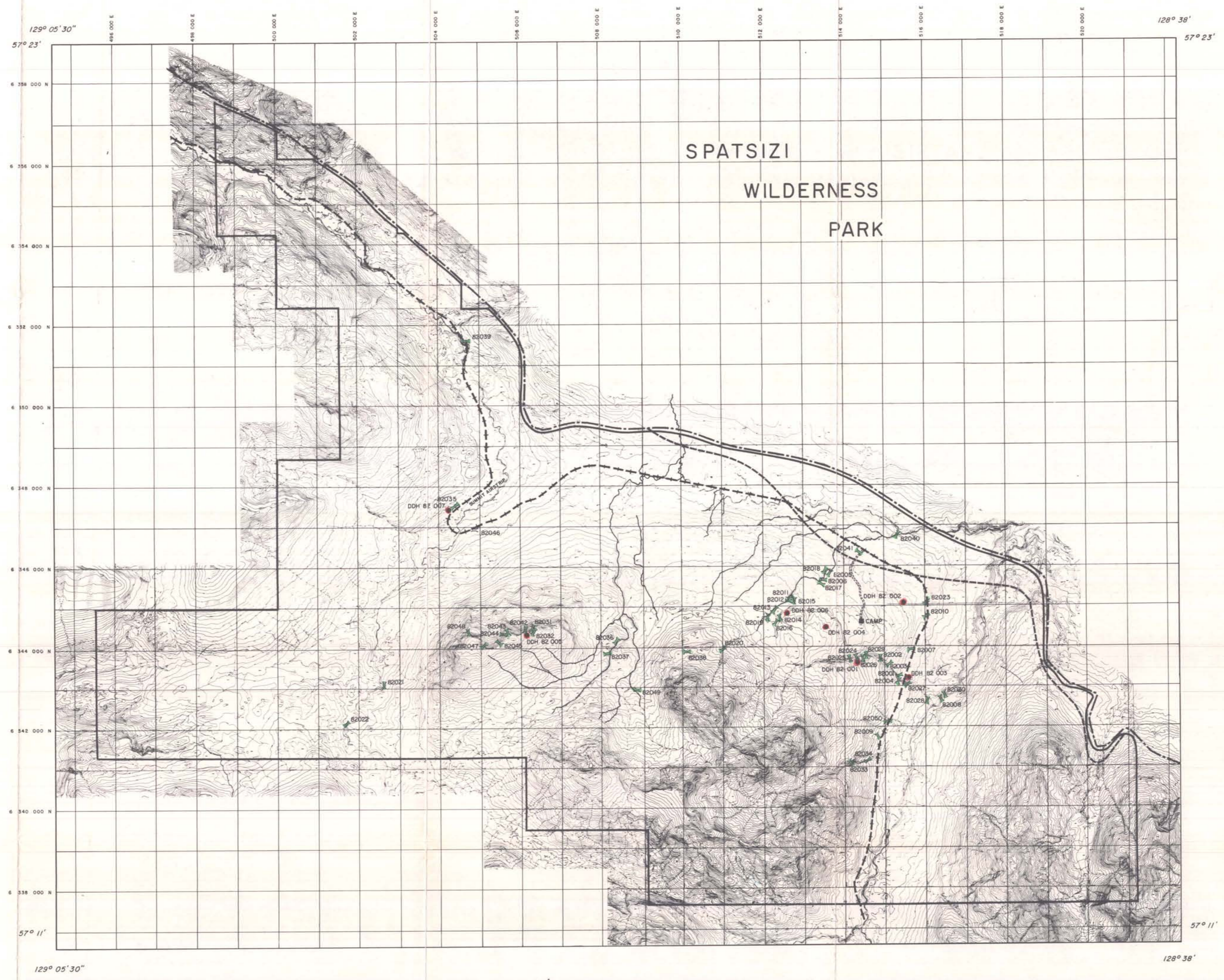
SCALE: 1:50,000

KPN-82-115



110

P/C



SPATSIZI
WILDERNESS
PARK



LEGEND

- BUILDING ————
- ROAD, HARD SURFACE ————
- LOOSE SURFACE ————
- CART TRACK ————
- TRAIL ————
- RAILROAD BED ————
- RIVER ————
- STREAM, DEFINITE ————
- APPROXIMATE ————
- SPLIT ————
- LAKE ————
- WATER LEVEL ————
- SWAMP ————
- BEAVER DAM ————
- TREE LINE ————
- CUT LINE ————
- CONTOURS, INDEX ————
- INTERMEDIATE ————
- DEPRESSION ————
- APPROXIMATE ————
- SPOT ELEVATION ————
- FIELD CONTROL POINT ————
- COAL PROPERTY BOUNDARY ————
- PARK BOUNDARY ————
- REDEFINED PROPERTY BOUNDARY ————

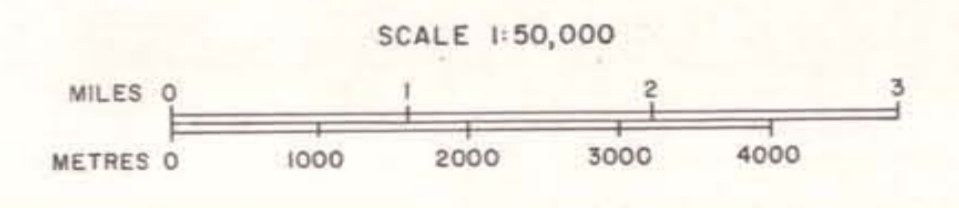
NOTES

CONTOUR INTERVAL 10 METERS

SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL

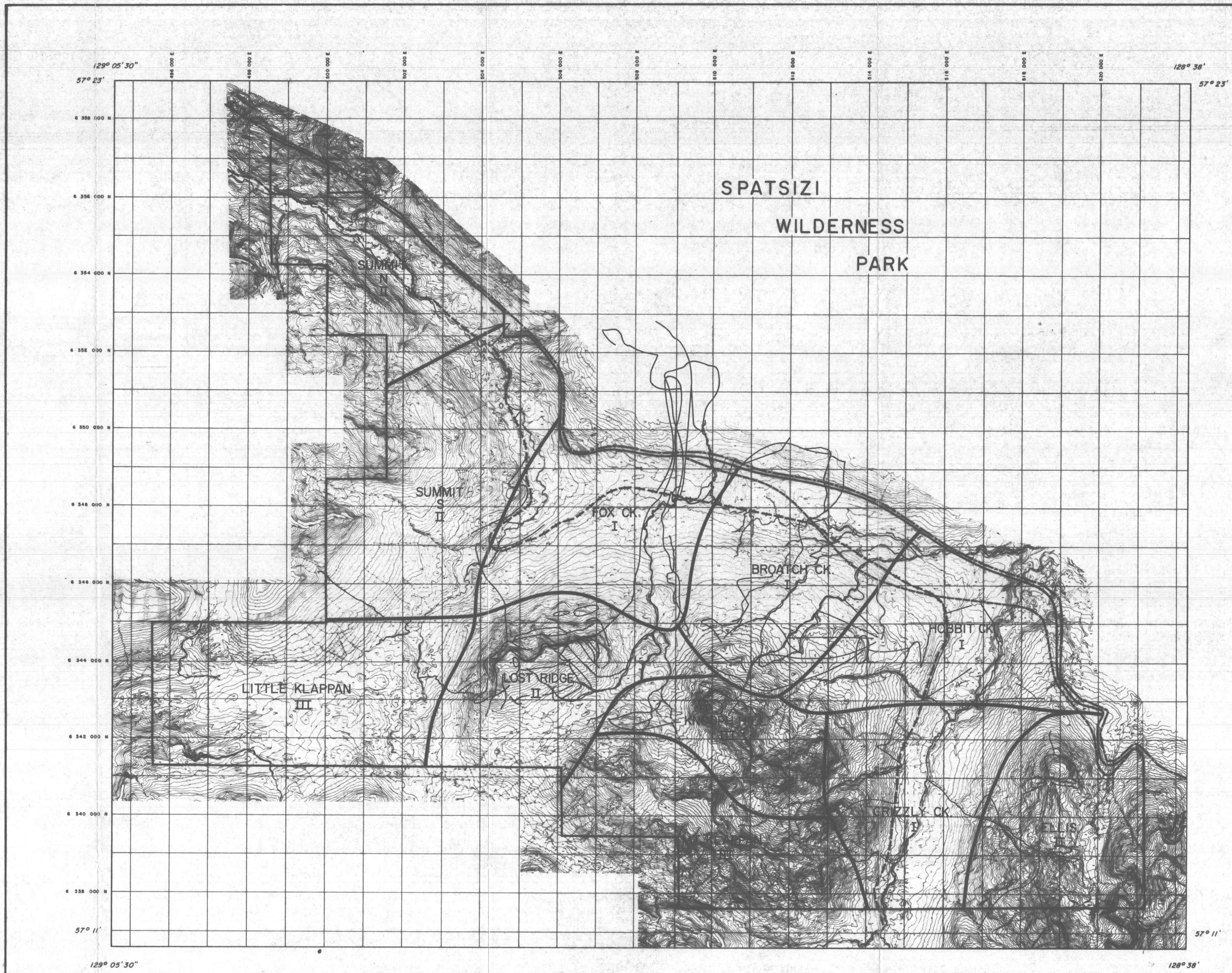
COMPILED BY WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD McLELLAN LTD., FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST /67 AT A SCALE OF 1:60000 (APPROXIMATE).



110

● D0H 82003 DRILL HOLE & DRILL HOLE NUMBER
 82030 TRENCH & TRENCH NUMBER

| | | |
|------------------------------------|-----------------|------------------------|
| GULF CANADA RESOURCES INC. | | |
| CALGARY | Coal Division | |
| MOUNT KLAPPAN COAL PROPERTY | | |
| TRENCH AND DRILL HOLE LOCATION MAP | | |
| PREPARED BY: E. SWANBERGSON | DATE: NOV. 1982 | DRAWING No. KPN-82-117 |
| APPROVED BY: B.P.F. | | |



LEGEND

| | | |
|-----------------------------|-----|----------|
| BUILDING | --- | [Symbol] |
| ROAD, HARD SURFACE | --- | [Symbol] |
| LOOSE SURFACE | --- | [Symbol] |
| CART TRACK | --- | [Symbol] |
| TRAIL | --- | [Symbol] |
| RAILROAD BED | --- | [Symbol] |
| RIVER | --- | [Symbol] |
| STREAM, DEFINITE | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPLIT | --- | [Symbol] |
| LAKE | --- | [Symbol] |
| WATER LEVEL | --- | [Symbol] |
| SWAMP | --- | [Symbol] |
| BEAVER DAM | --- | [Symbol] |
| TREE LINE | --- | [Symbol] |
| CUT LINE | --- | [Symbol] |
| CONTOURS, INDEX | --- | [Symbol] |
| INTERMEDIATE | --- | [Symbol] |
| DEPRESSION | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPOT ELEVATION | --- | [Symbol] |
| FIELD CONTROL POINT | --- | [Symbol] |
| COAL PROPERTY BOUNDARY | --- | [Symbol] |
| PARK BOUNDARY | --- | [Symbol] |
| REDEFINED PROPERTY BOUNDARY | --- | [Symbol] |
| TRAVERSE PATH | --- | [Symbol] |

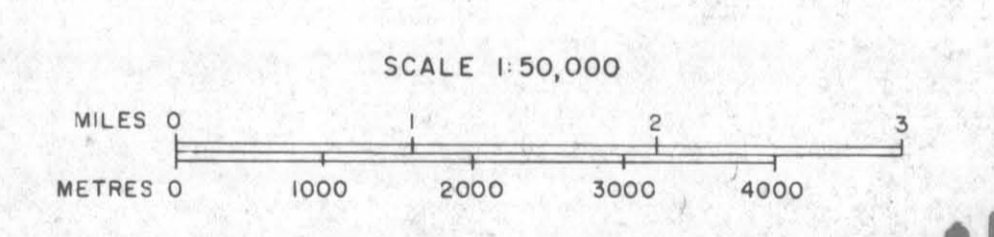
NOTES

CONTOUR INTERVAL 10 METERS

SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL

COMPILED BY:
WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLELLAN LTD.,
FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST 1977
AT A SCALE OF 1:60,000 (APPROXIMATE).



see mt klappan 82(a)

GULF CANADA RESOURCES INC.
Coal Division

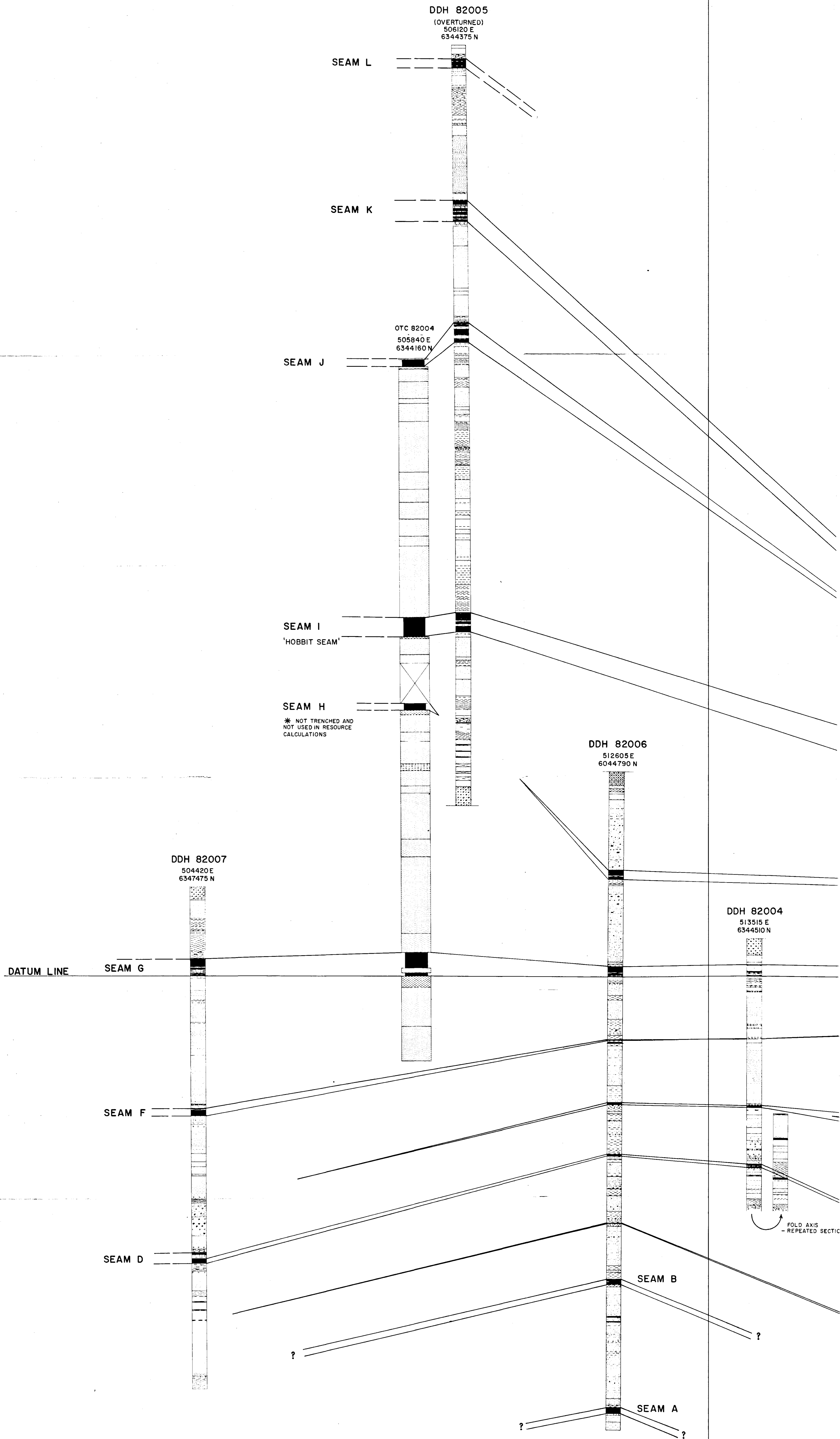
CALGARY ALBERTA

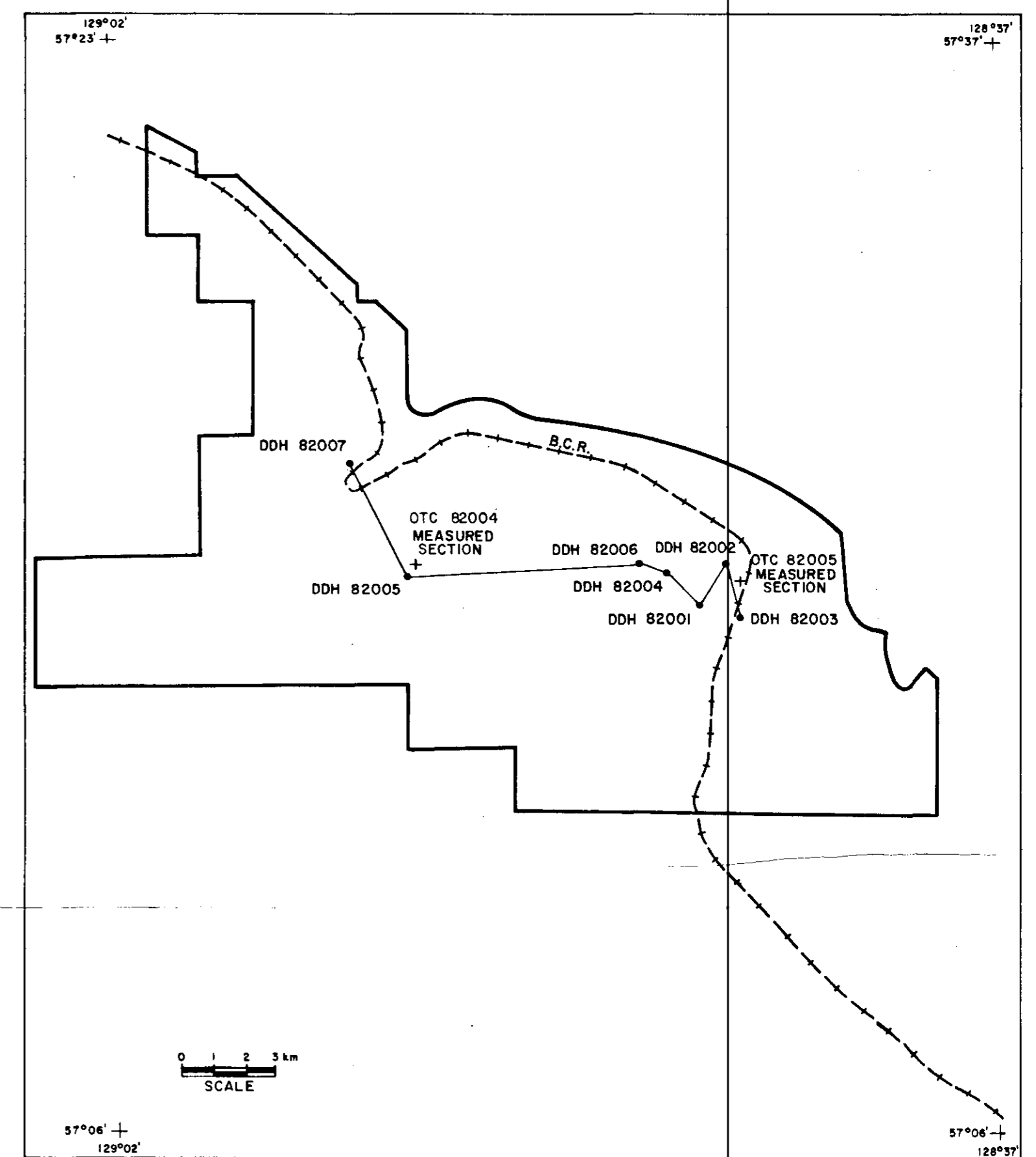
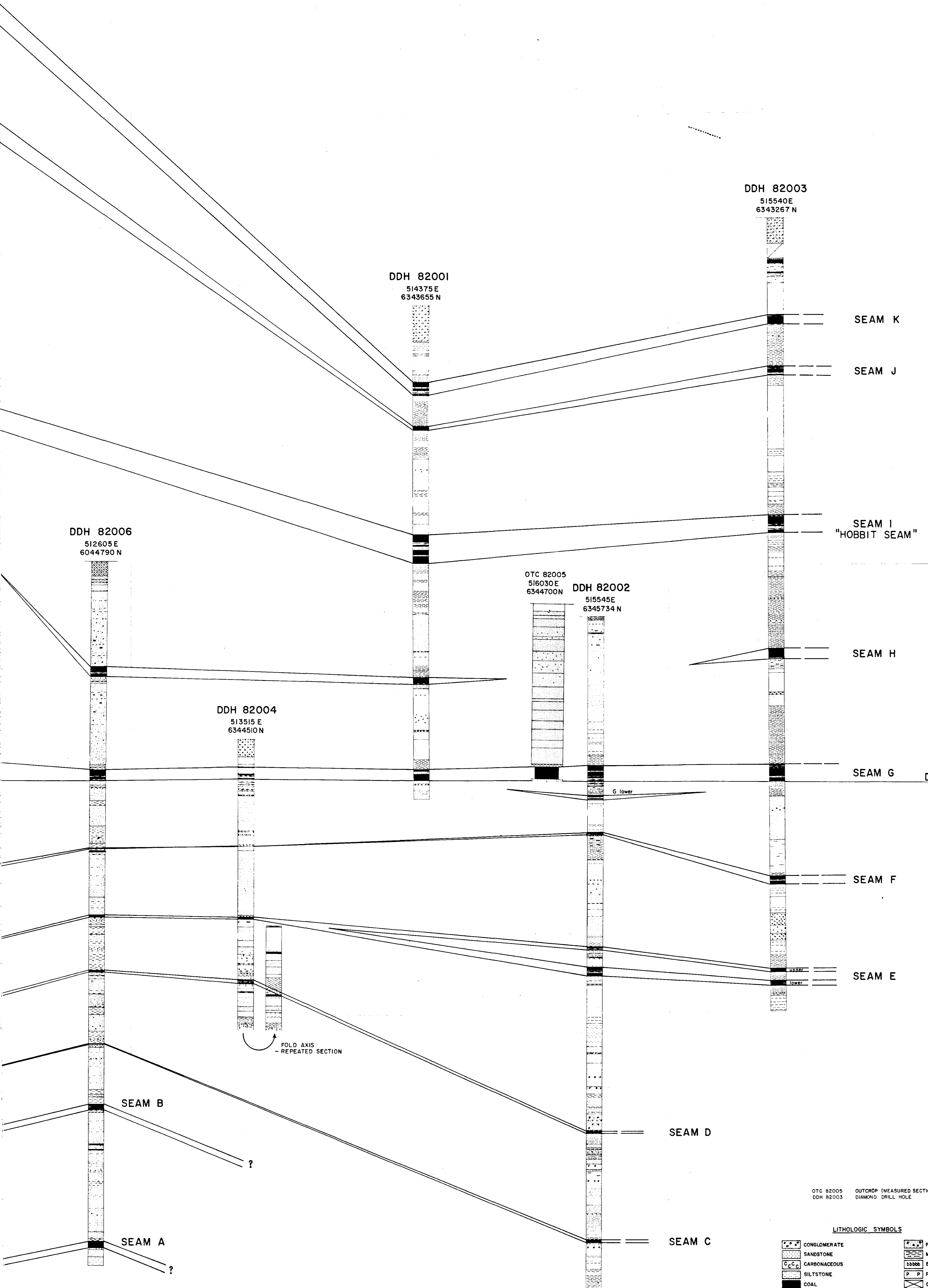
MOUNT KLAPPAN COAL PROPERTY

TRAVERSE LOCATION
1982

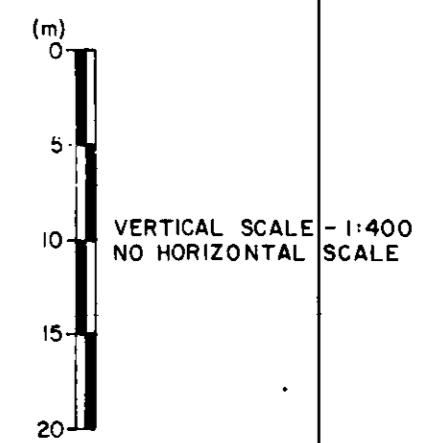
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|------------------------|----------------|
| PREPARED BY: K. JENNER | DRAWING No. |
| APPROVED BY: B. P. F. | DATE: NOV 1982 |
| | KPN - 82-118 |







INDEX MAP



OTC 82005 OUTCROP (MEASURED SECTION)
DDH 82003 DIAMOND DRILL HOLE

LITHOLOGIC SYMBOLS

| | | | |
|--|------------------|--|---------------------|
| | CONGLOMERATE | | PEBBLY SANDSTONE |
| | SANDSTONE | | MUDSTONE, CLAYSTONE |
| | CARBONACEOUS | | BENTONITE |
| | SILTSTONE | | PYRITE |
| | COAL | | CORE LOSS |
| | COAL - THIN BEDS | | PLANT FOSSIL |
| | OVERBURDEN | | SHELL FOSSIL |
| | QUARTZ | | |

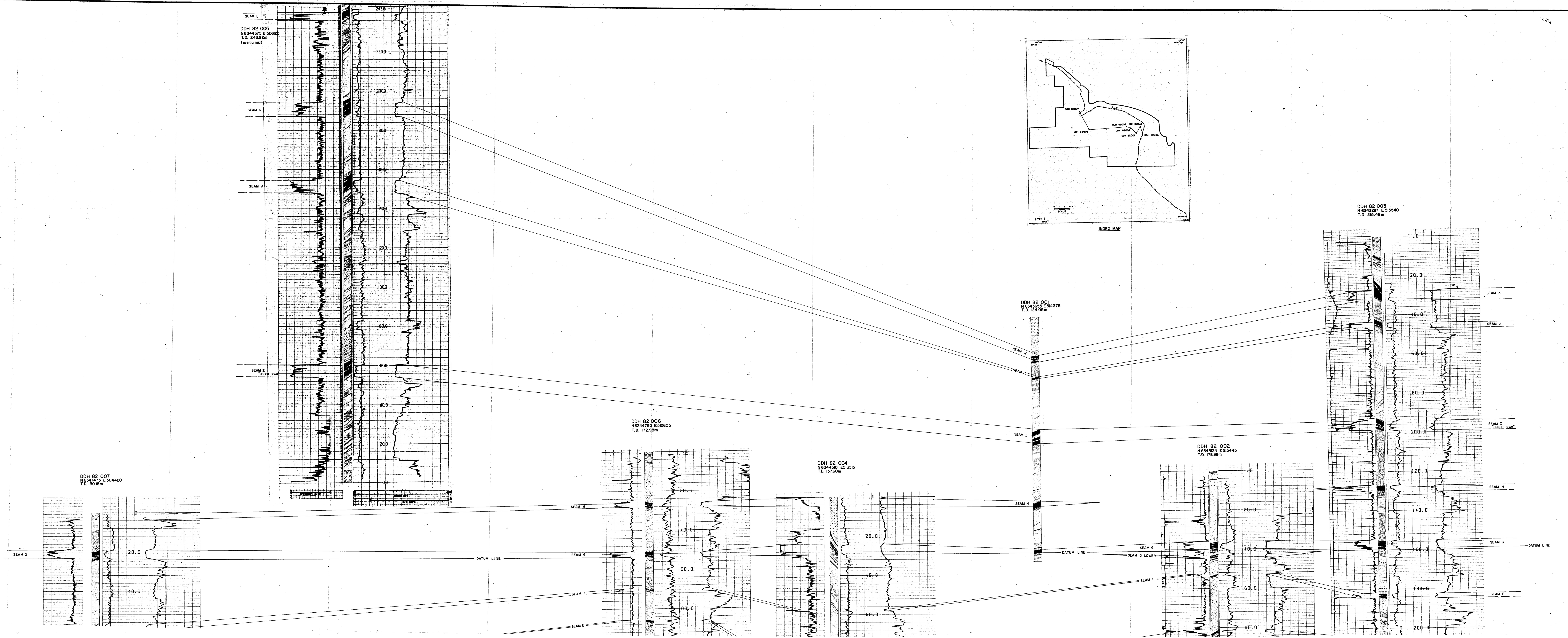
110

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MOUNT KLAPPAN COAL PROPERTY
DRILL HOLE AND MEASURED SECTION
COAL SEAM CORRELATION

PREPARED BY: E. SWANBERGSON DRAWING No. KPN-82-119
APPROVED BY: B.P.F. DATE: NOV. 82



DDH 82 007

DDH 82 006

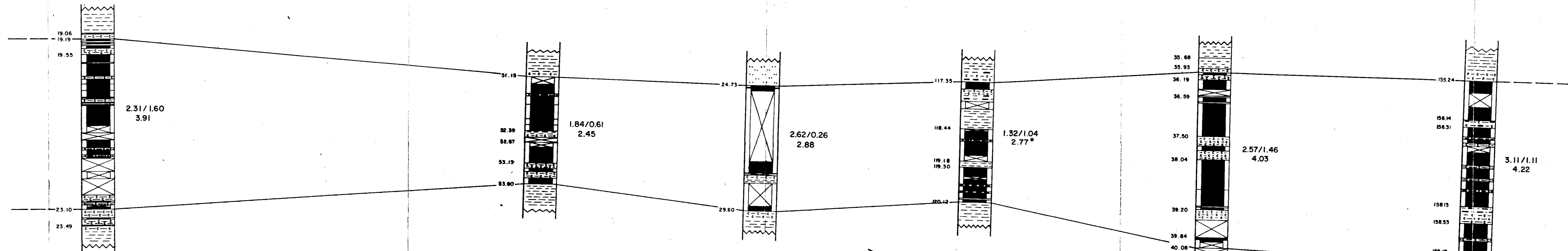
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DDH 82 001

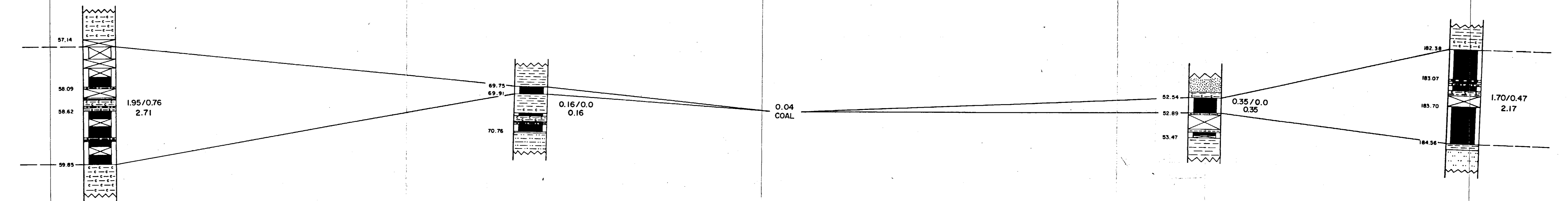
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DDH 82 003

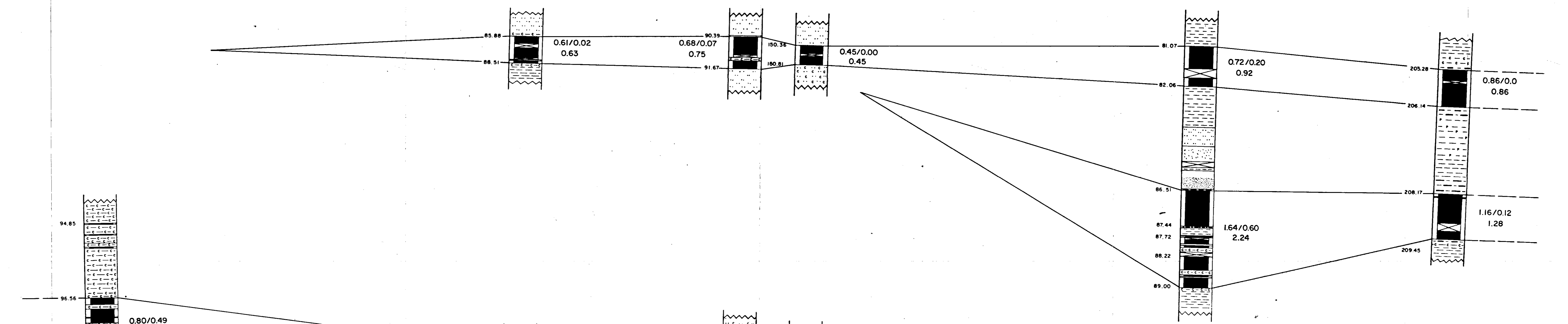
SEAM G



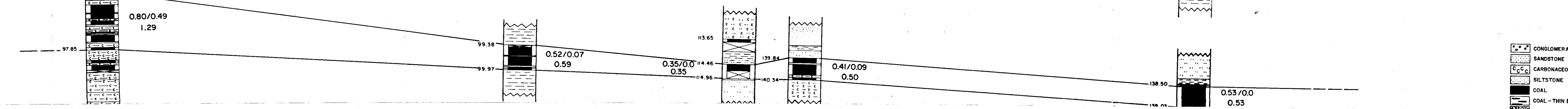
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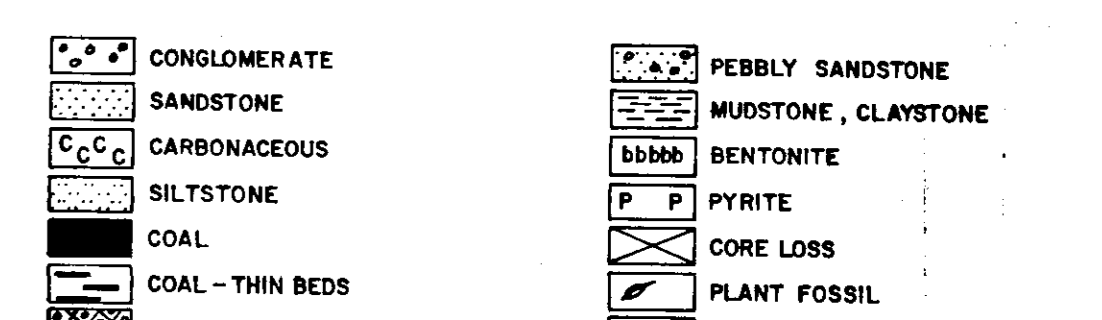
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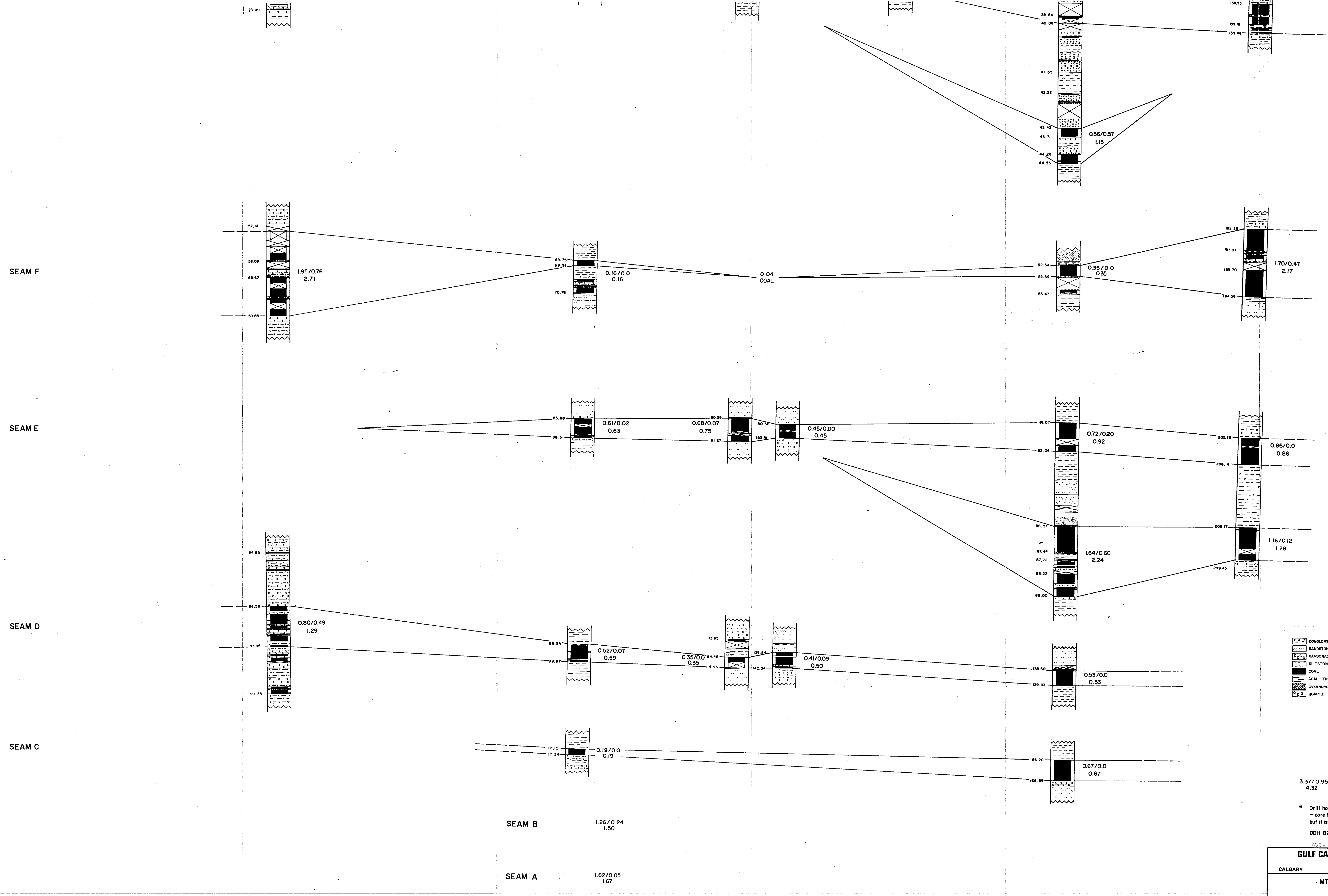


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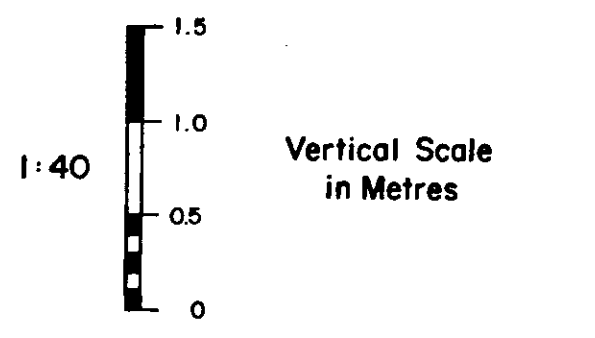
LITHOLOGIC SYMBOLS





LITHOLOGIC SYMBOLS

- | | | | |
|--|------------------------|--|---------------------|
| | CONGLOMERATE | | PEBBLY SANDSTONE |
| | SANDSTONE | | MUDSTONE, CLAYSTONE |
| | CARBONACEOUS SANDSTONE | | BENTONITE |
| | SILTSTONE | | PYRITE |
| | COAL | | CORE LOSS |
| | COAL - THIN BEDS | | PLANT FOSSIL |
| | OVERBURDEN | | SHELL FOSSIL |
| | QUARTZ | | |



3.37/0.95 - Coal to Rock ratio
4.32 - Total Seam True Thickness

* Drill hole 82 001 was not geophysically logged - core loss is included in the total seam thickness but it is unknown if it is coal or rock.
DDH 82003 Diamond Drill Hole

110

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY

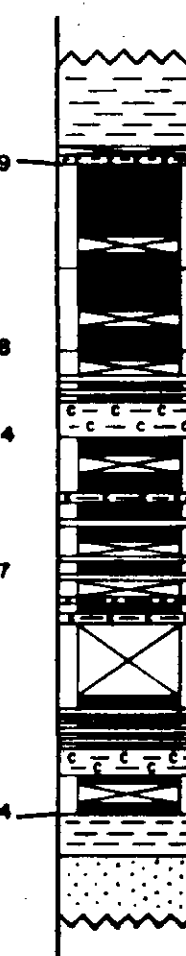
DETAILED SEAM TO SEAM CORRELATION
SEAMS C - G

| | |
|---------------------|-----------------|
| PREPARED BY: E.S. | DRAWING No. |
| APPROVED BY: B.P.F. | DATE: NOV. 1982 |
| | KPN - 82 - 121 |

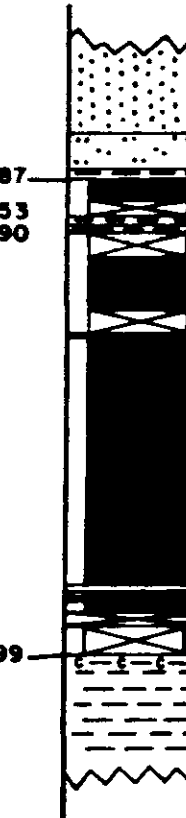
SEAM L
1.43/0.81
2.24



2.75/3.00
5.75

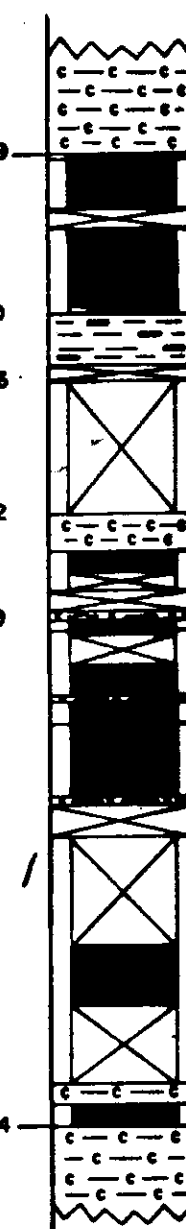


1.63/0.72
3.45*

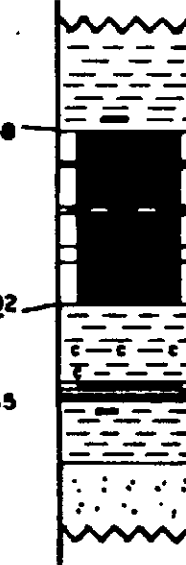


2.26/0.26
2.52

SEAM K



3.99/1.17
5.16

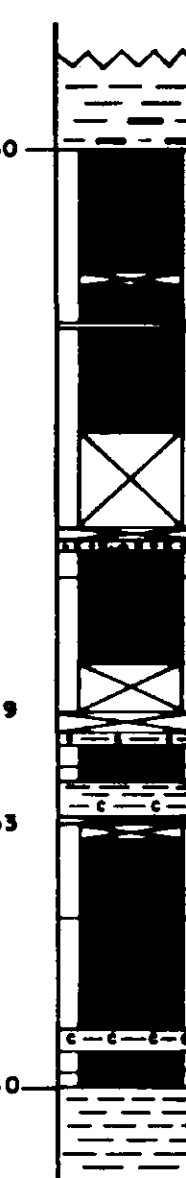


0.85/0.08
0.93*



2.21/0.12
2.33

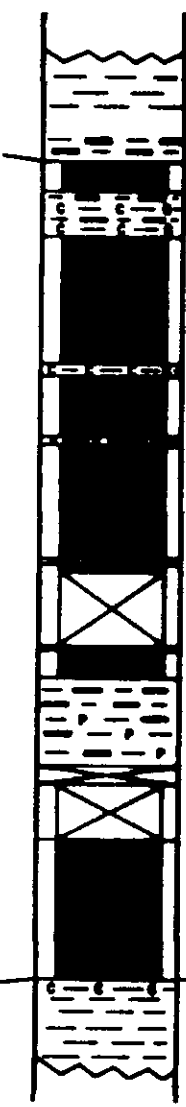
SEAM J



4.26/0.72
4.98

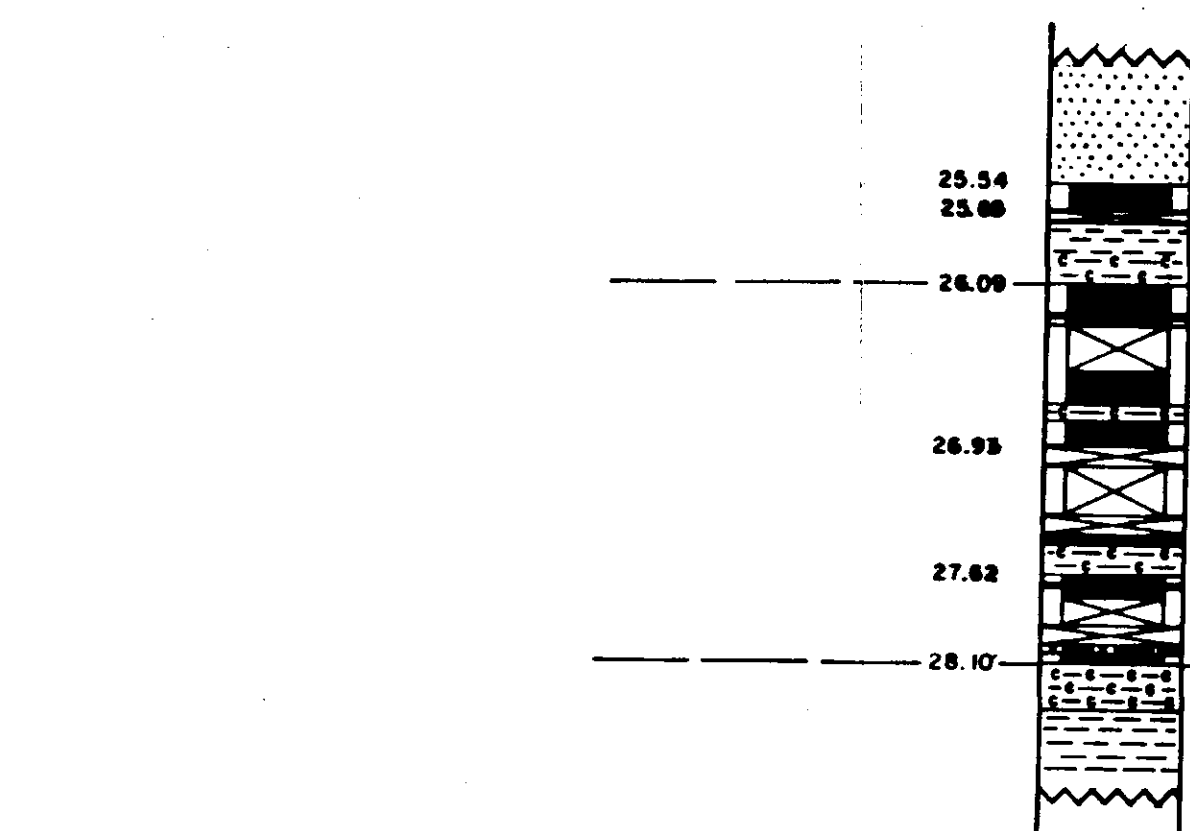


4.34/2.02
6.97*

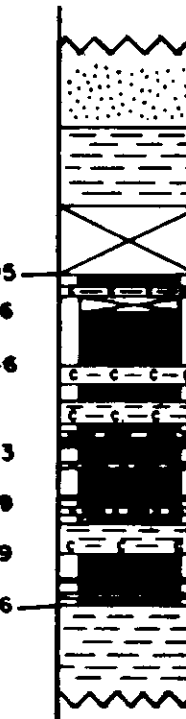


3.37/0.95
4.32

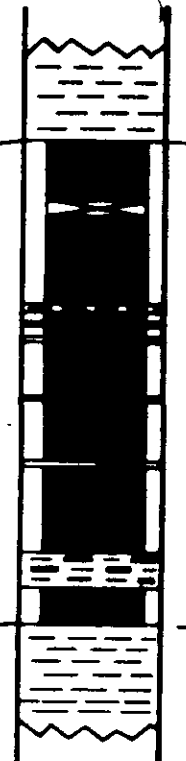
SEAM I
"HOBBIT SEAM"



1.31/0.70
2.01



0.94/0.66
1.73*

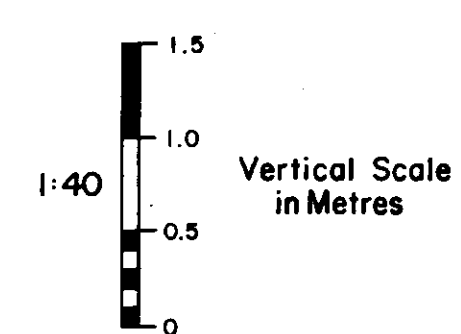


2.23/0.34
2.57

SEAM H

LITHOLOGIC SYMBOLS

- CONGLOMERATE
- SANDSTONE
- CARBONACEOUS
- SILTSTONE
- COAL
- COAL - THIN BEDS
- OVERBURDEN
- QUARTZ
- PEBBLY SANDSTONE
- MUDSTONE, CLAYSTONE
- SLTSTONE
- PYRITE
- CORE LOSS
- PLANT FOSSIL
- SHELL FOSSIL



3.37/0.95
4.32
Coal to Rock Ratio
Total Seam True Thickness

* Drill hole 82 001 was not geophysically logged - core loss is included in the total seam thickness but it is unknown if it is coal or rock.

DDH 82003 Diamond Drill Hole

GULF CANADA RESOURCES INC.

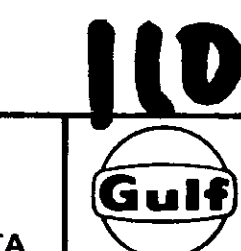
CALGARY ALBERTA

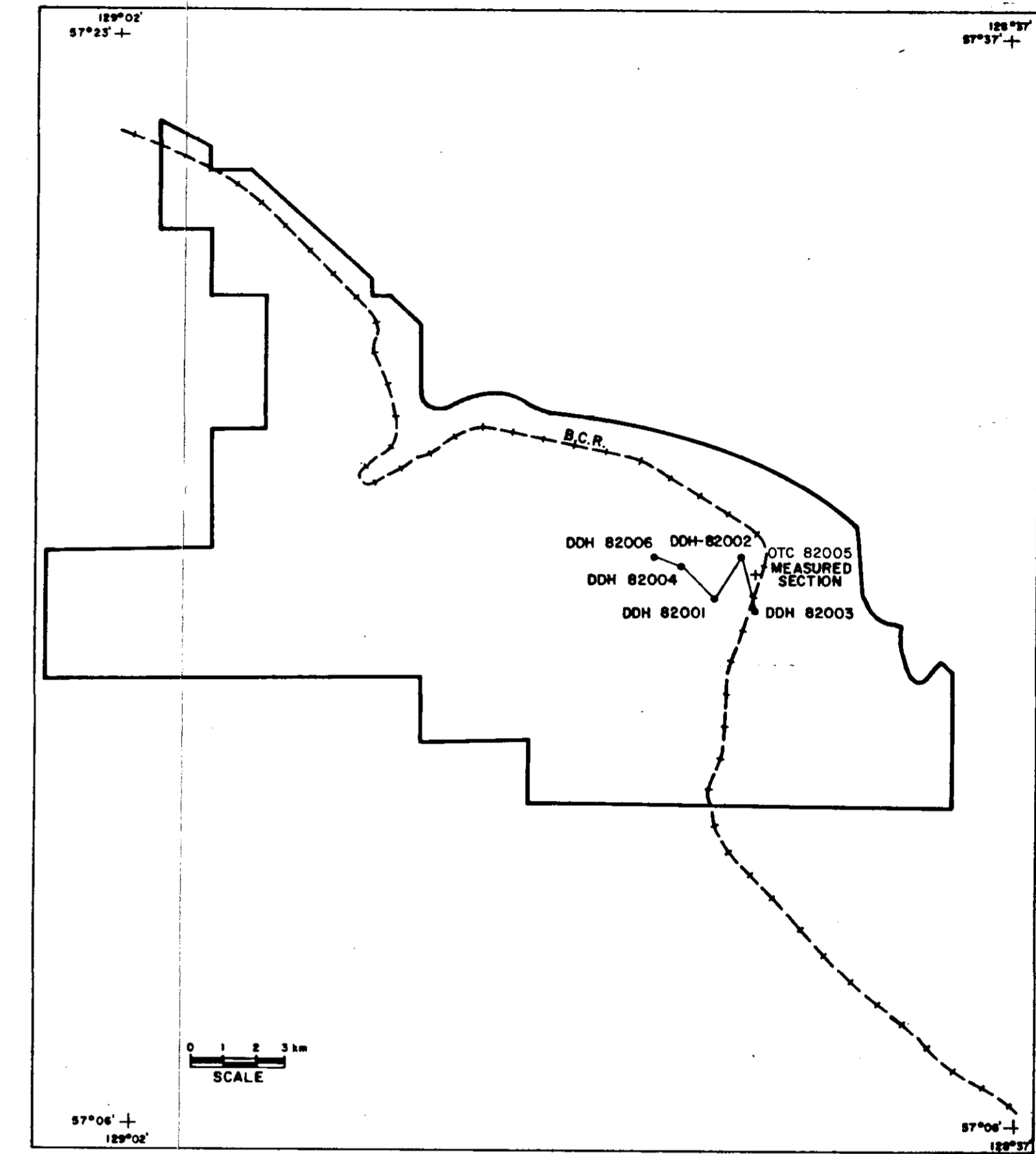
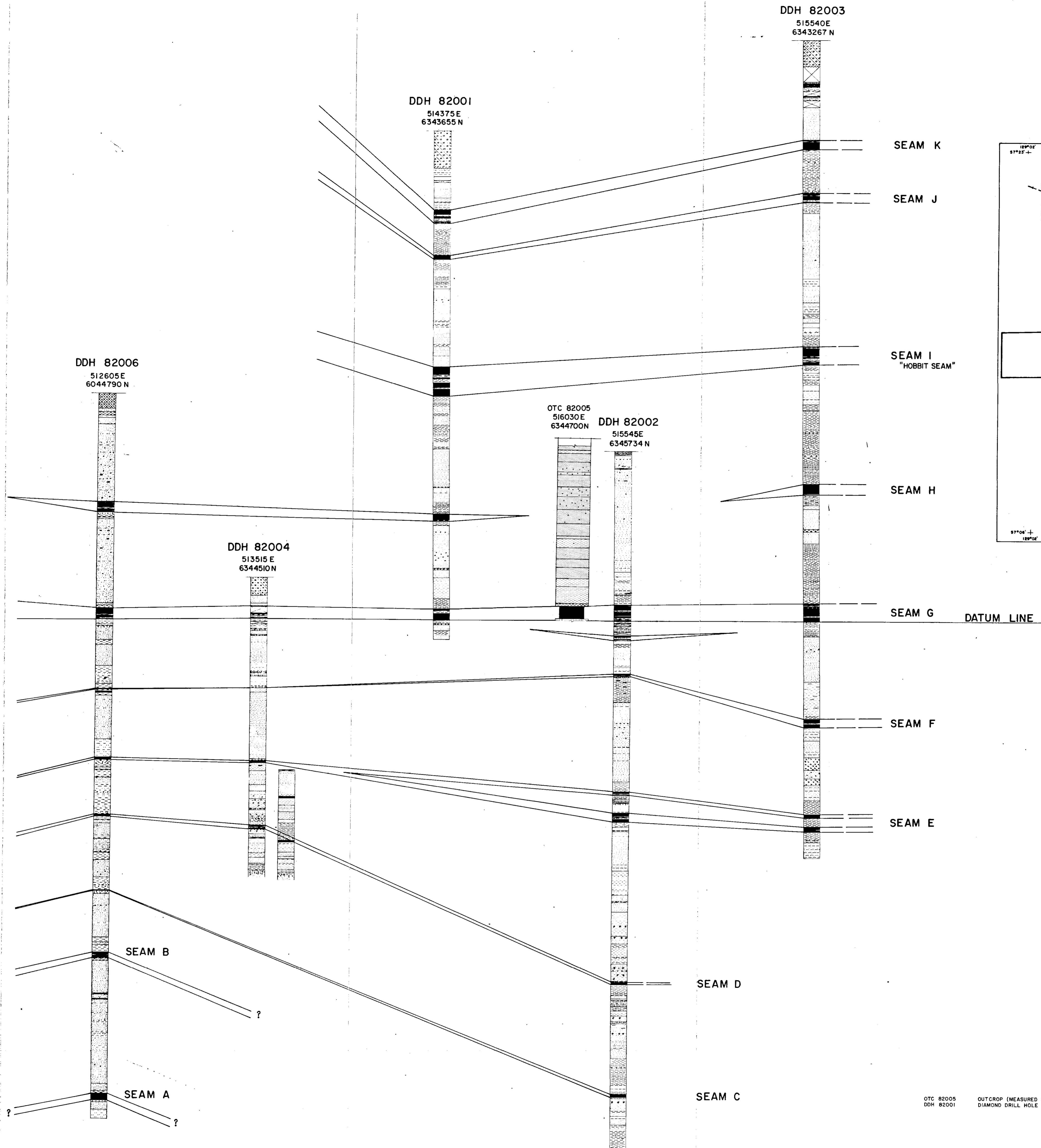
MT. KLAPPAN COAL PROPERTY

DETAILED SEAM TO SEAM CORRELATION

SEAMS H - K

PREPARED BY: E. S. DATE: NOV. 1982 KPN-82-122





LITHOLOGIC SYMBOLS

| | | | |
|--|------------------|--|---------------------|
| | CONGLOMERATE | | PEBBLY SANDSTONE |
| | SANDSTONE | | MUDSTONE, CLAYSTONE |
| | CARBONACEOUS | | BENTONITE |
| | SILTSTONE | | PYRITE |
| | COAL | | CORE LOSS |
| | COAL - THIN BEDS | | PLANT FOSSIL |
| | OVERBURDEN | | SHELL FOSSIL |
| | QUARTZ | | |

110

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY

HOBBIT-BROATCH RESOURCE AREA
SEAM CORRELATION

VERTICAL SCALE - 1:400

PREPARED BY: G. SEVE

APPROVED BY: B.P.F.

DATE: NOV, 1982

DRAWING No. KPN-82-123

OTC 82005
DDH 82001

OUTCROP (MEASURED SECTION)
DIAMOND DRILL HOLE

DDH 82005
506120 E
6344375 N

SEAM L

SEAM K

OTC 82004
505840 E
6344160 N

SEAM J

SEAM I
"HOBBIT SEAM"

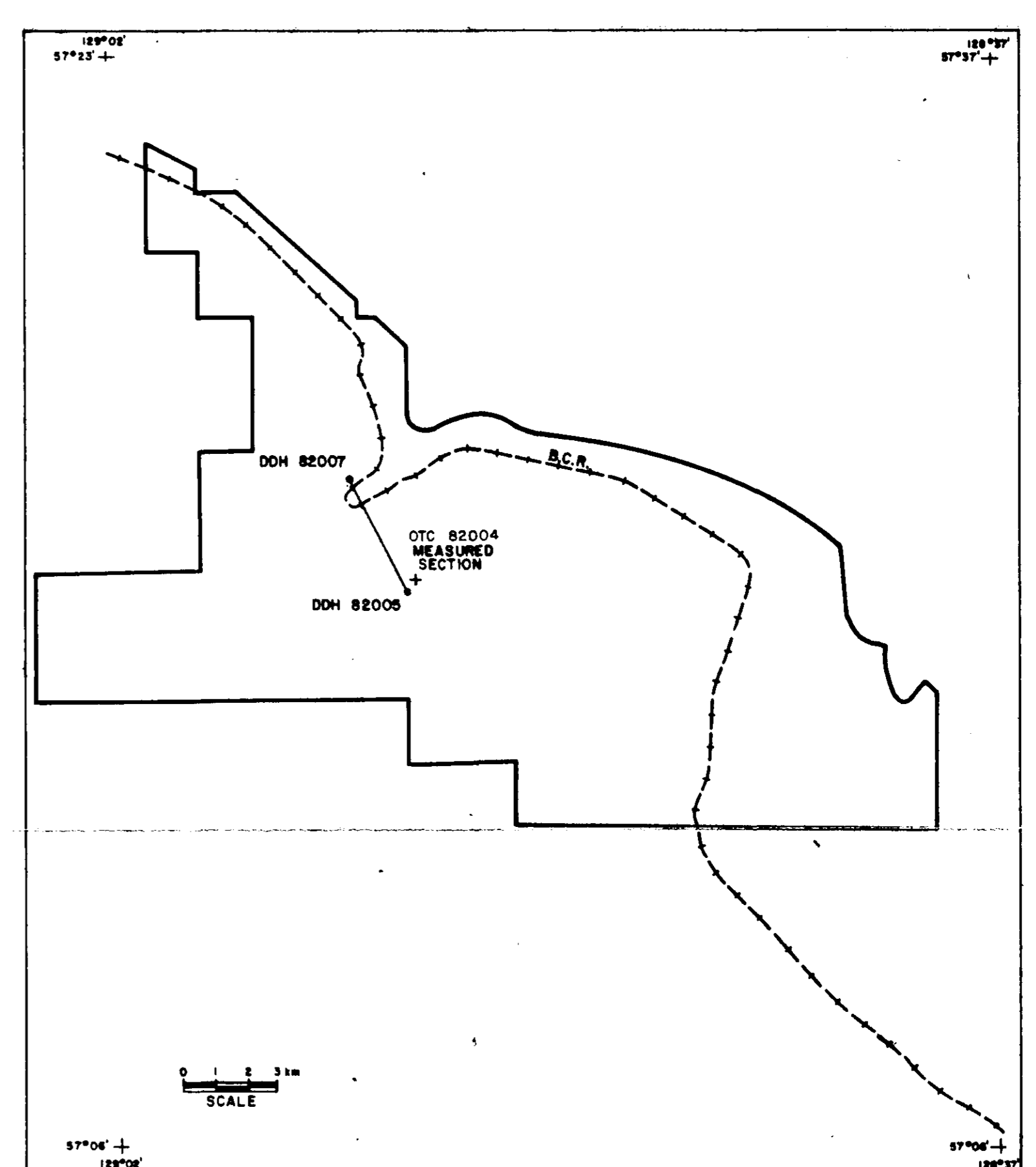
SEAM H*
* NOT TRENCHED AND
NOT USED IN RESOURCE
CALCULATIONS.

DDH 82007
504420 E
6347475 N

DATUM LINE SEAM G

SEAM F

SEAM D



INDEX MAP

LITHOLOGIC SYMBOLS

| | | | |
|--|------------------|--|---------------------|
| | CONGLOMERATE | | PEBBLE SANDSTONE |
| | SANDSTONE | | MUDSTONE, CLAYSTONE |
| | CARBONACEOUS | | BENTONITE |
| | SILTSTONE | | PYRITE |
| | COAL | | CORE LOSS |
| | COAL - THIN BEDS | | PLANT FOSSIL |
| | OVERBURDEN | | SHELL FOSSIL |
| | QUARTZ | | |

OTC 82004 OUTCROP (MEASURED SECTION)
DDH 82007 DIAMOND DRILL HOLE

110

CS - Mt. Klappan, S.A. (D)

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MT. KLAPPAN COAL PROPERTY
LOST-FOX RESOURCE AREA
SEAM CORRELATION

VERTICAL SCALE - 1:400
 PREPARED BY: G. SEVE
 APPROVED BY: B. P. F. DATE: NOV. 1982 DRAWING No. KPN-82-124

62- mt Klappan 53(2)

110

GULF CANADA RESOURCES INC.

Coal Division
CALGARY ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
 MEASURED STRATIGRAPHIC SECTION
 OTC82001**

STUDY AREA: LITTLE KLAPPAN RIVER
 LOCATION: FROM
 EASTING: 501672 E
 NORTHING: 6341980 N
 TO
 EASTING: 501770 E
 NORTHING: 6342170 N

LITHOLOGIC SYMBOLS:

| | |
|--|------------------|
| | SANDSTONE |
| | SHALE, CLAYSTONE |
| | SILTSTONE |
| | CARBONACEOUS |
| | COAL |
| | CONGLOMERATE |
| | COAL BANDS |

Dwg. No. KPN-82-125
 Date: August 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|-------------|---|
| 4.50m | | SANDSTONE Little, thick bedded to massive, medium grey, weathers orange-brown, mottled appearance fresh, clay matrix, pebble band at base |
| 11.82m | | SILTSTONE Rhythmically bedded, grey, orange brown weathered, load features, beds 0.5 - 35 cm thick |
| 0.47m | | CLAYSTONE Carbonaceous, thin coal bands, fossiliferous |
| 4.37m | | COAL Bright banded, very hard, iron staining, occasional claystone interbeds |
| 0.75m | | CLAYSTONE Carbonaceous |
| 9.30m | | RHYTHMICALLY INTERBEDDED SANDSTONE Friable, medium grained, grey, lithic SANDSTONE Grey, fine grained, lithic, silty, weathers dull orange, beds up to 40 cm IRONSTONE Nodular, thinner beds |
| 0.70m | | SANDSTONE Medium grained, salt & pepper, weathers tan |
| 0.67m | | SILTSTONE Some sandy interbeds, fossiliferous, coal fragments, dark grey, ironstone, weathering |
| 6.33m | | SANDSTONE Fine grained, salt & pepper, weathers yellow-brown, lithic, composes 10% concretionary mudstone within thin to thick bedded, occasional shaly clasts |
| 15.50m | | SILTSTONE Monotonous sequence, thick to thinly interbedded, medium grey, weathers grey brown |
| 5.50m | | SILTSTONE Thick bedded, calcareous, weathering surface, grey fresh, occasional red iron weathering |
| 1.70m | | SANDSTONE Very fine grained, medium grey, weathering tan |
| 2.20m | | CLAYSTONE Carbonaceous, little coal |
| 1.02m | | CLAYSTONE Carbonaceous, with coal |
| 1.44m | | SILTSTONE AND CLAYSTONE Dark grey, parts carbonaceous, thin coaly bands <1 cm pyritiferous, weathers grey-orange |
| 15.36m | | SANDSTONE Massive, thickly bedded, fine grained medium grey on fresh, weathers yellow orange, fine silty interbeds |
| 1.41m | | SILTSTONE Fine bedding, tan sandy interbeds |
| 0.32m | | IRONSTONE Yellow-orange, thickness varies, slightly calcareous |
| 2.77m | | SILTSTONE Highly cleaved, fresh medium grey, weathers orange, bedding indistinct |
| 1.0m | | COVERED Probably mudstone |
| 1.80m | | MUDSTONE Fossiliferous, dark grey, weathers orange-red, iron weathering |
| 1.45m | | SILTSTONE Finely laminated, medium grey, weathers tan-brown |
| 13.40m | | SANDSTONE Little, medium grained, occasional granule sized fragments, shale rip-up clasts, ripple marks, light grey fresh, weathers orange-brown, quartz vein, thick bedded, fining up sequence, fine laminations near top, cleavage more intense on top, occasional silty interbeds |
| 3.50m | | SANDSTONE Fine-medium grained, interbedded with siltstone, occasional shaly beds, discontinuous parallel wavy laminations, cleavage well developed, load features, calcareous weathered surface, weathers dull yellow brown |
| 50.0m | | COVERED |
| 1.15m | | SILTSTONE Grey, coarse, weathers tan, thick bedded, occasional fracture zone |
| 0.56m | | SILTSTONE With sandy beds, grey, interlamination, weathers orange-brown |
| 2.0m | | SANDSTONE Fine grained, grey, weathered tan, occasional lithic and iron staining, massive |
| 1.10m | | SANDSTONE } INTERBEDDED SILTSTONE } IRONSTONE } SANDSTONE } Nodular } Fractured } Fine grained, weathered, dull grey-tan, massive, bedding, poorly defined, fractured } occasional shaly lamina } |
| 1.60m | | SANDSTONE Fine grained, weathered, dull grey-tan, massive, bedding, poorly defined, fractured occasional shaly lamina |
| 4.70m | | SANDSTONE Fine grained, medium grey fresh, weathered dull, thick bedded, occasional shaly and silty partings, lithic, contains quartz vein |
| 0.94m | | SANDSTONE } INTERBEDDED IRONSTONE } BRECCIA ZONE } SANDSTONE } Nodular } Fine grained, grey-tan, massive } angular siltstone fragments, silty } Fine grained, grey, weathers orange, siltstone interbeds } |
| 0.50m | | SANDSTONE Fine grained, massive, grey yellow weathering, occasional shaly clasts, lithic fragments, interlaminated graded bedding, beds <50 cm, unit highly cleaved |
| 0.20m | | SANDSTONE Fine grained, massive, grey yellow weathering, occasional shaly clasts, lithic fragments, interlaminated graded bedding, beds <50 cm, unit highly cleaved |
| 0.80m | | SANDSTONE Fine grained, massive, grey yellow weathering, occasional shaly clasts, lithic fragments, interlaminated graded bedding, beds <50 cm, unit highly cleaved |
| 2.84m | | SANDSTONE Fine grained, massive, grey yellow weathering, occasional shaly clasts, lithic fragments, interlaminated graded bedding, beds <50 cm, unit highly cleaved |

Total: 173.67m

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION
OTC82002**

STUDY AREA: LITTLE KLAPPAN RIVER
LOCATION:
EASTING: 502600E
NORTHING: 6343100 N

LITHOLOGIC SYMBOLS:

| | |
|--|------------------|
| | SANDSTONE |
| | SHALE, CLAYSTONE |
| | SILTSTONE |
| | CARBONACEOUS |
| | COAL |
| | CONGLOMERATE |
| | COAL BANDS |

Dwg.No. KPN-82-126
Date: August, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|-------------|--|
| 5.60m | | SILTSTONE Interbedded with claystone, carbonaceous silt, quartz pebbles, ironstone sequence, minor ironstone bands |
| 0.28m | | IRONSTONE Nodular, weathers yellow-orange |
| 4.12m | | SILTSTONE Interbedded with claystone |
| 0.35m | | IRONSTONE: Nodular, weathers yellow-orange |
| 4.44m | | SILTSTONE Dark grey, ripple marked, beige tan weathering |
| 2.93m | | CLAYSTONE Highly cleaved, dark grey, weathers red |
| 3.30m | | SILTSTONE Finely interbedded with claystone; weathers dull orange-tan, occasional thin sandy laminae |
| 2.50m | | SANDSTONE Fine to med grained, shaly interbeds and beds, clasts decrease in size towards kaolinitic, salt and pepper appearance, weathers orange tan, med to thick bedded |
| 5.00m | | COVERED |
| 4.50m | | SILTSTONE Interbedded with shale, occasional sandy interbedded on fine scale |
| 5.00m | | SANDSTONE Fine grained, iron-stained, shaly patches, mottled orange grey flesh, weathers tan, massive to thick bedded |
| 6.00m | | COVERED Probably mudstone |
| 1.40m | | SILTSTONE Carbonaceous, weathers orange tan |
| 0.40m | | CLAYSTONE Carbonaceous, coal interbeds, weathers orange-brown |
| 0.50m | | COAL |
| 1.13m | | CLAYSTONE Carbonaceous, coal interbeds, weathers orange-brown |
| 0.88m | | COAL |
| 1.60m | | CLAYSTONE Carbonaceous, coal interbeds |
| 0.30m | | CLAYSTONE Carbonaceous |
| 0.53m | | SILTSTONE Med grey, weathers tan, thin sandy interbeds |
| 2.50m | | SANDSTONE Very fine grained, dark grey, nodular, weathers orange-brown |
| 0.30m | | SANDSTONE Fine grained, shaly interbeds, weathers tan, iron-stained |
| 1.05m | | SILTSTONE Interbedded with fine sandstone, weathers orange grey |
| 9.75m | | SANDSTONE massive to thick bedded, fine to medium grained, kaolinitic, salt and pepper appearance, weathers dull tan, homogenous, iron staining, sandstone beds up to 50 cm in thickness, ripple marked |
| 5.35m | | SANDSTONE Fine grained, grey, iron-stained, interbedded with siltstone, med grained, and nodular ironstone |
| 19.60m | | SILTSTONE Sandy interbeds, grey, weathers orange-grey |
| 3.70m | | SANDSTONE Fine grained, interbedded with siltstone, sandstone grey, weathers tan, siltstone weathers tan-orange. Even, parallel, slightly wavy beds, bedding thickness varies from 35 cm to millimetres |

TOTAL 93.01

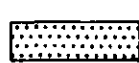
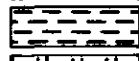
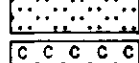
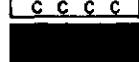
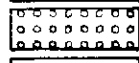
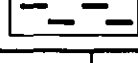
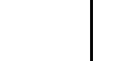
GULF CANADA RESOURCES INC.

Coal Division
 CALGARY ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
 MEASURED STRATIGRAPHIC SECTION
 OTC82003**

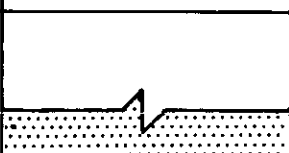

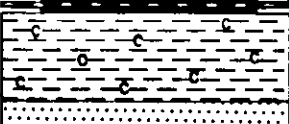
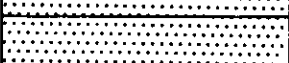
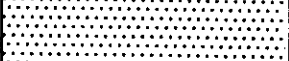

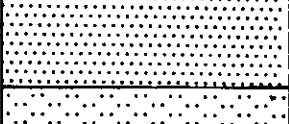
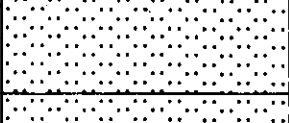
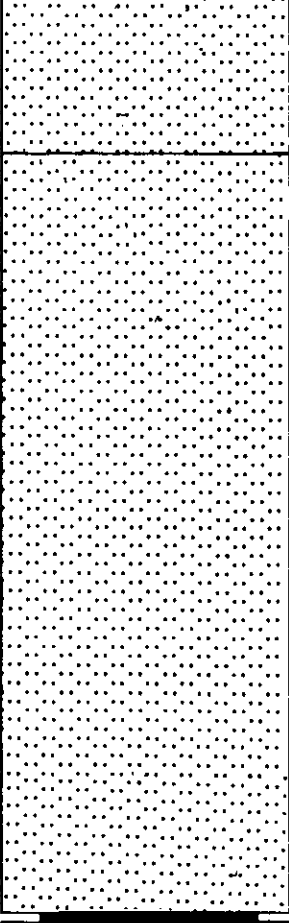

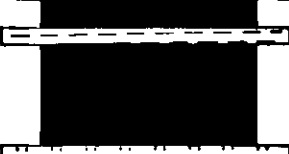
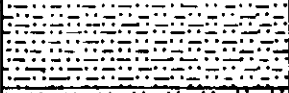
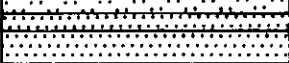

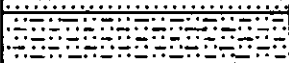
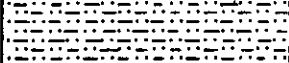

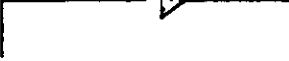
STUDY AREA: HOBBIT CREEK
 LOCATION:
 EASTING: 515300 E
 NORTHING: 6 343 250N

LITHOLOGIC SYMBOLS:

-  SANDSTONE
-  SHALE, CLAYSTONE
-  SILTSTONE
-  CARBONEOUS
-  COAL
-  CONGLOMERATE
-  COAL BANDS

Dwg.No. KPN-82-127
 Date: July, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|---|---|
| - |  | SANDSTONE Fine grained, weathered gray, siltstone laminations throughout. Siltstone, dark gray weathered brown, occasional coal lens. Banded appearance. Fe staining abundant. Occasional tree fragments. |
| 5.80m |  | CLAYSTONE Minor coal COAL CARBONEOUS CLAYSTONE Minor coal bands COAL CARBONEOUS CLAYSTONE COAL CLAYSTONE COAL CLAYSTONE AND SANDSTONE COAL SANDSTONE COAL CARBONEOUS CLAYSTONE Frequent localized coal bands up to 5 cm thick, nodular towards base, minor siltstone with coal bands (TRC-82-001) |
| 2.30m |  | SANDSTONE Fine grain, dark gray, bedding indistinct, fines to base to dark gray silt. |
| 0.90m |  | SANDSTONE Fine grain, dark gray, frequent interbeds of dark gray siltstone 1 cm thick, siltstone units also occur as thin discontinuous laminae, nodular in places, plant fossils at basal 30 cm. |
| 3.30m |  | SANDSTONE Slightly finer than above bed with calcite filled bedding plane |
| 0.65m |  | SANDSTONE Medium grain, thin bedded up to 40 cm, medium gray, resistant, weathers slightly purple also with orange stain, occasional thin beds of siltstone, are discontinuous, weather rust, minor crossbeds in fine grain beds |
| 2.80m |  | SILTSTONE Dark gray, weathers with orange coating, bedding generally obscure, cleavage prominent. |
| 3.30m |  | SILTSTONE Dark gray, weathers light to dark gray, occasional laminating of fine grain sand and claystone, distinctive orange bands ~ 10 cm thick. Every 40 cm, are more indurated, some fine grain sands continuous, cleavage prominent and steeper than bedding, doesn't penetrate bands as well as the siltstone, nodular in places up to 0.50 m thick. |
| 4.90m |  | SILTSTONE Dark gray, banded and weathered appearance, banding not on fresh surface, occasional calcite filled bedding plane, brown weathered siltstone bands 5 cm thick, every 10 cm, occasional nodules, occasional soft sed deformation 3 metres across. |
| 20.00 |  | COAL With minor claystone |
| 5.65m |  | CLAYSTONE COAL CARBONEOUS CLAYSTONE COAL CARBONEOUS CLAYSTONE COAL (TRC-82-003) |
| 2.40m |  | SILTY CLAYSTONE Dark Gray, weathers medium gray to dark gray, frequent nodular concretions up to 10 cm diameter creates slight banded appearance, bedding obscure. |
| 0.40m |  | SILTSTONE Dark gray, weathers orange, very hard |
| 0.45m |  | SANDSTONE Fine to medium grain, massive, medium gray |
| 0.85m |  | SANDSTONE Very fine grain, gray, weathers orange, interbedded siltstone discontinuous |
| 1.80m |  | SANDSTONE Medium grain, massive, very resistant, weathers very blocky, red brown to orange, medium gray fresh, occasional beds of siltstone clasts near base, ripple marks. |
| 6.20m |  | SILTY CLAYSTONE Medium gray, interbedded medium grain sandstone and siltstone, banded appearance, several concretion nodules, carbonaceous bands at base, minor coal 2-3 cm at base, carbonaceous bands very pyritic, sandy at base, poorly lithified, 2-5 cm bands of coarse grained sandstone at base, constant until last 2 metres when sandstone and carbonaceous beds appear. |
| Total 61.70m |  | |

GULF CANADA RESOURCES INC.

CALGARY

Coal Division

ALBERTA

110

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION**

OTC82004

STUDY AREA: LOST RIDGE
LOCATION: FROM
EASTING: 505840 E
NORTHING: 6344430 N
TO
EASTING: 505490 E
NORTHING: 6344160 N

LITHOLOGIC SYMBOLS:

| | |
|--|------------------|
| | SANDSTONE |
| | SHALE, CLAYSTONE |
| | SILTSTONE |
| | CARBONACEOUS |
| | COAL |
| | CONGLOMERATE |
| | COAL BANDS |

Dwg. No. KPN - 82 - 128

Date: August, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|-------------|--|
| 0.30m | | SILTSTONE |
| 1.80m | | COAL (TRC-82-032) |
| 0.50m | | SILTSTONE Weathered, dark gray, fresh, medium gray |
| 0.25m | | SANDSTONE Weathered brown-gray, fresh dark gray, fine grained, well sorted |
| 3.00m | | SILTSTONE & NODULAR SILTSTONE INTERBEDDED Siltstone beds, 2 cm thick, weathered orange-dark gray, nodular, siltstone weathers orange-brown giving unit banded appearance |
| 4.50m | | SANDSTONE Thinly bedded and massive, weathered purplish-gray, fresh medium gray, interbedded with orange-brown siltstone. Ripple marks indicate section is overturned. |
| 1.25m | | SILTSTONE Very thinly bedded, weathered dark gray with orange-brown bands. |
| 4.75m | | SANDSTONE Weathered purple-gray, fresh medium gray, fine grained, hard |
| 12.96m | | SILTSTONE Very thinly bedded, weathered dark gray with interbedded orange-brown units |
| 4.50m | | SANDSTONE Very fine-grained, weathered light brown-gray, crumbly |
| 3.38m | | SANDSTONE Thinly bedded with weathered orange brown interbeds, minor siltstone interbeds at top. |
| 4.40m | | SANDSTONE Moderately friable, thinly bedded, weathered light brown, fresh medium gray |
| 4.50m | | SILTSTONE INTERBEDDED NODULAR SILTSTONE Thinly bedded and crumbly, weathered brown-dark gray. Fresh dark gray. |
| 2.44 | | SANDSTONE Weathered orange-brown, massive, fine-grained. |
| 18.72m | | SILTSTONE INTERBEDDED NODULAR SILTSTONE Weathered brown-gray, fresh dark gray. |
| 5.06m | | COAL (TRC-82-042) |
| 0.40m | | CLAYSTONE Fossiliferous |
| 4.33m | | SANDSTONE Hard, massive, minor siltstone bands, fresh med. gray, weathered orange-brown gray, siltstone rip-up clasts |
| 2.06m | | SILTSTONE Interbedded siltstone & nodular siltstone, giving banded appearance, bands at most .05 m thick, fresh dark gray, weathered: brown with orange-brown beds. |
| 10.44m | | COVERED SECTION |
| 1.66m | | COAL |
| 1.21m | | CLAYSTONE Fossiliferous |
| 4.43m | | SILTSTONE Siltstone as described before, claystone beds fossiliferous |
| 2.28m | | SANDSTONE Medium grained, moderately friable, 65% felsic, Fe-staining, fresh dark gray, weathered light orange-brown |
| 5.90m | | SILTSTONE Nodular siltstone interbeds |
| 1.90m | | SILTSTONE - CLAYSTONE |
| 3.85m | | SILTSTONE Laminated & interbedded, nodular, crumbly due to cleavage, fresh, dark gray, weathered: red-orange-gray, interbedded fine grained sandstone |
| 1.91m | | SANDSTONE - SILTSTONE Interbedded, beds .05 m thick, well-cleaved, less resistant, fresh, dark gray weathered: light orange-brown, moderately fossiliferous |
| 12.09m | | SANDSTONE Fine grained, hard, massive, med. sorting, containing 50% mafic felsic, fresh medium gray, weathered orange brown, crumbles blocky |
| 4.50m | | SILTSTONE Weathered dark blue gray, thinly bedded, crumbly |
| 19.80m | | SANDSTONE Thinly bedded, well cleaved and crumbly, weathered brown-gray, fresh medium gray, beds 1 cm, very fine-grained. Minor siltstone interbeds. |
| 5.00m | | SILTSTONE Fine grained, dark gray, well laminated with interbedded orange-brown siltstone |
| 4.02m | | COAL (TRC-82-044) |
| 1.21m | | SILTSTONE Weathered orange-brown, fresh medium gray |
| 0.82m | | COAL Interbedded claystone bands |
| 2.99m | | CLAYSTONE Carbonaceous, dark gray |
| 10.00m | | SILTSTONE Weathered orange-brown, fresh medium gray, crumbly, relatively nodular |
| 8.97m | | SANDSTONE Massive, fine grained, hard, weathered orange-brown-gray, fresh medium gray moderately sorted. |

Total: 182.08m

Section Overturned - Illustration Upright

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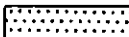
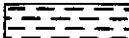
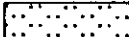


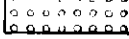

Coal Division

CALGARY

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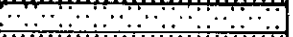



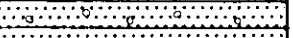
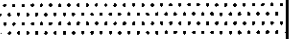
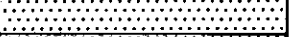
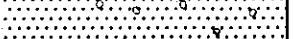








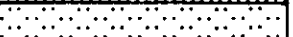
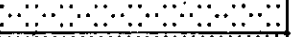

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION
OTC82005**

STUDY AREA: HOBBIT CREEK
LOCATION:
EASTING: 516030 E
NORTHING: 6344700N

- LITHOLOGIC SYMBOLS:
-  SANDSTONE
 -  SHALE, CLAYSTONE
 -  SILTSTONE
 -  CARBONACEOUS
 -  COAL
 -  CONGLOMERATE
 -  COAL BANDS

Scale 1:200

Dwg. No. KPN-82-129
Date: July, 1982

| TRUE THICKNESS (m) | GRAPHIC LOG | | DESCRIPTION |
|--------------------|---|--|--|
| 1.00m |  | | SANDSTONE Fine to medium grained, grey, distinctly bedded |
| 0.70m |  | | SILTSTONE 0.5 cm beds apparent |
| 2.10m |  | | SANDSTONE Medium to coarse grained, grey |
| 2.35m |  | | SANDSTONE medium to coarse grained, massive, with pebbles becoming apparent |
| 0.65m |  | | SANDSTONE Medium to coarse grained, grey, salt and pepper, with 5% pebbles |
| 2.67m |  | | SANDSTONE medium to coarse grained, massive, grains composed of quartz, feldspar and mafica |
| 2.30m |  | | SANDSTONE Medium to coarse grained, massive, with 8% pebbles |
| 3.00m |  | | SANDSTONE Medium to coarse grained, massive, with 4% pebbles, dog-tooth spar calcite along surface |
| 3.34m |  | | SANDSTONE Medium grained, massive, salt and pepper, with few pebbles |
| 2.88m |  | | SANDSTONE Fine grained, grey, bedding more prominent |
| 0.60m |  | | SANDSTONE Very fine grained, grey |
| 2.05m |  | | SILTSTONE Grey, beds 0.05 to 0.5 m thick |
| 2.65m |  | | SANDSTONE Fine grained, massive although large bedding surfaces visible |
| 1.89m |  | | SANDSTONE Very fine grained, grey, fairly massive |
| 2.54m |  | | SANDSTONE Very fine grained, grey, laminated |
| 1.90m |  | | SILTSTONE Dark grey, thinly bedded, with minor fine grained sandstone beds 0.5 cm thick, crumbly |
| 3.96m |  | | SILTSTONE Bedding apparent, cleavage prominent |
| 0.62m |  | | CLAYSTONE |
| 2.91m |  | | COAL Claystone interbeds (TRC-82-010) |
| 0.44m |  | | CLAYSTONE Carbonaceous |
| Total 40.45m | | | |

Car. mt. Klappan 82(2)

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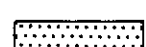
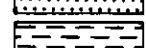
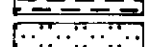
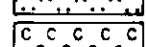
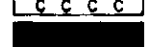
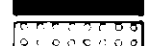
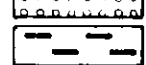
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CALGARY Coal Division ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION
OTC82006**


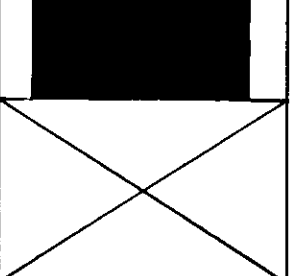
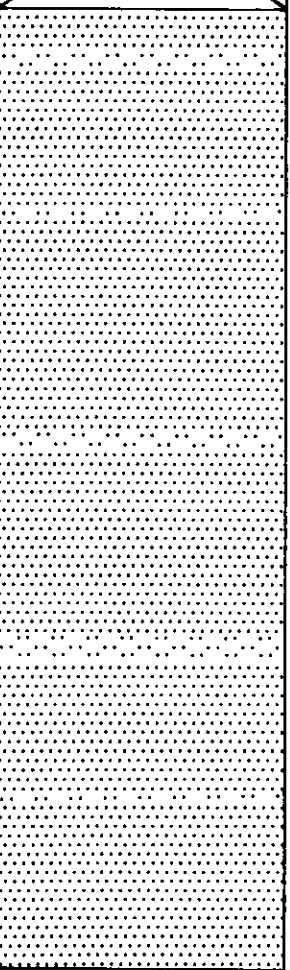
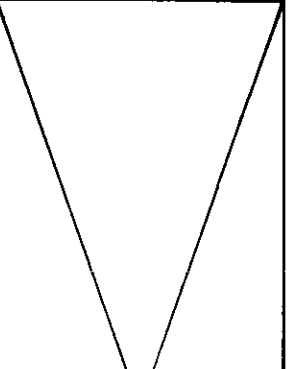
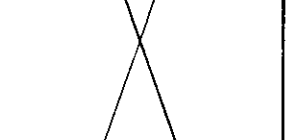

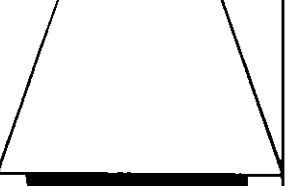

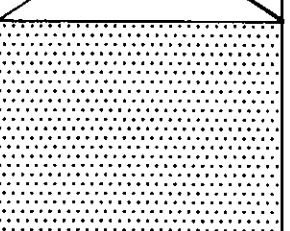
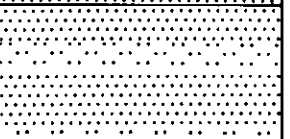

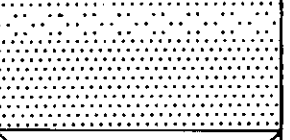

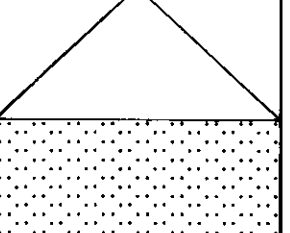
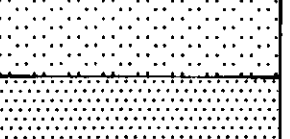
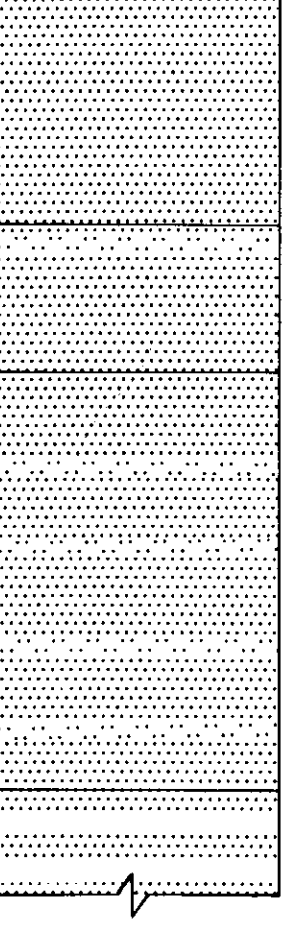
STUDY AREA: LOST RIDGE - E. END
LOCATION:
EASTING: 506560 E
NORTHING: 6344550 N

LITHOLOGIC SYMBOLS:

-  SANDSTONE
-  SHALE, CLAYSTONE
-  SILTSTONE
-  CARBONACEOUS
-  COAL
-  CONGLOMERATE
-  COAL BANDS

Dwg. No. KPN-82-130
Date: July, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|---|---|
| 4.60m |  | COAL (TRC-82-031) |
| 5.00m |  | COVERED SECTION |
| 25.50m |  | SANDSTONE Fossiliferous, silty, interbeds of silty claystone & nodular siltstone |
| 21.50m |  | COVERED SECTION |
| 2.00m |  | COAL SPOIL |
| 5.00m |  | COVERED SECTION |
| 5.50m |  | SANDSTONE Massive, fine grained, purplish, friable |
| 10.50m |  | SANDSTONE Interbedded, fine grained interbeds of coarse grained nodular siltstone |
| 6.50m |  | COVERED SECTION |
| 5.00m |  | SILTSTONE Laminated, brown-gray, contains interbeds of nodular siltstone |
| 7.50m |  | SANDSTONE Massive, containing interbedded fine grained, sandstone |
| 3.5m |  | SILTSTONE Nodular thin beds |
| 3.5m |  | SANDSTONE Interbedded, fine grained, friable, quartz veining |
| 11.0m |  | SANDSTONE Massive, fine grained, siltstone interbedded |
| 2.70m |  | SANDSTONE Fine grained, silty interbeds, fractured, laminated |
| Total 115.80m |  | |


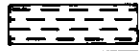
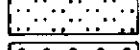
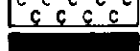
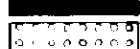
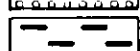

CR MT KLAPPAN 82(2)

GULF CANADA RESOURCES INC.

Coal Division
CALGARY **ALBERTA**


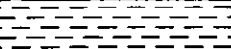
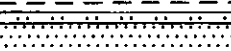

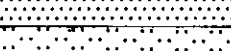


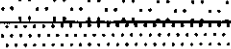
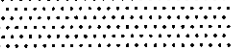

**MOUNT KLAPPAN COAL PROPERTY
 MEASURED STRATIGRAPHIC SECTION
 OTC82007**

STUDY AREA: HOBBIT CREEK
 LOCATION:
 EASTING: 516050 E
 NORTHING: 6345070 N

- LITHOLOGIC SYMBOLS:
-  SANDSTONE
 -  SHALE, CLAYSTONE
 -  SILTSTONE
 -  CARBONACEOUS
 -  COAL
 -  CONGLOMERATE
 -  COAL BANDS

Dwg. No. KPN - 82 - 131
 Date: July, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | | DESCRIPTION |
|--------------------|---|--|---|
| 2.86m |  | | COAL (TRC-82-023) |
| 1.76m |  | | CLAYSTONE Fresh color, medium gray, fossiliferous |
| 0.23m |  | | SILTSTONE Fresh color, dark gray, crumbly |
| 2.97m |  | | SANDSTONE Fine grained, fresh color, dark gray, weathered rusty |
| 4.36m |  | | SILTSTONE Fresh color, dark gray, weathered orange-brown, very crumbly, interbedded with more resistant nodular siltstone. |
| 6.47m |  | | SANDSTONE Fine grained, grading to very fine grained, massive fresh, dark gray, weathered orange-brown, iron-stain, minor quartz stringers |
| 22.98m |  | | SANDSTONE Fine grained, massive, fresh, medium gray, weathered orange, due to iron stain, loose boulders with silt rip-up clasts Interbedded sltst ~ 5 cm, dark gray Interbedded sltst, fresh gray, weathered red |
| 36.00m |  | | COVERED SECTION |
| 11.68m |  | | SANDSTONE Coarse grained with grit bands, fresh medium gray--red, weathered light gray, quartz veining |
| Total 89.31m |  | | SECTION OVERTURNED - ILLUSTRATED UPRIGHT |

C-12. MOUNT KLAPPAN RIVER S2(2)A

110

GULF CANADA RESOURCES INC.

Coal Division


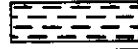
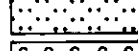
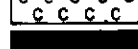
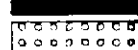
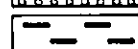

CALGARY

ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION
OTC82008**

STUDY AREA: LITTLE KLAPPAN RIVER LITHOLOGIC SYMBOLS:

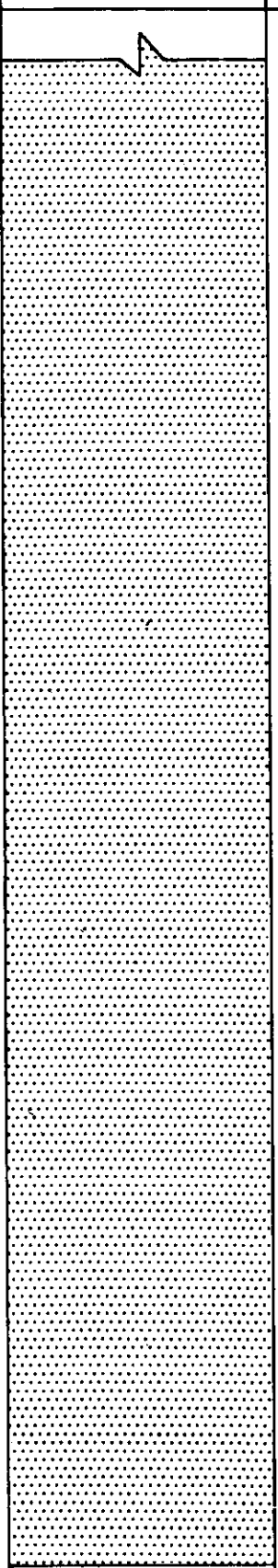
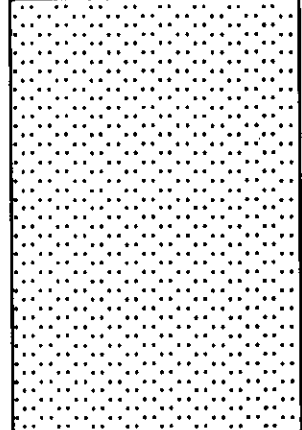
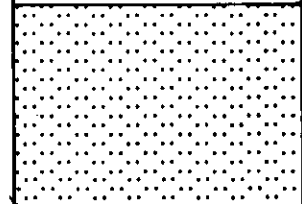
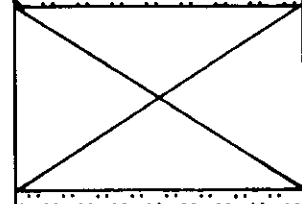
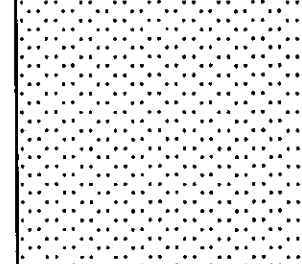
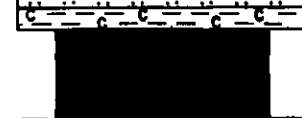


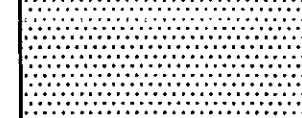
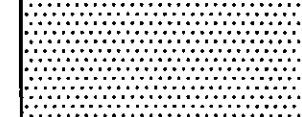
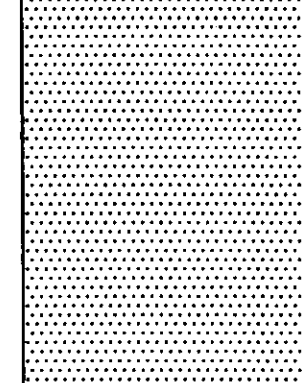
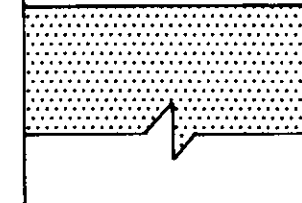
LOCATION:
EASTING: 504890E
NORTHING: 6 346970N

-  SANDSTONE
-  SHALE, CLAYSTONE
-  SILTSTONE
-  CARBONACEOUS
-  COAL
-  CONGLOMERATE
-  COAL BANDS

Dwg. No. KPN - 82 - 132

Date: Aug., 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|---|---|
| 43.00m |  | SANDSTONE Fine grained, fresh surface is gray-mauve, weathered surface is tan, gray, massive and blocky, slickensides present throughout along bedding planes. Finer grained laminations, flame structures indicating tops as up, minor graded beds. |
| 11.10m |  | SILTSTONE Very fine grained, fresh surface black, weathered surface is tanned, hard-massive blocky, fine laminations, bedding apparent slickensides |
| 5.40m |  | SILTSTONE As above, more fissile, broken along cleavages, brittle. |
| 7.00m |  | COVERED |
| 0.40m |  | CLAYSTONE Carb., black and soft, with coal stringers, minor iron staining |
| 2.42m |  | COAL Bright |
| 2.44m |  | CLAYSTONE Carb., gray-black, soft and hard. Fossiliferous, weathers white-gray. |
| 0.50m |  | COAL Bright |
| 1.70m |  | CLAYSTONE Fossiliferous, light gray, fresh and weathered |
| 0.30m |  | COAL Black and bright |
| 16.45m |  | CLAYSTONE Fossiliferous, light gray, fresh and weathered, minor coal stringers |
| 3.35m |  | SANDSTONE-SILTSTONE Interbeds. - Sandstone as above. - Siltstone - laminated, very fine grained, massive and blocky, bedding apparent. |
| Total 94.06m | | |

110

GULF CANADA RESOURCES INC.

Coal Division

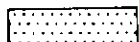
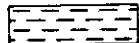
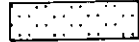
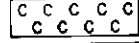

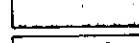
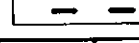
CALGARY

ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION
OTC82009**

STUDY AREA: SUMMIT AIRSTRIP
LOCATION:
EASTING: 504400E
NORTHING: 6 347430N



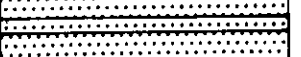
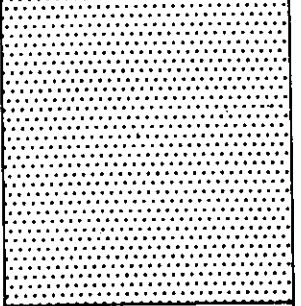
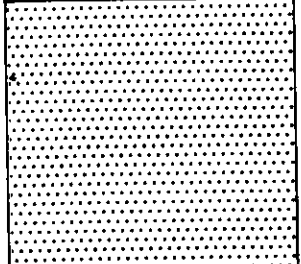

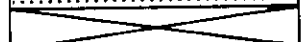
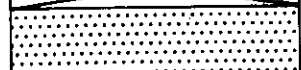

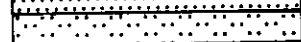

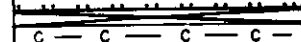

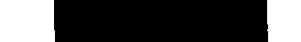
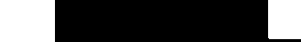

LITHOLOGIC SYMBOLS:

-  SANDSTONE
-  SHALE, CLAYSTONE
-  SILTSTONE
-  CARBONACEOUS
-  COAL
-  CONGLOMERATE
-  COAL BANDS

Dwg.No. KPN-82-133

Date: July, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|---------------------|---|--|
| 2.17m |  | SILTSTONE weathered dark gray, fine grained, fissile, Fe-stone concretions, somewhat banded |
| 1.87m |  | SANDSTONE fine to medium grained, Fe-stain, fresh-gray, bedding apparent |
| 0.50m |  | SANDSTONE fine grained, gray with very thin qtz & coal stringers |
| 8.53m |  | SANDSTONE massive, medium to coarse grained, mauve coloured bands, fresh-gray, minor coal stringers |
| 7.23m |  | SANDSTONE broken & blocky |
| 0.98m |  | SANDSTONE very fine grained, dark gray with quartz & coal stringers |
| 1.20m |  | COVERED SECTION |
| 1.91m |  | SANDSTONE gray, laminated, medium grained, with siltstone (fine grained, dark gray) |
| 1.82m |  | SANDSTONE medium to coarse grained, gray bedding apparent, Fe-stone concretions |
| 0.82m |  | SILTSTONE gray, thinly banded with minor claystone & sandstone |
| 1.32m |  | SILTSTONE dark gray, finely laminated, fissile |
| 0.4m |  | COVERED SECTION |
| 0.57m |  | CLAYSTONE carbonaceous |
| 3.20m |  | COAL (TRC-82-037) |
| 0.19m |  | CLAYSTONE carbonaceous, siltstone band, coaly |
| +0.09m |  | COAL |
| Total 32.80m | | |

GULF CANADA RESOURCES INC.

Coal Division

CALGARY

ALBERTA

**MOUNT KLAPPAN COAL PROPERTY
MEASURED STRATIGRAPHIC SECTION**

OTC82010

STUDY AREA: SUMMIT SOUTH
LOCATION:
EASTING: 504660 E
NORTHING: 6351600 N

LITHOLOGIC SYMBOLS:

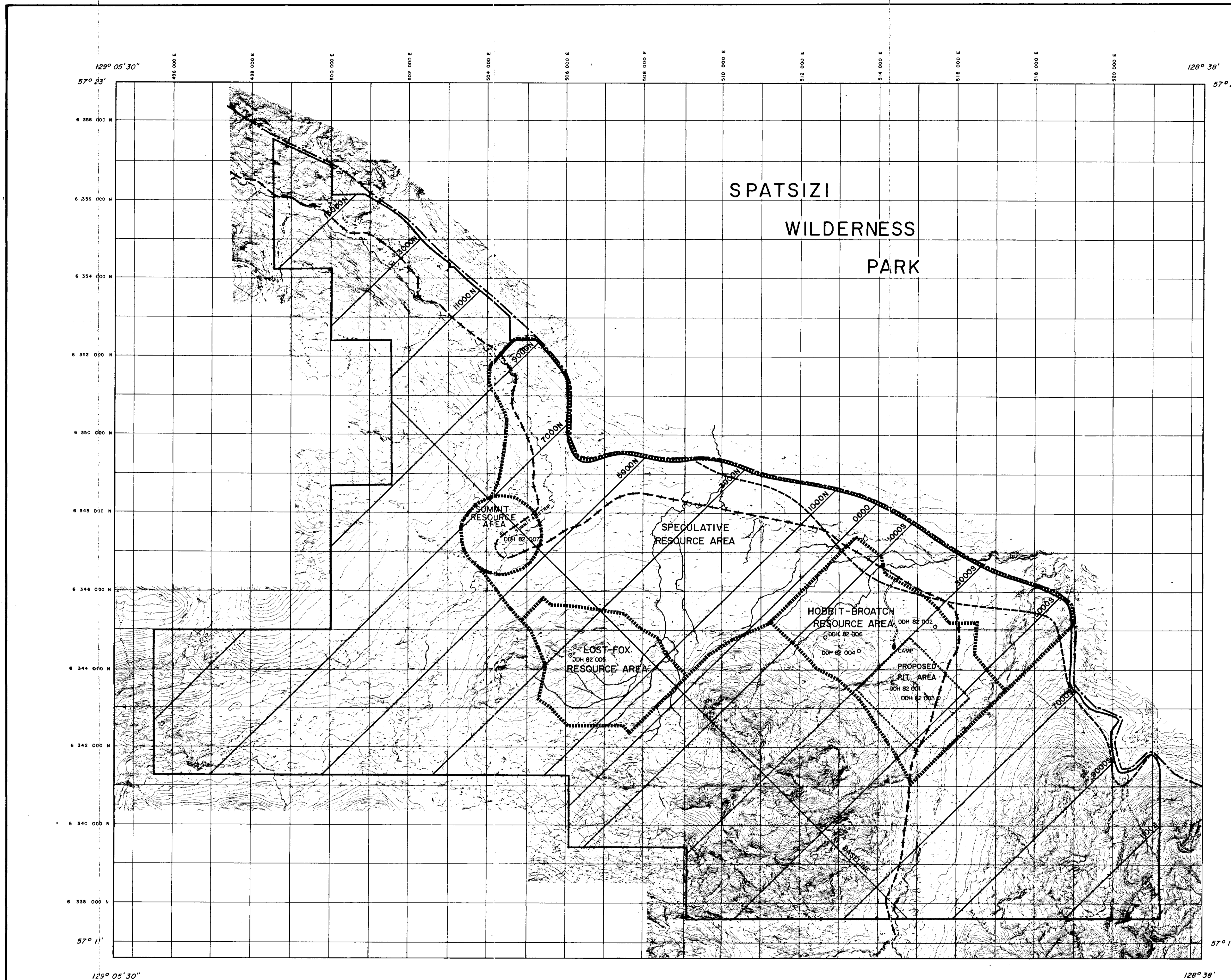
| | |
|--|------------------|
| | SANDSTONE |
| | SHALE, CLAYSTONE |
| | SILTSTONE |
| | CARBONACEOUS |
| | COAL |
| | CONGLOMERATE |
| | COAL BANDS |

Dwg. No. KPN-82-134
Date: July, 1982

Scale 1:200

| TRUE THICKNESS (m) | GRAPHIC LOG | DESCRIPTION |
|--------------------|-------------|---------------------------------|
| 0.90 m | | SANDSTONE |
| 1.10 m | | SANDSTONE Siltstone Interbeds |
| 1.90 m | | SANDSTONE |
| 2.60 m | | SANDSTONE |
| 4.50 m | | SANDSTONE |
| 3.80 m | | SANDSTONE Siltstone Interbeds |
| 1.00 m | | SANDSTONE |
| 2.60 m | | SANDSTONE |
| 0.40 m | | SANDSTONE/SILTSTONE Interbeds |
| 3.00 m | | SANDSTONE |
| 2.70 m | | SANDSTONE/SILTSTONE Interbeds |
| 1.00 m | | SANDSTONE |
| 0.30 m | | SILTSTONE |
| 0.40 m | | SHALE |
| 2.00 m | | SANDSTONE/SILTSTONE Interbeds |
| 4.00 m | | SHALE |
| 8.00 m | | COVER |
| 8.00 m | | SHALE |
| 0.49 m | | SHALE Plus 10 cm coal seam |
| 1.47 m | | COAL Plus 15 cm in rock splits |
| 1.29 m | | COAL AND ROCK (0.69 m) (0.60 m) |
| 2.21 m | | COAL Plus 20 cm in rock splits |
| 0.86 m | | COAL AND ROCK (54 cm) (32 cm) |
| 0.62 m | | COAL Plus 3 cm in rock split |
| 0.24 m | | COAL AND ROCK (11 cm & 12 cm) |
| 1.00 m | | COAL Plus 22 cm in rock split |
| 0.40 m | | SANDSTONE |
| 0.20 m | | SHALE |
| 0.30 m | | SILTSTONE |
| 0.50 m | | COVER |
| 2.40 m | | SHALE |
| 1.00 m | | SILTSTONE |
| 0.60 m | | SANDSTONE |
| 2.80 m | | SANDSTONE |
| 0.80 m | | SILTSTONE |
| 1.60 m | | SANDSTONE |
| 0.50 m | | COVER |
| 4.00 m | | SANDSTONE |

Total 71.48m



LEGEND

| | | |
|-----------------------------|-----|----------|
| BUILDING | --- | [Symbol] |
| ROAD, HARD SURFACE | --- | [Symbol] |
| LOOSE SURFACE | --- | [Symbol] |
| CART TRACK | --- | [Symbol] |
| TRAIL | --- | [Symbol] |
| RAILROAD BED | --- | [Symbol] |
| RIVER | --- | [Symbol] |
| STREAM, DEFINITE | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPLIT | --- | [Symbol] |
| LAKE | --- | [Symbol] |
| WATER LEVEL | --- | [Symbol] |
| SWAMP | --- | [Symbol] |
| BEAVER DAM | --- | [Symbol] |
| TREE LINE | --- | [Symbol] |
| CUT LINE | --- | [Symbol] |
| CONTOURS, INDEX | --- | [Symbol] |
| INTERMEDIATE | --- | [Symbol] |
| DEPRESSION | --- | [Symbol] |
| APPROXIMATE | --- | [Symbol] |
| SPOT ELEVATION | --- | [Symbol] |
| FIELD CONTROL POINT | --- | [Symbol] |
| COAL PROPERTY BOUNDARY | --- | [Symbol] |
| PARK BOUNDARY | --- | [Symbol] |
| REDEFINED PROPERTY BOUNDARY | --- | [Symbol] |

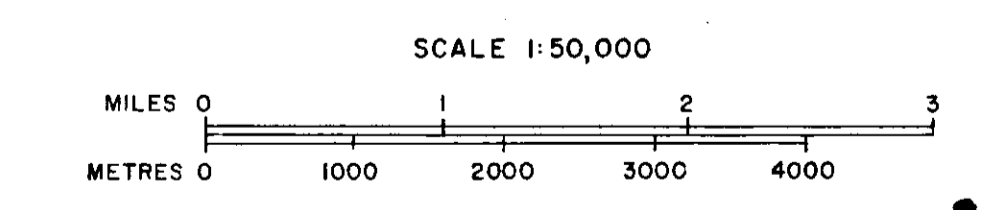
NOTES

CONTOUR INTERVAL: 10 METERS

SURVEY CONTROL TAKEN FROM EXISTING PHOTO IDENTIFIABLE GOVERNMENT SURVEY MONUMENTS AND N.T.S. MAPS. MAPPING IS BASED ON UNIVERSAL TRANSVERSE MERCATOR GRID AND GEODETIC DATUM.

RAILROAD BED LOCATION BASED ON DATA SUPPLIED BY B.C. RAIL.

COMPILED BY: WESTERN PHOTOGRAMMETRY, A DIVISION OF UNDERWOOD MCELLELLAN LTD., FROM FEDERAL GOVERNMENT AERIAL PHOTOGRAPHY FLOWN IN AUGUST/67 AT A SCALE OF 1:60000 (APPROXIMATE).



110

GULF CANADA RESOURCES INC.
Coal Division

CALGARY ALBERTA

MOUNT KLAPPAN COAL PROPERTY

RESOURCE AREAS

PREPARED BY: E. SWANBERGSON DRAWING No. KPN-82-135
APPROVED BY: B.F.F. DATE: OCT. / 82

○ DDH 82003 DRILL HOLE # DRILL HOLE NUMBER
----- RESOURCE BOUNDARY