GR-EVANS CREEK 84(1)A

EVANS CREEK COAL PROJECT GEOLOGICAL REPORT

1984

Coal Project Licence Numbers

7790 - 7821

Cassiar Land District

NTS Map Number 104A

Latitudes Between 56° 51' and 56° 59'

Longitudes Between 128° 10' and 128° 28'

GULF CANADA RESOURCES INC.

February, 1985

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4 000N	EVC84C06
2 000N	EVC84C07
000N	EVC84C08

1.0 SUMMARY

Gulf Canada Resources Inc.'s Evans Creek Coal Project is located in the Bowser Basin of northwestern British Columbia, approximately 150 kilometers northeast of Stewart. The property consists of 32 crown coal licences totalling 8336 hectares of land.

Exploration activity on the property during 1984 comprised of geologic mapping at a scale of 1:10 000 and the trenching and sampling of observed coal seams. Additional samples were collected at four spoil locations to assist in determining the overall rank of the Evans Creek coals.

The sediments underlying the property have been subdivided into the following four sequences: the Panorama, Groundhog, Malloch, and Rhondda, in ascending order. These sequences range in age from Upper Jurassic to Lower Cretaceous, respectively. The Groundhog Sequence is the main coal-bearing unit and is interpreted to have a thickness of 600 metres, although no measurable sections are locally present.

Structurally, the area is dominated by northwest to southeasterly trending folds. Subtle plunge reversals are evident and tend to extend over relatively short distances. Thrust faulting parallels folding on the property and suggests minor vertical displacement.

Speculative resources totalling 504 million tonnes have been calculated for the Evans Creek property. An area of potential interest has been recommended for subsurface investigation based on a 3.54 metre seam within shallowly dipping strata. The ash value on this seam on an as received basis is 14.93 percent.

2.0 RECOMMENDATIONS

Based on the exploration work completed on the Evans Creek Coal Project, the following recommendations are suggested:

1. to undertake a rotary drill program consisting of at least three drill holes to further delineate the 3.54 metre seam exposed in trench TRC83013.

2. to geologically map those areas not covered during the 1984 program;

3. to further define the property stratigraphy;

4. to log the diamond drill holes that were completed by other exploration groups in 1970 and 1981.

3.0 INTRODUCTION

3.1 Location

The Evans Creek coal licences are situated in northwest British Columbia approximately 890 kilometers north of Vancouver, 150 kilometers northeast of Stewart, and 490 kilometers northwest of Prince George (Figure 3.1).

Geographically the coal licences lie near the northern extremity of the Skeena Mountains between 56° 51' and 56° 59' north latitude, and 128° 10' and 128° 28' west longitude. The property is transected by the Skeena River and, to a lesser extent, Beirnes Creek.

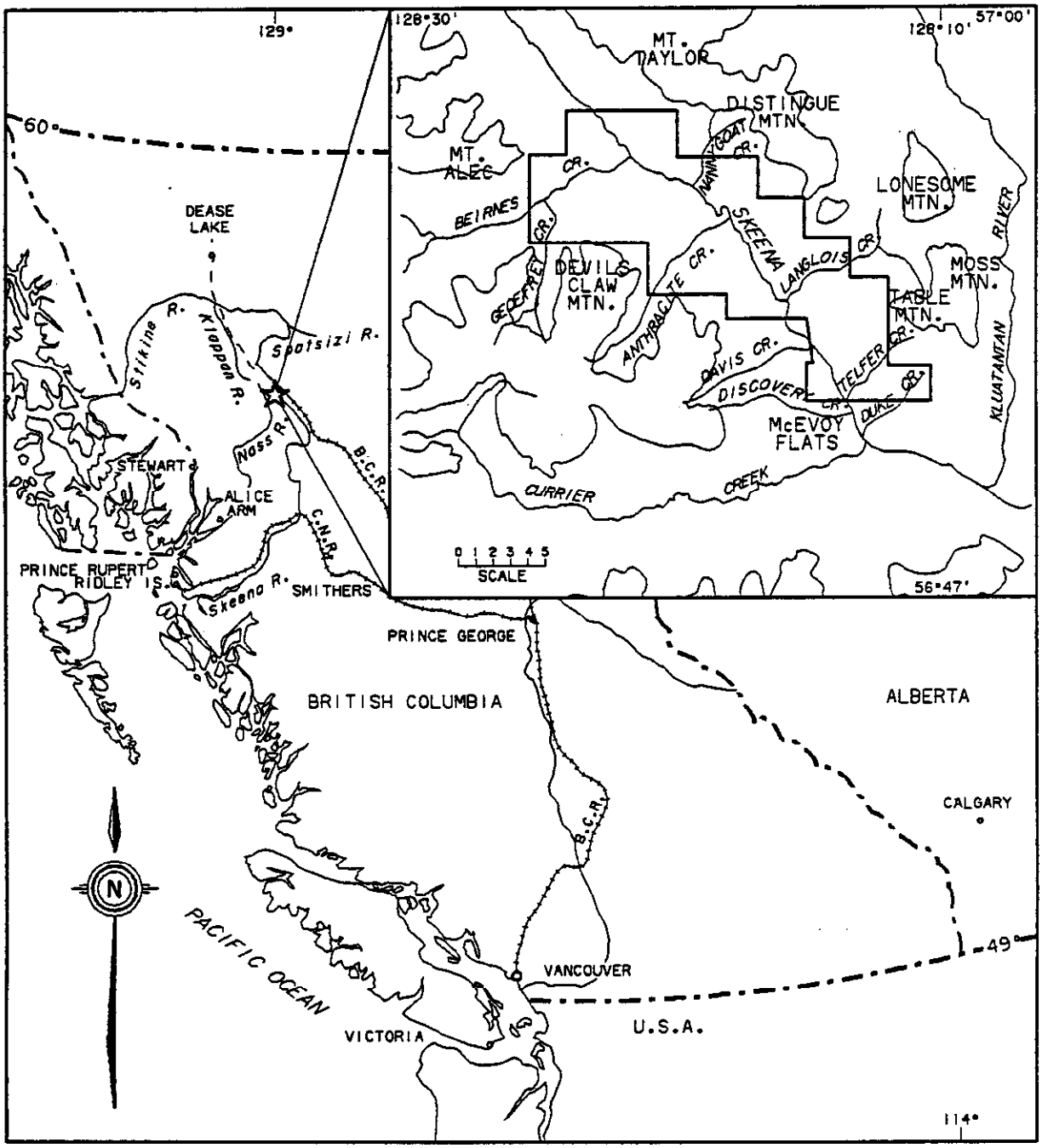
The nearest settlement to the property is the native community of Iskut (population 500) located 150 kilometers to the northwest on the Stewart-Cassiar Highway.

3.2 Access

The Evans Creek property straddles the partially completed British Columbia Railway line between Prince George and Dease Lake (Figure 3.2). Prior to cessation of work on the construction of the line, steel was laid to within 30 kilometers of the southern property boundary.

The subgrade extends northwest to the Stikine River just south of Dease Lake. A 24 kilometer stretch, passing through the

FIGURE 3.1
EVANS CREEK COAL PROJECT
LOCATION MAP

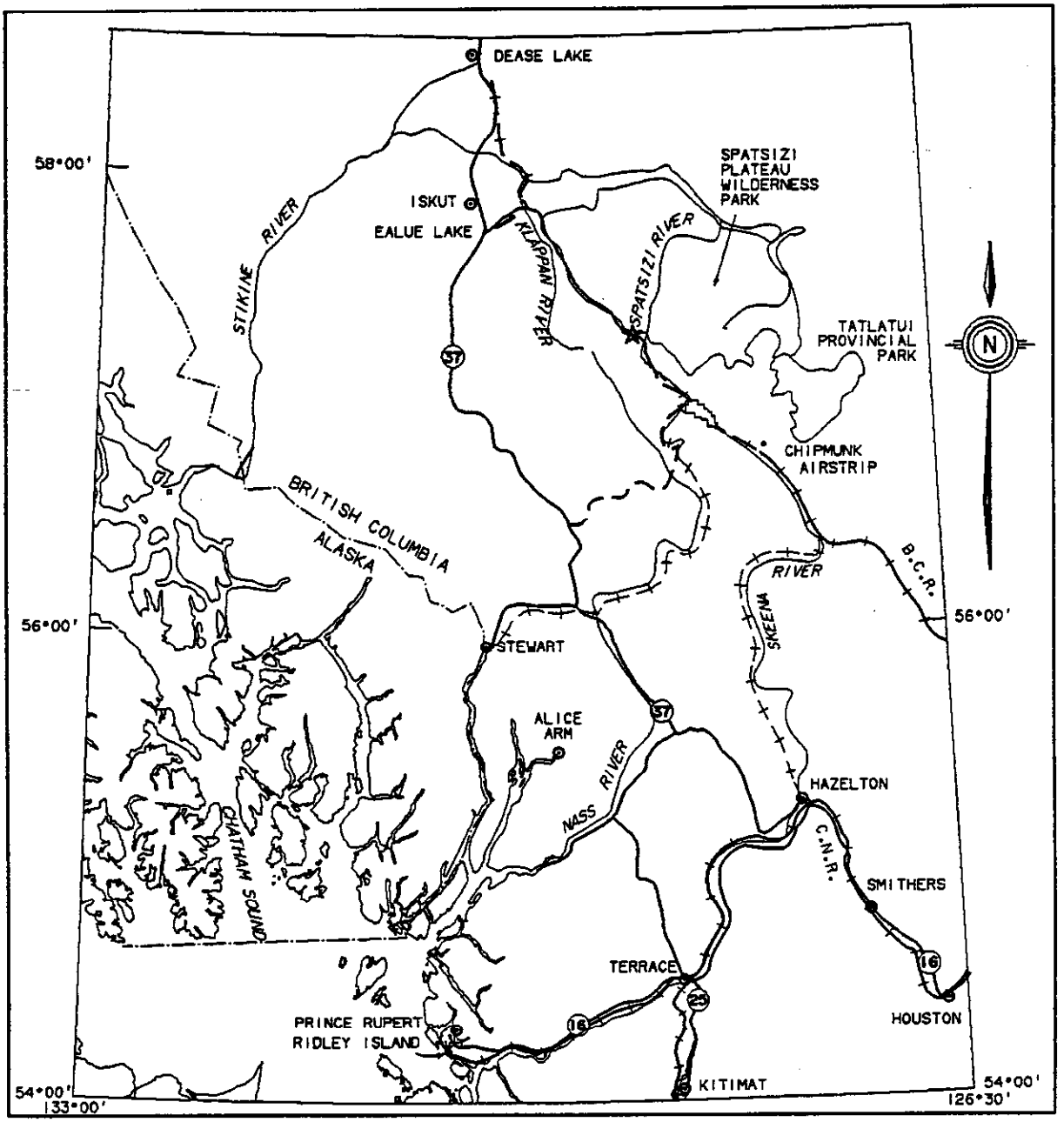


EVANS CREEK LICENCE AREA

GULF CANADA RESOURCES INC.
13/01/85

FILE NAME [205,60]850129002.LOC

FIGURE 3.2
EVANS CREEK COAL PROJECT
PROPERTY ACCESS



LEGEND

- ROAD ACCESS
- PROPOSED ROAD ACCESS
- EXISTING RAILWAY
- EXISTING RAILWAY SUBGRADE
- POSSIBLE RAILWAY ROUTES
- ★ MT. KLAPPAN CAMP LOCATION
- EVANS CREEK PROJECT BOUNDARY

SCALE

0 20 40 60 80 100 km

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13/02/85

Gulf

Q80:[205,601850129003.LOC

Evans Creek property, is incomplete although rough access roads do remain. Minor repairs to the subgrade north of the property could give road access to the northern half of the licences. At present, the property is accessible only via helicopter.

3.3 Property Description

The Evans Creek property comprises 32 coal licences totalling 8336 hectares of land. The property was applied for on February 5, 1984 (Figure 3.3). A legal description of the licences is included in Appendix B.

3.4 Ownership

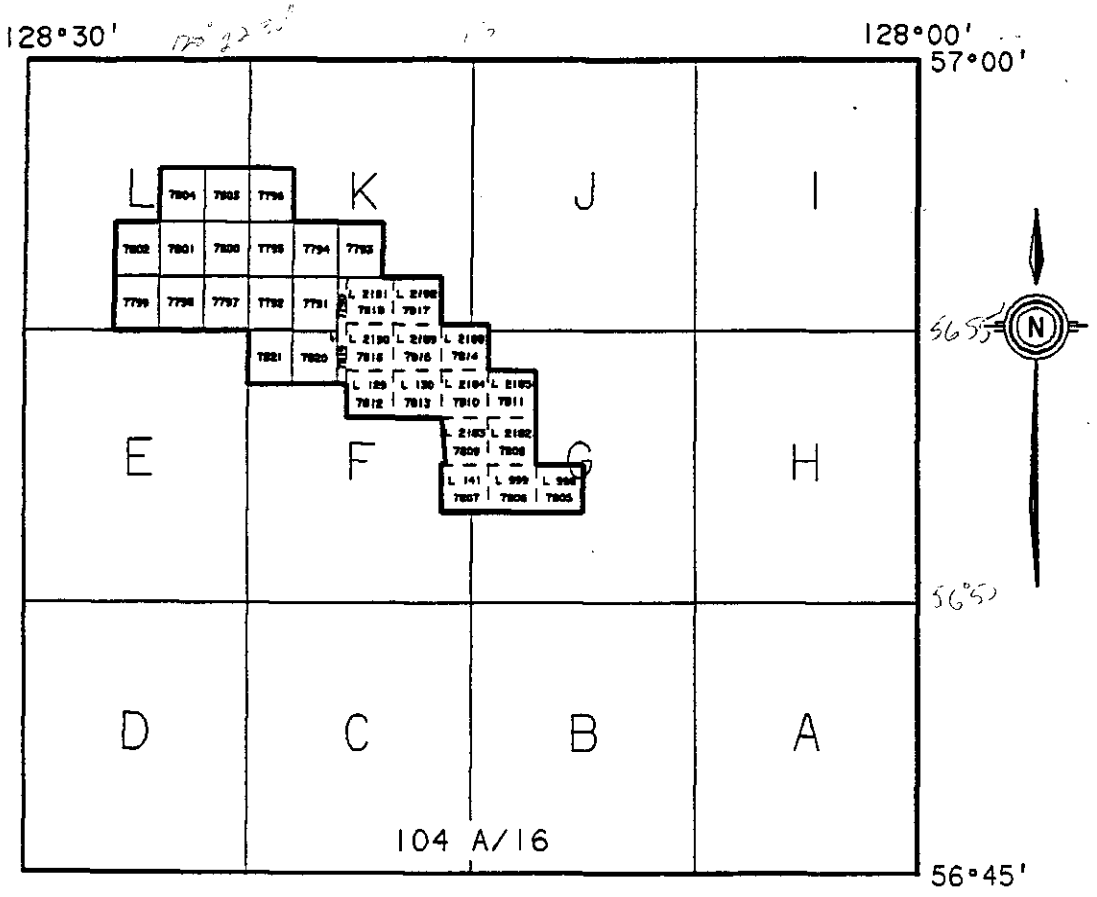
Gulf Canada Resources Inc., wholly owns the coal licences comprising the Evans Creek property.

3.5 Property Geography and Biophysical Environment

The Evans Creek property is transected by the Skeena River and lies predominantly within the Skeena River Valley. This area is near the northern extremity of the Skeena Mountains physiographic region and is dominated by mountainous terrain and broad northwest to southeasterly trending valleys. Mountainous terrain lies to the immediate east and west of the property.

Elevations on the property range from 884 metres in the Spatsizi River Valley to over 1615 metres along the western licence boundary. The tree line in the area is at approximately 1500 metres above sea level. The river valley is nearly

FIGURE 3.3
EVANS CREEK COAL PROJECT
LICENCES



LEGEND

———	LICENCE AREA
7804	LICENCE NUMBER
L2191	LOT NUMBER

SCALE

0 5 MILES

0 5 10 km

GULF CANADA RESOURCES INC.
13/01/85

Gulf

GSO:[205,60]850125004.LOC;1

completely covered with coniferous forests, with lesser amounts of grasses, shrubs, meadows, and bogs scattered over the valley floor. The higher elevations are characterized by alpine tundra.

The climatic regime of the area lies in the Northern and Central Plateau and Mountain Zone. Precipitation values average 300 to 400 mm per year with the mean daily temperatures comparable to Fort Nelson and Prince George. This information is derived from a weather station located 50 kilometers northwest of the property in the Mount Klappan Coal Project Area. The station has been monitored monthly since its installation three years ago.

4.0 EXPLORATION HISTORY

4.1 Previous Exploration Work

V.H. Dupont made the first published description of coal in the Groundhog Coalfield in 1900 for the Canadian Department of Railways and Canals. In his report, he describes a coal outcrop near the confluence of Didene Creek and the Spatsizi River, some 50 kilometers northwest of the present Evans Creek property.

James McEvoy and W.W. Leach staked the first claims in the Groundhog in 1903 and had holdings on the Skeena River and Currier, Davis and Discovery Creeks.

Exploration was intense between the years 1910 and 1912 during which time both companies and individuals acquired large amounts of land. Companies exploring the area drove small adits and drifts into many of the thicker exposed seams. G.S. Malloch undertook a geological evaluation of the Southern Groundhog Coalfield in 1911. These activities were fuelled by expectations of the Canadian Northeastern Railway being extended into the Groundhog Area. However, in 1912 it was decided to not proceed with the rail construction due, in part, to the beginning of World War I which placed a strain on world money markets (Tompson, 1977).

Additional exploration was limited until Buckham and Latour, representing the Geological Survey of Canada, summarized known previous work and recorded additional information on many of the known coal occurrences in the region.

In 1966, John Boyd and Associates and in 1968, J.M. Black, conducted exploration programs on licences held by Coastal Coal Ltd. These licences were subsequently dropped.

A joint venture program by W. Tompson, D. Jenkins and M. Roper in 1970 represented the first diamond drilling program in the Groundhog. Six holes were drilled and intersected a large number of seams, though no BCA or geophysical data was accumulated.

Reconnaissance work by T.A. Richards and R.D. Gilchrist in 1978 outlined regional stratigraphy and correlations, but did not address the subject of coal potential in the Groundhog Coalfield.

Imperial Metals Corporation completed six diamond drill holes in 1981. No formal report or coal analyses were completed though descriptive logs, strip logs and geophysical logs were included.

In 1981, Petro-Canada completed a reconnaissance exploration program on several licences acquired in April of that year. These licences were located in the southeastern part of the Groundhog coalfield and were subsequently dropped.

4.2 Gulf's Previous Exploration Work

During March of 1983, a Gulf in-house evaluation of the Groundhog Coalfield delineated an area of potential interest along the Skeena River Valley. Licences were applied for on February 5, 1981 and during the summer of that same year a short reconnaissance program was completed at a scale of 1:25 000. Fourteen

proximate analyses and eleven reflectance determinations were completed and are included in Appendix F of this report.

5.0 1984 EXPLORATION PROGRAM

5.1 Program Objectives

In summary, the objectives of the 1984 Evans Creek Coal Project were:

1. to geologically map the Evans Creek property at a scale of 1:10 000;

2. to delineate the surface exposures of all coal occurrences through hand trenching and detailed mapping;

3. to determine areas with surface mineable coal potential;

4. and to determine the quality and rank of the coal seams.

5.2 Summary of Exploration

The 1984 Evans Creek exploration program occurred between August 31 and September 11, 1984. The property was mapped at a scale of 1:10 000 by one or two mapping teams that were flown to the area from the Didene Creek base camp on the Mount Klappan Coal Project located 50 kilometers to the northwest.

5.3 Cartography

The topographic maps used for geological interpretation were at a scale of 1:10 000. These maps were produced from 1:60 000 British Columbia Government air photos flown in the year 1982.

5.4 Geological Mapping

Geologic mapping concentrated along drainage channels that transect the property. One or two crews, each consisting of a geologist and a geological assistant, used 1:20 000 British Columbia Government air photos to locate positions in the field. Field data was then plotted on 1:10 000 topographic maps that are included in Appendix I of this report.

5.5 Trenching

Nine hand trenches were excavated and logged during the exploration program comprising a total length of 21.33 metres. Only coal seams with true thicknesses of greater than 0.5 metres were sampled for later analysis.

All trench information is presented in Appendix F of this text together with any coal quality analyses completed on collected samples. A trench summary table is presented within section 6.0 of this report.

5.6 Data Management

During the 1984 field season, an HP 9816 computer was used in the field for budget purposes and for the storage of trench and measured section data. This data was then uploaded to Gulf's main coal data base. All data stored to date in Calgary is accessible using Gulf's AMDAHL V6 computer. This includes detailed logs of each measured section and trench, complete description of all

samples collected and all coal quality data. The coal data base utilizes the System 2000 data base management system and Act 1 software to provide easy on-line data entry and screen retrieval of stored data.

5.7 Reclamation

Only very minor environmental disturbance resulted from the exploration program on the Evans Creek property. All trenches that were excavated have been backfilled.

5.8 Project Management and Contractors

The 1984 exploration program was managed by B.P. Flynn of Gulf Canada Resources Inc. Field operations on the Evans Creek Coal Project were supervised by E. Swanbergson with assistance from S. McKenzie. Coal quality analyses were interpreted by J. Innis and conducted by Loring Laboratories. The report was written by E. Swanbergson and S. McKenzie.

The following additional personnel contributed to the exploration in the Evans Creek Area.

B.P. Flynn	Coordinator, Coal Projects
E. Swanbergson	Geologist
F.S. McKenzie	Geologist
S. Dakin	Geological Assistant
R. Kong	Geological Assistant

A.T.	Sali	Administrator
G.	Gillik	Helicopter Pilot
C.	Earle	Field Accountant
T.	Sampietro	Expeditor
C.	Jacobs	Camp Maintenance
R.	Bonag	Cook
D.	Anderson	Cooks' Helper
D.	Pederson	Bull Cook
J.	Majetic	Bull Cook
S.	Bregazzi	Computer Operator
G.	Barclay	First Aid Attendent
D.	Fedderly	First Aid Attendent

The following is a list of the service companies and suppliers used during the Evans Creek Coal Project exploration program.

Services

AGT	Calgary
Aero Expediting	Smithers
Avcon Aviation Consulting Ltd.	Calgary
B.C. Tel	Vancouver
Calgary Shoe Hospital	Calgary
Canadian Freightways Ltd.	Calgary/Terrace

Central Mountain Air Services Ltd.	Smithers
Cullen Detroit Diesel	Houston
Dease Lake Contractors Ltd.	Dease Lake
Dieterich Post	Calgary
Don Davidson Trucking	Smithers
Forty Mile Flats	Iskut
Hardy Associates (1978) Ltd.	Calgary
Higgins Lake Contractors	Dawson Creek
Hudson Bay Lodge	Smithers
Iskut Band Council	Iskut
Lindsay's Cartage & Storage	Terrace
Loring Laboratories Ltd.	Calgary
Northern Mountain Helicopters	Prince George
Northmount Camp Services Ltd.	Prince George
NorthwesTel Inc.	Whitehorse
Orville McLean Services Ltd.	Dease Lake
Pacific Western Airlines	Vancouver
D.E. Pearson and Associates	Victoria
Smithers Transport	Smithers
Southern Frontier Airlines	Calgary
Starr Industries Ltd.	Fort St. John
T & R Services Ltd.	Dease Lake
Trans Provincial Airlines	Terrace

Suppliers

Able Electric	Terrace
Alpine Wiring & Plumbing Ltd.	Smithers
Apollo Automotive Parts	Smithers
Aqua North Plumbing Ltd.	Smithers
Best Caps & Sportswear Ltd.	Calgary

Chevron Canada Ltd.	Smithers
Fleck Brothers	Kitimat
Gulf Canada Ltd.	Terrace
HGL Data Systems Ltd.	Calgary
Helicom Avionics	Prince George
ICG Liquid Gas Ltd.	Terrace
Iskut Coop	Iskut
Monroe Systems for Business	Calgary
Mountain Equipment Coop	Calgary
Neville Crosby Inc.	Vancouver
Northland Communications	Terrace
Omineca Building Supplies	Terrace
Permasteel Construction	Vancouver
Petrocraft Products Ltd.	Calgary
Ribtor Distributors	Calgary
Smithers Lumber	Smithers
Terrace Builders Centre Ltd.	Terrace
Terrace Coop Association	Terrace
Terrace Totem Ford	Terrace
Territorial Trailers Ltd.	Prince George
Wayside Industrial Supply Ltd.	Smithers
Westcan Electronic Services Ltd.	Calgary

6.0 GEOLOGY

6.1 Summary

The Evans Creek coal property lies within the Bowser Basin and is underlain by sediments ranging in age from Late Jurassic to Early Cretaceous. The strata exposed in this area have been divided into four exploration sequences which are, in ascending order, the Panorama, the Groundhog, the Malloch, and the Rhondda sequences. The main coal-bearing unit is contained within the Groundhog Sequence, approximately 600 metres thick, and underlies the majority of the property.

The exploration of the Evans Creek Coal Project was comprised of geological mapping at a scale of 1:10 000, and the manual excavation of coal exposures to determine seam thickness and to remove samples for coal quality analysis.

Structurally, the strata has been deformed by two deformational events. The first deformational event resulted in broad upright northwest to southeast trending syncline anticline pairs. The second deformational event resulted in shallow axial plunges towards the northwest or southeast.

6.2 Regional Geological Setting

6.2.1 Stratigraphy

The coal measures of the Evans Creek Coal Project are contained within a series of sediments ranging in age from

Upper Jurassic to Lower Cretaceous. These sediments were deposited in the Bowser Basin, a successor basin to the volcanogenic Hazelton Trough (Tipper and Richards 1976). The Bowser Basin is bounded to the north and south by the Stikine and Skeena Arches respectively, and to the east by the Columbia Orogen (Omineca Crystalline Belt). The western margin is thought to have been open to the sea at the time of Bowser sediment deposition.

The formation and development of the Bowser Basin was controlled by the "collision and subsequent isostatic uplift of several crustal blocks in the Cordilleron Orogen of western Canada" (Eisbacher, 1981). These crustal blocks include the Stikine Terrane (volcanic arc complex) which directly underlies the Bowser sediments, the Atlin Terrane (remnant oceanic crust) and the Omineca Crystalline Belt (western margin of the North American Craton).

During the Middle Jurassic, the Skeena Arch was uplifted and the subsidence of the Stikine Terrane divided the Hazelton Trough into the Bowser Basin to the north and the Nechako Basin to the south. Uplift of the Atlin Terrane to the north and northeast of the Bowser Basin, coupled with continued subsidence of the Stikine Terrane and collision and suturing of both these terranes with the Omineca Crystalline Belt (Eisbacher, 1981) resulted in a progradation of non-marine over marine sediments within the basin.

Paleocurrent measurements indicate a centripetal flow into the Bowser Basin from highlands to the north, northeast, and south.

Bowser sediment source rocks originate within the Atlin Terrane (high chert; low volcanic content) for the north and northeastern margins of the Basin, and from the remnant volcanic arc assemblage of the Stikine Terrane, (high volcanic; low chert content) for the southern portion of the Basin. Sediments from the Lower Cretaceous (youngest marine succession of the Bowser Basin) through to the Paleocene are found only on the eastern, and in part, the southern margins of the Basin.

In the southern portion of the Bowser Basin, the assemblage has been subdivided into three groups by Tipper and Richards (1976). These groups, in ascending order are: the Early Jurassic to Middle Jurassic Hazelton Group, the Upper Jurassic Bowser Lake Group, and the Early Cretaceous Skeena Group. In the area discussed by Tipper and Richards (1976), the Skeena Group contains the major coal occurrences with some coal occurring at the top of the Bowser Lake Group.

The sedimentary sequences represented in the Bowser Basin have been variously named: the Skeena Series (Malloch, 1914); Upper Hazelton (Buckham and Latour, 1950); Groundhog-Gunanoot (Eisbacher, 1974a), and has been dated as Lower Cretaceous (Malloch, 1914; Buckham and Latour, 1950) and Upper Jurassic to Lower Cretaceous (Eisbacher, 1974a).

6.2.2 Structure

Structural deformation of Bowser Basin sediments resulted from intermittent tectonic stresses at the western

cratonic margin from Cretaceous to recent time. The deformation caused an extensive, shallow decollement, recumbent folds, and local thrust faults extending a few kilometers along strike (Eisbacher, 1976).

The large scale forces resulting from collision of a remnant volcanic arc and cratonic margin subjected the area to northeast-southwest compression (F_1) creating the general structural trend of northwest-southeast.

Later positioning of the former volcanic arc terrain northwards along interlaced right lateral high angle faults (Eisbacher, 1981) may account for the later north-south compressional (F_2) event. This deformation event resulted in generally broad, open northeast to southwest trending folds with relatively rare, flat lying thrusts expressed in several Klippen fault structures.

The final deformational event which produced strike-slip and some dip-slip faulting may have resulted from a change in the rotational component of the western crustal block, terminating compression.

6.3 Evans Creek Coal Project Geology

6.3.1 Stratigraphy

The Upper Jurassic to Lower Cretaceous sedimentary strata underlying the Evans Creek property has been subdivided into four sequences which, in ascending order, are the

Panorama, Groundhog, Malloch and Rhondda Sequences, (Figure 6.1). These sequences represent a gradual overall marine regression.

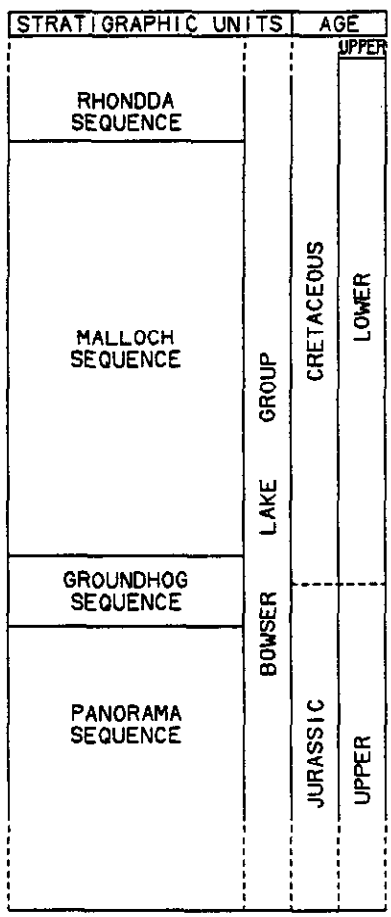
6.3.1.1 Panorama Sequence

The Panorama Sequence is comprised of sediments deposited under open marine conditions with minor coastal marine environment influences. Strata consist of mudstone, siltstones, sandstones, and discontinuous massive conglomerates. This sequence has not been observed in outcrop on the Evans Creek property.

6.3.1.2 Groundhog Sequence

The Groundhog Sequence, the main coal-bearing unit on the property, was deposited in a coastal marine environment in which extensive peat marshes had developed. Evidence of marine influence increases toward the base of the sequence. Strata consist of fine to coarse-grained sandstones interbedded with mudstones, siltstones, and abundant coal seams. The Groundhog Sequence is approximately 600 metres thick and is exposed throughout the Evans Creek property.

FIGURE 6.1
EVANS CREEK COAL PROJECT
STRATIGRAPHIC COLUMN



COLUMN TAKEN FROM GULF CANADA 1981 PANORAMA REPORT

GULF CANADA RESOURCES INC.
13/01/85

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6.3.1.3 Malloch Sequence

The Malloch Sequence which is exposed on the eastern and western property margins in areas of higher elevation contains strata which consist of interbedded argillaceous sandstone, siltstone, mudstone, thick bedded to massive lenticular chert pebble conglomerates and minor coal increasing towards the base of the sequence. The sequence is several hundred metres in thickness.

6.3.1.4 Rhondda Sequence

The Rhondda Sequence, observed off the western property margin, conformably overlies the Malloch Sequence and consists primarily of thick and laterally extensive chert pebble conglomerates interbedded with lesser amounts of sandstone, siltstone, and mudstone; the finer sediments increase in abundance towards the base of the sequence.

6.3.1.5 Coal Seam Development

In the southern Groundhog Coalfield Area, the Groundhog Sequence represents the main coal-bearing unit. During the 1983 and 1984 exploration seasons, eighteen trenches were excavated in the Evans Creek Area. The coal seams exposed in these trenches ranged in coal/coal + rock values up to 3.54/3.54 metres (Table 6.1).

Table 6.1

EVANS CREEK AREA TRENCH SUMMARY

Year	Trench	C/C+R (m)	Sequence
1983	83013'	3.54/3.54	Groundhog
	83032	1.50/1.65	Groundhog
	83035	0.95/1.10	Groundhog
	83045	1.10/1.10	Groundhog
	83049	1.15/1.15	Groundhog
	83064	0.65/0.65	Groundhog
		0.55/0.55	Groundhog
		0.75/1.00	Groundhog
		0.45/0.45	Groundhog
	83087	1.65/3.05	Groundhog
	83097	1.02/1.21	Groundhog
	83102	0.82/0.82	Groundhog
1984	84001	0.70/0.70	Groundhog
	84002	1.04/1.13	Groundhog
	84003	2.64/2.65	Groundhog
	84004	0.67/0.79	Groundhog
	84005	1.08/1.20	Groundhog
	84006	0.58/0.71	Groundhog
	84007	1.50/1.50	Groundhog
	84008	1.07/1.17	Groundhog
	84009	0.65/0.68	Groundhog

' Retrenched and logged in 1984

Twelve drill holes have been completed in the southern Groundhog Area during previous non-Gulf exploration programs, of which 7 occur within the Evans Creek licence boundary. The maximum coal seam thickness intersected in these holes is 2.80 metres.

At this time, correlations between trenched seams is tenuous. Previous drilling results (Section 4.1) indicate abundant seam development over several hundred metres of section as depicted in Appendix G. Initial attempts to correlate these drill holes has proved unsuccessful. Coal seams are generally thinner than these observed in the northern portion of the coalfield though 7 seams in excess of 2.0 metres have been delineated in the drilling and trenching results.

6.3.2 Structure

The fold style of the Evans Creek is the result of two phases of non-coaxial deformation, which postdate the deposition of the youngest strata in the area.

The first and most significant deformational event resulted in the development of first phase folds (designated F_1) trending in a northwest to southeast direction. Bedding attitudes associated with these folds range from shallow to intermediate. Axial planes of these folds dip steeply to the southwest. Steeply dipping beds present in the Evans Creek Area are thought to be the result of drag folding which occurred as a result of thrust faulting.

A second, less intense, deformational period resulted in broad open second phase folds (F_2) that trend in a northeast to southwest direction. The imprint of these folds on the F_1 folds is seen as a series of plunge changes approaching a maximum of 5 degrees to the northwest or southeast.

A thick resistant sandstone and siltstone unit overlies TRC83013. Outcrops northwest of this location also along the east bank of the Skeena River represent the same strata. Near flat lying F_1 structures and gently rolling F_2 plunges have maintained these rocks near surface and suggest that the 3.54 metre seam may extend in the subsurface for a minimum of 1.5 kilometers to the northwest of the trench location.

Based on work completed by previous exploration groups, F_1 folding becomes more intense in the southernmost property margin and continues south of the Evans Creek Area.

7.0 RESOURCES

7.1 Summary

The coal resources of the Evans Creek Coal Project, established during the 1984 exploration program, fall into the speculative resource category and total 504 million tonnes.

The parameters within which the coal resources were classified and the procedures utilized in resource calculations are outlined in Section 7.2

7.2 Procedures and Parameters

7.2.1 Introduction

In-situ coal resources are defined as the in place coal (coal and partings) that is contained in seams occurring within specified limits of thickness and depth from surface. Resources are further defined through classification into "measured", "indicated", "inferred", and "speculative" categories based on the existence and relative spacing of coal seam exploration data.

The procedures for the resource calculations include standard methods utilizing geological cross-sections and maps as described in Section 7.2.2.

The parameters for resource categorization generally follow those set out for the Cordillera Region by Energy, Mines and Resources Canada in Report ER79-9: Coal Resources and Reserves of Canada. The parameters utilized for the 1984 Mount Klappan Coal Project are described in Section 7.2.3.

7.2.2 Procedures

In calculating the speculative resources of the Evans Creek property, the surface extent of the Groundhog Sequence, as depicted on the 1:50 000 geology map in Appendix I, was planimetered to determine the surface area of the coal-bearing sequence.

Diamond drilling in 1970 and 1981 resulted in 12 holes in the area of which 7 lie on Gulf's Evans Creek property. Attempts to correlate the holes based on the available data proved unsuccessful. These drill holes represent the Groundhog Sequence coal measures and were used to determine an average aggregate coal thickness for the property of 7.55 metres. This aggregate thickness was conservatized by 50 percent to 3.78 metres before the final speculative coal tonnage of 504 million tonnes was determined.

Work completed on Gulf's Panorama property, 15 kilometers southwest of Evans Creek, shows that, based on a sample population of ten analyses, an average specific gravity of 1.60 tonnes per cubic metre best represents those coals in the Groundhog Coalfield.

The following equation summarizes the speculative resource calculation:

Tonnes of Coal = Planimetered Area x 3.78 x 1.60
(m^2) (m) (t/m^3)

A resource calculation table is presented in Appendix D of this text.

7.2.3 Parameters

The minimum seam thickness used for the Evans Creek Coal Project resource calculation was 0.5 metres. No maximum depth cut-off was required in the calculations.

The following is a description of the four categories resources used by Gulf Canada Resources Inc. Of these, only the speculative category applies to the Evans Creek Coal Project.

7.2.3.1 Measured Resources

Measured Resources include those resources delineated through establishment of exploration data points and therefore reported with confidence as to the character and continuity of the coal seams. The maximum distance between data points, which may include adits, drill holes, trenches and outcrops, is 300 metres.

7.2.3.2 Indicated Resources

Indicated Resources include resources which are delineated using established data points as well as reasonable geological projections. The maximum distance between data points is 600 metres.

7.2.3.3 Inferred Resources

Inferred Resources include resources which are delineated utilizing regional geological data including data points which predict the continuity of coal seams. Report ER79-9 does not state a data point spacing for this category. A maximum data point spacing of 2000 metres was used for the inferred level.

7.3.3.4 Speculative Resources

Speculative Resources include those resources which are calculated from a few scattered coal occurrences in areas of little or no exploration data where the coal-bearing sequence(s) is/are interpreted to exist. There is no maximum spacing in this category.

8.0 COAL QUALITY

8.1 Summary

Hand trenched samples formed the basis for the coal quality program in the Evans Creek Coal Project area. Of the 9 trenches logged, all were analysed (Table 8.1) for proximate, sulphur and calorific values. As of the writing of this report, petrographic determinations on four grab samples have not been initiated. No washability studies were undertaken.

8.2 Procedures and Parameters

During the course of routine traverses any coal seams or spoil were trenched. Coal seams in excess of 0.5 metres, true thickness, were hand trenched, logged in detail and channel sampled. The sampling intervals chosen were guided by the seam log. Substantial partings or changes in coal character were cause for sampling of the seam by ply, so that the nature of variations across the seam could be traced. For the most part, however, a single sample was taken to transect and represent the whole seam.

The results of all analyses are presented in Appendix F. The 1983 trenching and coal quality results are included in Appendix G of this text.

Table 8.1

EVANS CREEK COAL PROJECT

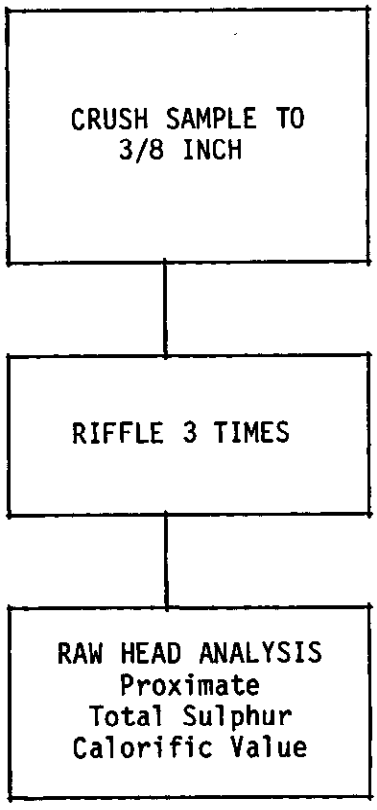
1984 TRENCH AVERAGE COAL QUALITY SUMMARY

Number of Trenches		9
Number of Analyses		9
Proximate Analysis		
Residual Moisture	(%)	4.58
Ash	(%)	36.33
Volatile Matter	(%)	12.33
Fixed Carbon	(%)	46.76
Total Sulphur	(%)	0.46
Gross Calorific Value	(cal/g)	4142

Figure 8.1

EVANS CREEK COAL PROJECT

TRENCH SAMPLE ANALYSIS
FLOW CHART



8.3 Discussion

Nine trench samples from nine trenches excavated in the 1984 exploration program were analysed for proximate, sulphur, and calorific value determination. The average results of these analyses are shown in Table 8.1.

Head ash values ranged from 26.03 to 59.28 percent and averaged 36.33 percent. Sulphur values ranged from 0.29 to 1.06 percent and averaged 0.46 percent.

A distinct trend could not be found in the coal quality within the area due, in part, to the limited number of analyses completed to date.

In a regional sense, when compared to the coal quality of Gulf's Mount Klappan property 50 kilometers to the northwest the Evans Creek coals are seen to have higher ash and sulphur contents. It should be noted; however, that the ash content of TRC83013, on an as received basis, is 14.93 percent and indicates that thick seams with lower ash values are present on the property.

9.0 REFERENCES

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APPENDIX A

STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

BRIAN P. FLYNN

This is to certify that I obtained my Bachelor of Science Degree in Geology at The University of Natal, South Africa in 1971.

Since graduation I spent one year in base metal exploration in South Africa and in excess of eight years in coal exploration in Western Canada. Of this period, six and three quarter years have been in the Coal Division of Gulf Canada Resources Inc., during which time I have been responsible for the planning and supervision of evaluation programs involving diamond and rotary drilling, as well as the design of regional exploration programs in Western Canada and the Arctic. At the present time, I hold the position of Co-ordinator, Coal Projects.

STATEMENT OF QUALIFICATIONS

ERIC SWANBERGSON

This is to certify that I obtained my Bachelor of Science Degree in Geology at Concordia University in 1979.

My geological experience has been gained in mineral, petroleum and coal exploration in western Canada and the Arctic Islands. I have been employed as a Geologist with Gulf Canada Resources Inc. since late 1980.

STATEMENT OF QUALIFICATIONS

F. SCOTT MCKENZIE

This is to certify that I obtained my Bachelor of Science Degree in Earth Sciences at the University of Waterloo in 1982.

My geological experience includes involvement in mineral, petroleum and coal exploration in the Northwest Territories, Ontario, Alberta and British Columbia. I have been employed as a Geologist with Gulf Canada Resources Inc. since my graduation in May, 1982.

APPENDIX B

EVANS CREEK COAL PROJECT
LEGAL DESCRIPTION OF LICENCES
1984

APPENDIX B

Evans Creek Coal Project Licences

1984

Licence	Effective Date	Hectares	Series	Block
7790	Feb. 5/84	49	104-A-16	K
7791	"	283	"	K
7792	"	283	"	K
7793	"	283	"	K
7794	"	283	"	K
7795	"	283	"	K
7796	"	283	"	K
7797	"	283	"	L
7798	"	283	"	L
7799	"	283	"	L
7800	"	283	"	L
7801	"	283	"	L
7802	"	283	"	L
7803	"	283	"	L
7804	"	283	"	L
7805	"	265	"	G
7806	"	265	"	G
7807	"	265	"	F
7808	"	265	"	G
7809	"	265	"	F
7810	"	265	"	F
7811	"	265	"	G
7812	"	265	"	G
7813	"	265	"	G
7814	"	265	"	G
7815	"	265	"	G
7816	"	265	"	F
7817	"	265	"	K
7818	"	265	"	K
7819	"	49	"	F
7820	"	283	"	F
7821	"	283	"	F

The Evans Creek property is comprised of 32 licences totalling 8336 ha.

APPENDIX C

DISTRIBUTION OF WORK BY LICENCE

APPENDIX C

Distribution of Work by Licences

Trench Number	Licence Number
EVCXXTRC 84001	7791
EVCXXTRC 84002	Off Property
EVCXXTRC 84003	Off Property
EVCXXTRC 84004	7809
EVCXXTRC 84005	7799
EVCXXTRC 84006	7807
EVCXXTRC 84007	Off Property
EVCXXTRC 84008	7799
EVCXXTRC 84009	7812

APPENDIX D

RESOURCE DATA AND CALCULATIONS

EVANS CREEK COAL PROJECT

SPECULATIVE RESOURCE CALCULATIONS

Surface Area (m^2)	Aggregate Seam Thickness (m)	Specific Gravity (t/m^3)	Tonnes of Coal
8.34×10^7	3.78	1.60	5.04×10^8

The Evans Creek Coal Project Area has a total speculative resource potential of 504 million tonnes.

APPENDIX E

MEASURED SECTION

GULF CANADA RESOURCES INC.
COAL DIVISION

95

STRATIGRAPHIC LOG
EVC XX OTC84001

GREVANS CREEK 84(3)X(1)

GEOLOGIST : MCKENZIE	DATE : FEB 04/85	DRAWING NO. :

SCALE : 1:200 1:40

NORTHING: 6312900.0 N
EASTING: 540000.0 E

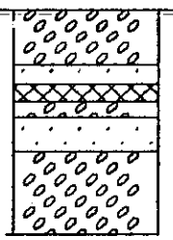
LITHOLOGIC SYMBOLS

	SANDSTONE		BENTONITE
	SILTSTONE	Δ Δ Δ	BRECCIA
	COAL	C C C	CARBONACEOUS
	OVERBURDEN	Q Q Q	QUARTZ
	MUDSTONE, CLAYSTONE	P P P	PYRITE
	TUFF	FE FE FE	FERRUGINOUS
	LIMESTONE	o o o	CONGLOMERATE
	COVERED	F	FOSSIL BED

MEASURED INTERVAL {M}

TRUE INTERVAL {M}

TRUE 1 : 200



TOTAL: 6.15

TOTAL: 6.15

APPENDIX F

1984

COAL TRENCH DATA AND COAL QUALITY

DEFINITIONS OF ABBREVIATIONS USED IN REPORTING COAL QUALITY ANALYSIS

DATA TYPE

Real - Result of laboratory analysis

SPLIT SAMPLE ID

HD1 - Raw coal analysis

HD2 - Analysis of float at 1.70 s.g.

ANALYSIS BASIS TYPE

AD - Air dried

AR - As received.

NAME OF STANDARD

ASTM - American Society for Testing and Materials.

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXOTC84001 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/01/84
END DATE - 09/01/84

CONTRACTOR -
GEOLOGIST - MCKENZIE
OPERATOR - GCRI
SURVEYOR -

REMARKS -

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 1340.00
ZONE - 9
NORTHING - 6312900.00
EASTING - 540150.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565736
LONGITUDE - 1282023

- O R I E N T A T I O N -

LENGTH - 0.00
INCLINATION - 0.0
AZIMUTH - 0.0

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

PROJECT: EVC BLOCK: XX DATA SOURCE: OTC84001

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	1.53	1.53			CONGLOMERATE	PR.LT.GY MATRIX SUPPORTED; BECOMES CLAST SUPPORTED TOWARDS THE BASE; CLASTS 1-4 CM A-AXIS LENGTH; DARK GREY CHERT; MODERATE SPHERICITY; SUBROUNDED; BASAL CONTACT EROSIONAL 5M CHANNEL.
* 90	1.53	2.03	0.50			SANDSTONE	CG.LT.GY CONGLOMERATIC AND GRITTY; INTERNAL PEBBLE LAGS; CHANNELS APPROXIMATELY 3M
* 90	2.03	2.53	0.50			OVERBURDEN	COVERED
* 90	2.53	2.95	0.42			CONGLOMERATE	PR.LT.GY CLAST SUPPORTED; CLASTS MOSTLY DARK GREY CHERT 1-3CM A AXIS LENGTH; EROSIONAL TROUGH CONTACT BELOW
* 90	2.95	3.90	0.95			SANDSTONE	CG.LT.GY CONGLOMERATIC AND GRITTY; BECOMES MORE CONGLOMERATIC TOWARDS THE BASE
* 90	3.90	6.15	2.25			CONGLOMERATE	PR.M.GY CLASTS 1-3CM A AXIS LENGTH; MOSTLY DARK GREY WITH SOME LIGHT GREY CHERT; FINES UPWARD INTO A CONGLOMERATIC SANDSTONE; MINOR HEMATITE STAINING; OBSCURED BOTTOM CONTACT

* DENOTES MEASURED BCA
NEWPAGE

GULF CANADA RESOURCES INC. - COAL DIVISION

21/FEB/85 PROJECT DATA SOURCE SUMMARY PAGE 1

DATA SOURCE	LOCATION NORTHING	LOCATION EASTING	ELEVATION	LENGTH	ANGLE	AZIMUTH	LOG TYPE
EVCXXTRC84001	6308740.0	542560.0	1040.0	1.2	55.0	265.0	
EVCXXTRC84002	6303740.0	544720.0	920.0	1.8	55.0	340.0	
EVCXXTRC84003	6303770.0	544760.0	915.0	3.3	0.0	275.0	
EVCXXTRC84004	6303850.0	544800.0	960.0	1.7	52.0	53.0	
EVCXXTRC84005	6309960.0	534280.0	1080.0	2.0	70.0	0.0	
EVCXXTRC84006	6302970.0	545320.0	890.0	1.5	85.0	200.0	
EVCXXTRC84007	6304070.0	544610.0	910.0	1.7	55.0	140.0	
EVCXXTRC84008	6309270.0	534720.0	1130.0	2.5			
EVCXXTRC84009	6306230.0	541650.0	1160.0	2.1	45.0	15.0	

GULF CANADA RESOURCES INC. - COAL DIVISION

28/FEB/85 SIMPLE SAMPLE SUMMARY PAGE 1

APPARENT THICKNESS

DATA SOURCE	SEAM	SAMPLE ID	DEPTH FROM	DEPTH TO	PERCENT REC	RECOVERED COAL	RECOVERED ROCK	MISSING COAL	MISSING ROCK	TOTAL COAL-ROCK
TRC84001		4912	3.00	3.70	100.00	0.70	0.00	0.00	0.00	0.70- 0.00
TRC84002		4916	0.70	1.83	100.00	1.04	0.09	0.00	0.00	1.04- 0.09
TRC84003		4917	0.30	2.95	100.00	2.64	0.01	0.00	0.00	2.64- 0.01
TRC84004		4918	0.61	1.40	100.00	0.67	0.12	0.00	0.00	0.67- 0.12
TRC84005		4919	0.00	1.20	100.00	1.08	0.12	0.00	0.00	1.08- 0.12
TRC84006		4921	0.30	1.01	100.00	0.58	0.13	0.00	0.00	0.58- 0.13
TRC84007		4922	0.50	2.00	100.00	1.50	0.00	0.00	0.00	1.50- 0.00
TRC84008		1811	0.75	1.92	100.00	1.07	0.10	0.00	0.00	1.07- 0.10
TRC84009		4915	0.56	1.24	100.00	0.65	0.03	0.00	0.00	0.65- 0.03

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84001 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/01/84
END DATE - 09/01/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=0.70/0.70M; NO ROOF

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 1040.00
ZONE - 9
NORTHING - 6308740.00
EASTING - 542560.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565520
LONGITUDE - 1281803

- O R I E N T A T I O N -

LENGTH - 1.20
INCLINATION - 55.0
AZIMUTH - 265.0

SIZE WIDTH - 0.5
SIZE HEIGHT - 0.4

ROOF STRIKE - 330
ROOF DIP - 45
ROOF DIR - W
FLOOR STRIKE - 338
FLOOR DIP - 47
FLOOR DIR - W

*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — COAL DIVISION — TRUE THICKNESS

DATA SOURCE: EVC XX TRC84001 SEAM : INTERVAL(M) : 3.00 – 3.70 ELEVATION(M) : 1040.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 08/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	3.00			0.70	100.0	4912	4912	0.70/ 0.00 0.70		10.29	26.03	18.10	45.58	0.40	17.87	—
	3.70															

85/02/04 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84001

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	2.00	2.00			SANDSTONE	FG.M.GY CLOSEST UNIT ABOVE SEAM ROOF
* 90	2.00	3.00	1.00			OVERBURDEN	
* 90	3.00	3.70	0.70	04912		COAL	BLK WEATHERED; CHURNED UP BY ROOT GROWTH
* 90	3.70	4.20	0.50			SILTSTONE	M.GY.THNB FISSILE

* DENOTES MEASURED BCA
NEWPAGE

FORM 9999

GCRI COAL DIVISION	HEAD	PROJ EVC	BLK XX	DS TRC84001	
SAMPLE ID	4912	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AD

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	---.--		
SURFACE MOISTURE %	--.--	TOTAL SULPHUR %	0.40
TOTAL MOISTURE %	27.08	PHOSPHOROUS %	-.---
EQUILIBRIUM MOISTURE %	--.--	CHLORINE (PPM)	-----
		SPECIFIC GRAVITY	-.--
RESIDUAL MOISTURE %	10.29	FSI	--.-
ASH %	26.03	HGI	---.-
VOLATILE MATTER %	18.10	CO2 %	--.--
FIXED CARBON %	45.58		

GROSS CALORIFIC VALUE (MJ/KG) 17.67
NET CALORIFIC VALUE (MJ/KG) --.--

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84002 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/09/84
END DATE - 09/09/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=1.04/1.13M; STREAM CUT ON DAVIS CREEK; OFF P
ROPERTY

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 920.00
ZONE - 9
NORTHING - 6303740.00
EASTING - 544720.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565238
LONGITUDE - 1281559

- O R I E N T A T I O N -

LENGTH - 1.80
INCLINATION - 55.0
AZIMUTH - 340.0

SIZE WIDTH - 0.3
SIZE HEIGHT - 1.0

ROOF STRIKE - 270
ROOF DIP - 7
ROOF DIR - S

FLOOR STRIKE - 255
FLOOR DIP - 19
FLOOR DIR - S

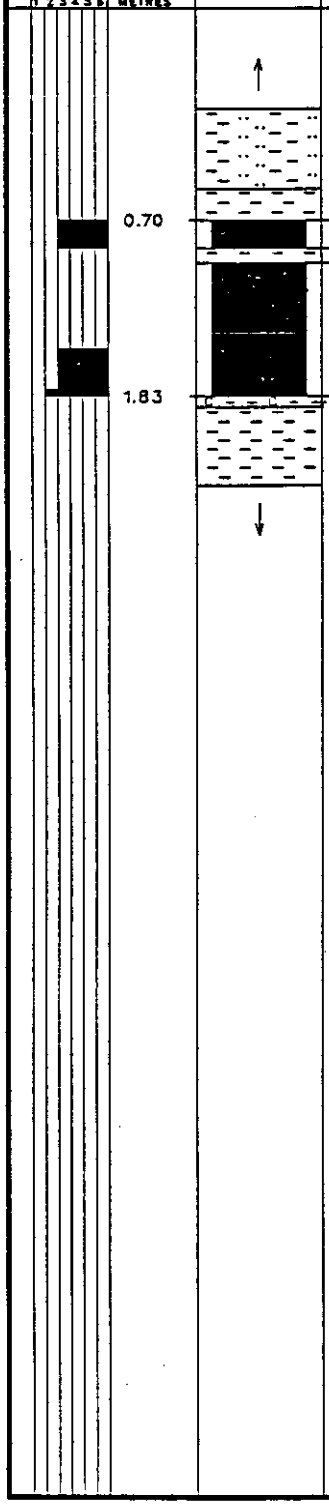
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — COAL DIVISION — TRUE THICKNESS

DATA SOURCE: EVC XX TRC84002 SEAM : INTERVAL(M) : 0.70 – 1.83 ELEVATION(M) : 920.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 07/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CALVAL MJ/KG	RO
	0.70			0.18												
			0.09													
				0.86	100.0	4916	4916	1.04 / 0.09 1.13		1.84	42.07	12.34	43.95	0.48	16.03	—
	1.83															

85/02/04 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84002

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.50	0.50			MUDSTONE	SLTY.DK.GY IRREGULAR FRACTURES; WEATHERS LIGHT GRE Y
*	0.50	0.70	0.20			MUDSTONE	DK.GY SLIGHTLY CARBONACEOUS; HEMATITE STAINED
*	0.70	0.88	0.18	04916		COAL	C-3.BLK WELL INDURATED; HEMATITE STAINED
*	0.88	0.97	0.09	04916		MUDSTONE	DK.GY SILICEOUS
*	0.97	1.52	0.55	04916		COAL	BLK WEATHERED; HEMATITE STAINED
*	1.52	1.69	0.17	04916		COAL	C-3.BLK HEMATITE STAIN; ABUNDANT QUARTZ VEINLET S CUT PERPENDICULAR TO BEDDING
*	1.69	1.78	0.09	04916		COAL	BLK WEATHERED
*	1.78	1.83	0.05	04916		COAL	C-2.BLK
*	1.83	1.90	0.07			MUDSTONE	CARB.DK.GY

* DENOTES MEASURED BCA

GCRI COAL DIVISION HEAD PROJ EVC BLK XX DS TRC84002

SAMPLE ID	4916	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AD

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.48
TOTAL MOISTURE %	11.54	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	1.64	FSI	__._
ASH %	42.07	HGI	___._
VOLATILE MATTER %	12.34	CO2 %	__.__
FIXED CARBON %	43.95		

GROSS CALORIFIC VALUE (MJ/KG) 16.03
NET CALORIFIC VALUE (MJ/KG) __.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84003 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/09/84
END DATE - 09/09/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=2.64/2.65M; STREAM CUT ON NORTH SIDE OF DAVI
S CREEK NEAR FOLD CORE; OFF PROPERTY

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 915.00
ZONE - 9
NORTHING - 6303770.00
EASTING - 544760.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565239
LONGITUDE - 1281556

- O R I E N T A T I O N -

LENGTH - 3.30
INCLINATION - 0.0
AZIMUTH - 275.0

SIZE WIDTH - 0.8
SIZE HEIGHT - 0.5

ROOF STRIKE - 190
ROOF DIP - 70
ROOF DIR - W
FLOOR STRIKE - 192
FLOOR DIP - 80
FLOOR DIR - W

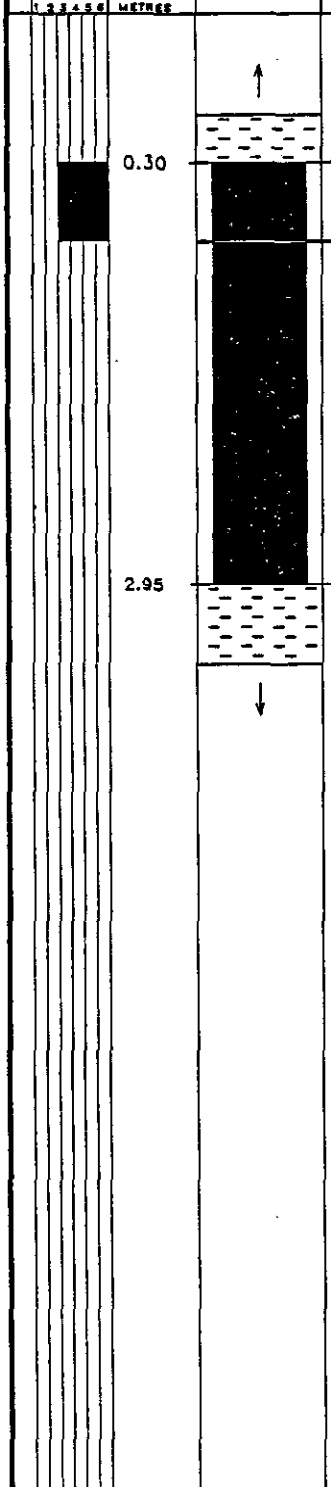
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: EVC XX TRC84003 SEAM : INTERVAL(M) : 0.30 – 2.95 ELEVATION(M) : 915.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 07/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.30			0.49												
			0.01													
				2.15	100.0	4917	4917	2.64 / 0.01 2.65		8.52	26.16	16.37	48.95	0.34	18.81	—
	2.95															

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84003

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.30	0.30			MUDSTONE	GY RARE CARBONACEOUS LAMINATIONS; GOOD CLE AVAGE; SOFT; GREY GREEN COLOUR
*	0.30	0.79	0.49	04917		COAL	C-3.BLK WEATHERED; MINOR IRON STAINING
*	0.79	0.80	0.01	04917		MUDSTONE	SLTY.M.GY
*	0.80	2.95	2.15	04917		COAL	BLK WEATHERED; POWDERED
*	2.95	3.45	0.50			MUDSTONE	M.GY RARE COALY STRINGERS; WELL INDURATED

* DENOTES MEASURED BCA
NEWPAGE

GCRI COAL DIVISION HEAD PROJ EVC BLK XX DS TRC84003

SAMPLE ID	4917	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AD

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.34
TOTAL MOISTURE %	23.36	PHOSPHORUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	8.52	FSI	__._
ASH %	26.16	HGI	___._
VOLATILE MATTER %	16.37	CO2 %	__.__
FIXED CARBON %	48.95		

GROSS CALORIFIC VALUE (MJ/KG)	18.61
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84004 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/09/84
END DATE - 09/09/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=0.67/0.79M; SKEENA CUT BANK; SEAM CONTORTED THOUGH ROOF AND FLOOR ARE CONSISTANT

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 960.00
ZONE - 9
NORTHING - 6303850.00
EASTING - 544800.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565241
LONGITUDE - 1281554

- O R I E N T A T I O N -

LENGTH - 1.70
INCLINATION - 52.0
AZIMUTH - 53.0

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -
FLOOR STRIKE - 252
FLOOR DIP - 22
FLOOR DIR - N

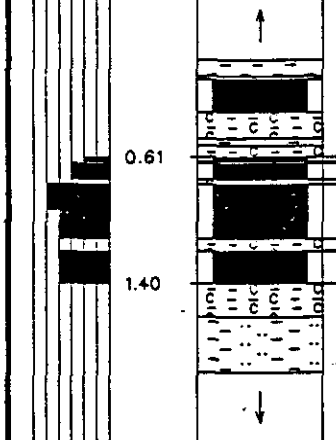
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: EVC XX TRC84004 SEAM : INTERVAL(M) : 0.61 – 1.40 ELEVATION(M) : 960.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 07/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.61			0.10												
			0.03	0.34	100.0	4918	4918	0.87/0.12		1.83	39.57	4.86	53.74	0.38	18.48	—
			0.08					0.79								
	1.40			0.20												

85/02/04 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84004

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.10	0.10			MUDSTONE	DK.BN WEATHERED; UNCONSOLIDATED
*	0.10	0.12	0.02			MUDSTONE	CARB.DK.GY WEATHERED
*	0.12	0.33	0.21			COAL	BLK INTENSELY FRACTURED; QUARTZ INFILLED; B EDS BRECCIATED
*	0.33	0.43	0.10			MUDSTONE	CARB.DK.GY SILICIFIED
*	0.43	0.49	0.06			MUDSTONE	CARB.DK.GY
*	0.49	0.54	0.05			MUDSTONE	SLTY.DK.GY CARBONACEOUS; MINOR IRON STAINING
*	0.54	0.60	0.06			MUDSTONE	CARB.DK.GY
*	0.60	0.61	0.01			QUARTZ	VEINLET
*	0.61	0.64	0.03	04918		COAL	C-5.BLK WEATHERED
*	0.64	0.65	0.01	04918		MUDSTONE	CARB.BLK SHEARED

* DENOTES MEASURED BCA

GCRI COAL DIVISION	HEAD	PROJ EVC	BLK XX	DS TRC84004	
SAMPLE ID	4918	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AD

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	---.--		
SURFACE MOISTURE %	--.--	TOTAL SULPHUR %	0.39
TOTAL MOISTURE %	11.50	PHOSPHOROUS %	-.---
EQUILIBRIUM MOISTURE %	--.--	CHLORINE (PPM)	-----
		SPECIFIC GRAVITY	-.--
RESIDUAL MOISTURE %	1.83	FSI	--.-
ASH %	39.57	HGI	---.-
VOLATILE MATTER %	4.86	CO2 %	--.--
FIXED CARBON %	53.74		

GROSS CALORIFIC VALUE (MJ/KG)	18.48
NET CALORIFIC VALUE (MJ/KG)	--.--

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84005 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/10/84
END DATE - 09/10/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=1.08/1.20M; BEIRNES CREEK; NO ROOF OR FLOOR ATTITUDES BUT WITHIN THE SEAM THERE IS A MUDSTONE BAND WHICH TRENDS 057/010SE

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 1080.00
ZONE - 9
NORTHING - 6309960.00
EASTING - 534280.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565602
LONGITUDE - 1282612

- O R I E N T A T I O N -

LENGTH - 2.00
INCLINATION - 70.0
AZIMUTH - 0.0

SIZE WIDTH - 0.4
SIZE HEIGHT - 0.5

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

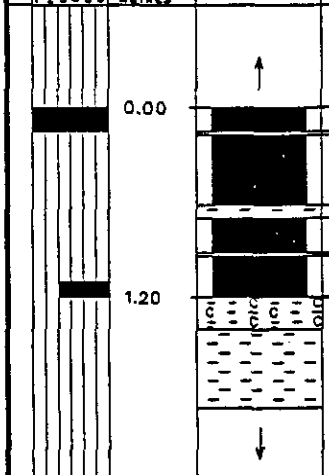
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: EVC XX TRC84005 SEAM : INTERVAL(M) : 0.00 – 1.20 ELEVATION(M) : 1080.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 07/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.00			0.19												
			0.02	0.45												
			0.06		100.0	4919	4919	1.06 / 0.12		9.70	26.88	24.20	37.21	0.35	15.83	—
				0.22				1.20								
			0.02	0.26												
	1.20															

85/02/04 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84005

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.15	0.15	04919		COAL	BLK WEATHERED; POWDERED
*	0.15	0.17	0.02	04919		MUDSTONE	BN SOFT; IRON STAINING
*	0.17	0.62	0.45	04919		COAL	BLK WEATHERED; SHEARED
*	0.62	0.70	0.08	04919		MUDSTONE	BN IRON STAINING; SOFT; BEDDING ATTITUDE T AKEN HERE
*	0.70	0.92	0.22	04919		COAL	BLK WEATHERED; SHEARED
*	0.92	0.94	0.02	04919		MUDSTONE	GY SOFT
*	0.94	1.10	0.16	04919		COAL	BLK WEATHERED; SHEARED
*	1.10	1.20	0.10	04919		COAL	C-3.BLK IRON STAINED; WELL CLEAVED
*	1.20	1.40	0.20			MUDSTONE	CARB.DK.GY SOFT; MINOR COALY STRINGERS

* DENOTES MEASURED BCA

FORM 9999

GCRI COAL DIVISION HEAD PROJ EVC BLK XX DS TRC84005

SAMPLE ID	4919	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AD

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	---.--		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.35
TOTAL MOISTURE %	29.83	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	______
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	9.70	FSI	__._
ASH %	28.89	HGI	___._
VOLATILE MATTER %	24.20	CO2 %	__.__
FIXED CARBON %	37.21		

GROSS CALORIFIC VALUE (MJ/KG)	15.63
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84006 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/11/84
END DATE - 09/11/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=0.58/0.71M; SKEENA RIVER

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 890.00
ZONE - 9
NORTHING - 6302970.00
EASTING - 545320.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565213
LONGITUDE - 1281524

- O R I E N T A T I O N -

LENGTH - 1.50
INCLINATION - 85.0
AZIMUTH - 200.0

SIZE WIDTH - 0.2
SIZE HEIGHT - 0.1

ROOF STRIKE - 235
ROOF DIP - 50
ROOF DIR - S

FLOOR STRIKE - 270
FLOOR DIP - 37
FLOOR DIR - S

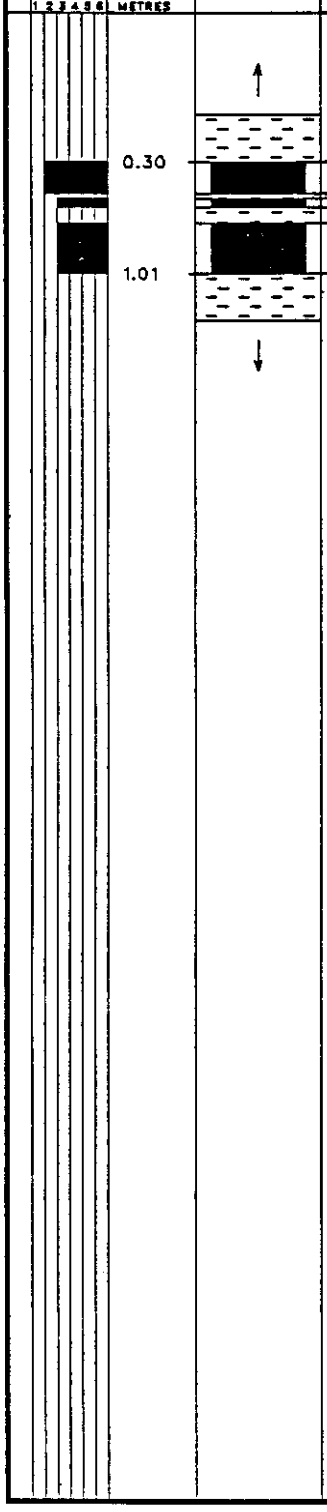
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: EVC XX TRC84006 SEAM : INTERVAL(M) : 0.30 – 1.01 ELEVATION(M) : 890.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 07/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.30			0.20												
			0.03	0.08												
			0.10		100.0	4921	4921	0.28/ 0.13		0.93	59.28	4.89	34.90	0.33	10.73	—
				0.32				0.71								
	1.01															

PLOT 1 18.20.32 THUR 7 FEB, 1985 JOB-TSTCEGO GULF CANADA LMT DISSPLA 9.2

85/02/04 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84006

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.30	0.30			MUDSTONE	DK.GY.THNB
*	0.30	0.50	0.20	04921		COAL	C-2.BLK GOOD CLEAVAGE; HARD; MINOR IRON STAININ G
*	0.50	0.53	0.03	04921		MUDSTONE	DK.GY.LAM
*	0.53	0.59	0.06	04921		COAL	C-3.BLK IRON STAINED; HARD; PYRITIZED
*	0.59	0.69	0.10	04921		MUDSTONE	DK.GY.THNB
*	0.69	1.01	0.32	04921		COAL	C-3.BLK HARD
*	1.01	1.31	0.30			MUDSTONE	DK.GY

* DENOTES MEASURED BCA
NEWPAGE

GCRI COAL DIVISION	HEAD	PROJ EVC	BLK XX	DS TRC84006	
SAMPLE ID	4921	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AD
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM			

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.33
TOTAL MOISTURE %	5.85	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	0.93	FSI	__._
ASH %	59.28	HGI	___._
VOLATILE MATTER %	4.89	CO2 %	__.__
FIXED CARBON %	34.90		

GROSS CALORIFIC VALUE (MJ/KG)	10.73
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84007 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/11/84
END DATE - 09/11/84

CONTRACTOR -
GEOLOGIST - SWANBERGSON
OPERATOR - GCRI
SURVEYOR -

REMARKS - POSSIBLY THICKENED DUE TO EITHER A SMALL DRAG FOLD OR FAULT. NO IMMEDIATE ROOF OR FLOOR AVAILABLE; O BTAINED LOCAL MEASUREMENTS; OFF PROPERTY

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 910.00
ZONE - 9
NORTHING - 6304070.00
EASTING - 544610.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565249
LONGITUDE - 1281605

- O R I E N T A T I O N -

LENGTH - 1.70
INCLINATION - 55.0
AZIMUTH - 140.0

SIZE WIDTH - 0.6
SIZE HEIGHT - 0.5

ROOF STRIKE - 327
ROOF DIP - 22
ROOF DIR - S

FLOOR STRIKE - 330
FLOOR DIP - 66
FLOOR DIR - W

*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — COAL DIVISION — TRUE THICKNESS

DATA SOURCE: EVC XX TRC84007 SEAM : INTERVAL(M) : 0.50 - 2.00 ELEVATION(M) : 910.0

GEOLOGIST : SWANBERGSON SCALE: 1:40 DATE : FEB 08/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.50			1.50	100.0	4922	4922	1.50 / 0.00 1.50		2.12	37.80	4.99	55.09	1.06	19.24	—
	2.00															

85/02/04 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84007

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.50	0.50			OVERBURDEN	
*	0.50	2.00	1.50			COAL	C-3.BLK BEDS SOMEWHAT CONTORTED

* *DENOTES MEASURED BCA*

NEWPAGE

FORM 9999

GCRI COAL DIVISION	HEAD	PROJ EVC	BLK XX	DS TRC84007
SAMPLE ID	4922	DATA TYPE (REAL,BORD,AVER,CALC)		REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)		AD
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM		

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	1.06
TOTAL MOISTURE %	9.71	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	2.12	FSI	__._
ASH %	37.80	HGI	___._
VOLATILE MATTER %	4.99	CO2 %	__.__
FIXED CARBON %	55.09		

GROSS CALORIFIC VALUE (MJ/KG)	19.24
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84008 DATE - 02/28/85

- H I S T O R Y -

START DATE - 08/31/84
END DATE - 08/31/84

CONTRACTOR -
GEOLOGIST - MCKENZIE
OPERATOR - GCRI
SURVEYOR -

REMARKS - C/C+R=1.07/1.17M; NO TRENCH ORIENTATION OBTAINABLE

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 1130.00
ZONE - 9
NORTHING - 6309270.00
EASTING - 534720.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565540
LONGITUDE - 1282546

- O R I E N T A T I O N -

LENGTH - 2.50
INCLINATION - 0.0
AZIMUTH - 0.0

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 295
ROOF DIP - 37
ROOF DIR - S
FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

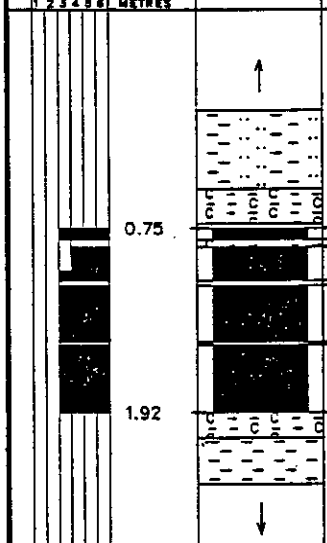
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: EVC XX TRC84008 SEAM : INTERVAL(M) : 0.75 – 1.92 ELEVATION(M) : 1130.0

GEOLOGIST : MCKENZIE SCALE: 1:40 DATE : FEB 08/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.75			0.07												
			0.05	0.21												
				0.36	100.0	1811	1811	1.07 / 0.10		1.09	36.89	9.54	52.48	0.47	20.70	—
			0.02					1.17								
				0.43												
	1.92															

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84008

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	0.00	0.50	0.50			MUDSTONE	SLTY.M.GY IRON STAINED
*	0.50	0.72	0.22			MUDSTONE	CARB.BLK WEATHERED
*	0.72	0.75	0.03			MUDSTONE	SLTY.M.GY IRON STAINED; WEATHERED
*	0.75	0.82	0.07			COAL	C-3.BLK SHEARED
*	0.82	0.87	0.05			MUDSTONE	CARB.DK.GY
*	0.87	1.02	0.15			COAL	C-4.BLK SHEARED
*	1.02	1.08	0.06			COAL	C-3.BLK SHEARED
*	1.08	1.11	0.03			MUDSTONE	SLTY.M.GY
*	1.11	1.47	0.36			COAL	C-3.BLK SHEARED
*	1.47	1.49	0.02			MUDSTONE	CARB.BLK

* DENOTES MEASURED BCA

GCRI COAL DIVISION HEAD PROJ EVC BLK XX DS TRC84008

SAMPLE ID 1811 DATA TYPE (REAL,BORO,AVER,CALC) REAL
SPLIT SAMPLE ID HD1 DATE ANALYSED 19/10/84
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AD
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.47
TOTAL MOISTURE %	8.36	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	______
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	1.09	FSI	__._
ASH %	36.89	HGI	___._
VOLATILE MATTER %	9.54	CO2 %	__.__
FIXED CARBON %	52.48		

GROSS CALORIFIC VALUE (MJ/KG) 20.70
NET CALORIFIC VALUE (MJ/KG) __.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - EVCXXTRC84009 DATE - 02/28/85

- H I S T O R Y -

START DATE - 09/07/84
END DATE - 09/07/84

CONTRACTOR -
GEOLOGIST - MCKENZIE
OPERATOR - GCRI
SURVEYOR -

REMARKS - SMALL STREAM CUT EXPOSURE. TRENCH IS UNDERLAIN BY 3M OF DARK GREY MUDSTONE WITH COAL STRINGERS. THE NUMBER OF STRINGERS INCREASE UPWARDS TO THE FLOOR OF THE SEAM; C/C+R=0.65/0.68M

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 1160.00
ZONE - 9
NORTHING - 6306230.00
EASTING - 541650.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565359
LONGITUDE - 1281858

- O R I E N T A T I O N -

LENGTH - 2.10
INCLINATION - 45.0
AZIMUTH - 15.0

SIZE WIDTH - 0.6
SIZE HEIGHT - 0.7

ROOF STRIKE - 310
ROOF DIP - 26
ROOF DIR - S

FLOOR STRIKE - 302
FLOOR DIP - 23
FLOOR DIR - S

*** NOTE *** 0 INDICATES NO VALUE

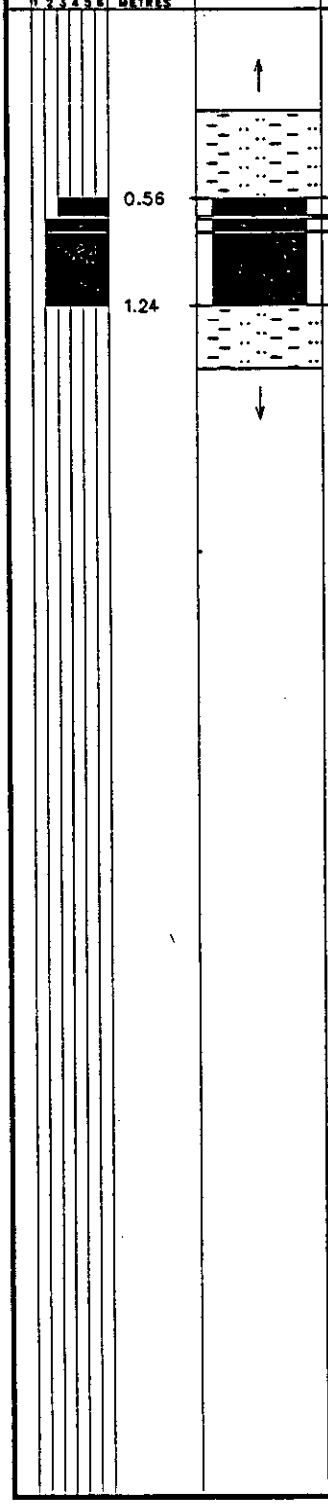
GULF CANADA RESOURCES INC.

COAL DIVISION

SEAM DETAIL — **TRUE THICKNESS**

DATA SOURCE: EVC XX TRC84009 SEAM : INTERVAL(M) : 0.56 – 1.24 ELEVATION(M) : 1160.0

GEOLOGIST : MCKENZIE SCALE: 1:40 DATE : FEB 08/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.56		0.03 / 0.01	0.11 / 0.08												
				0.46	100.0	4915	4915	0.55 / 0.03 / 0.68		5.07	30.39	15.67	48.96	0.29	18.69	—
	1.24															

85/02/21 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: EVC BLOCK: XX DATA SOURCE: TRC84009

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	0.52	0.52			MUDSTONE	SLTY.LT.BN.LAM WEATHERED; SLIGHTLY CARBONACEOUS; MINOR LAMINATIONS OF DARK GREY MUDSTONE
* 90	0.52	0.56	0.04			MUDSTONE	SLTY.DK.BN.MAS CARBONACEOUS FRAGMENTS; WELL INDURATED
* 90	0.56	0.67	0.11	04915		COAL	C-3.BLK WEATHERED; HEMATITE STAINED; OXIDIZED
* 90	0.67	0.69	0.02	04915		MUDSTONE	CARB.M.GY
* 90	0.69	0.77	0.08	04915		COAL	C-2.BLK
* 90	0.77	0.78	0.01	04915		MUDSTONE	CARB.M.GY
* 90	0.78	1.24	0.46	04915		COAL	C-2.BLK MINOR SHEARING
* 90	1.24	1.64	0.40			MUDSTONE	SLTY.DK.GY OVER 0.40M THICK (FLOOR); CARBONACEOUS STRINGERS AT THE TOP; OXIDIZED; MINOR HEMATITE BANDING

GCRI COAL DIVISION	HEAD	PROJ EVC	BLK XX	DS TRC84009	
SAMPLE ID	4915	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	19/10/84		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AD
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM			

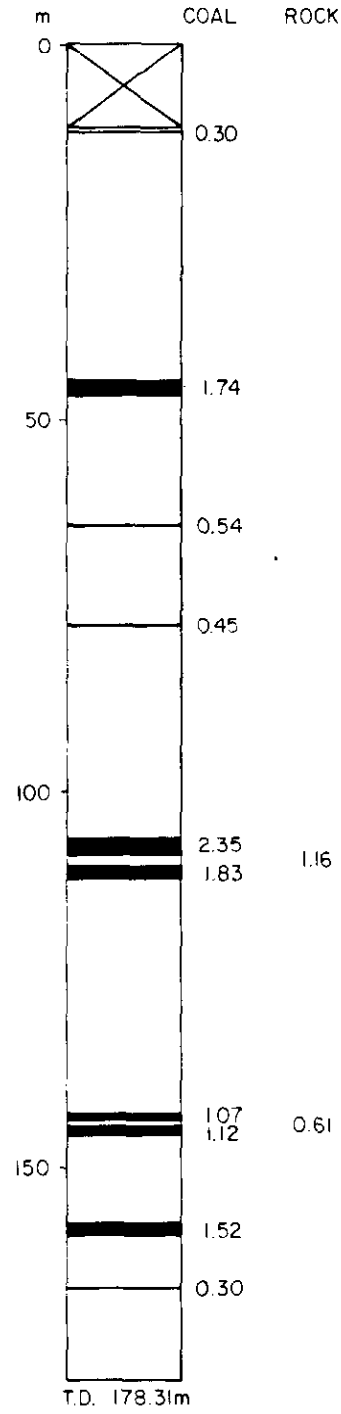
TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.29
TOTAL MOISTURE %	19.26	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	5.07	FSI	__._
ASH %	30.30	HGI	___._
VOLATILE MATTER %	15.67	CO2 %	__.__
FIXED CARBON %	48.96		

GROSS CALORIFIC VALUE (MJ/KG)	18.89
NET CALORIFIC VALUE (MJ/KG)	__.__

APPENDIX G

PREVIOUS DRILLING AND 1983 TRENCHING RESULTS

PREVIOUS DRILLING ON PROPERTY



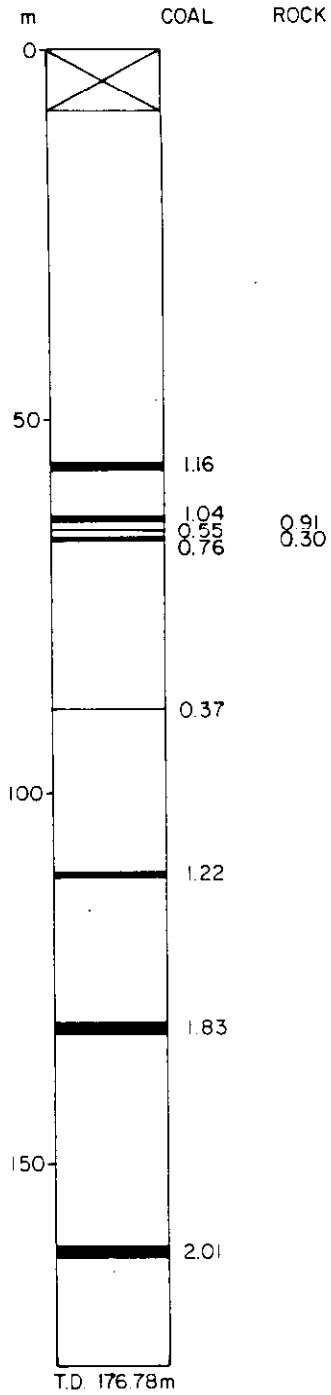
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

QUINTANA DRILL HOLE

DDH – 1
1970

PREPARED BY E. SWANBERGSON		SCALE 1:1000
APPROVED BY	DATE APR / 84	DRAWING No.



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

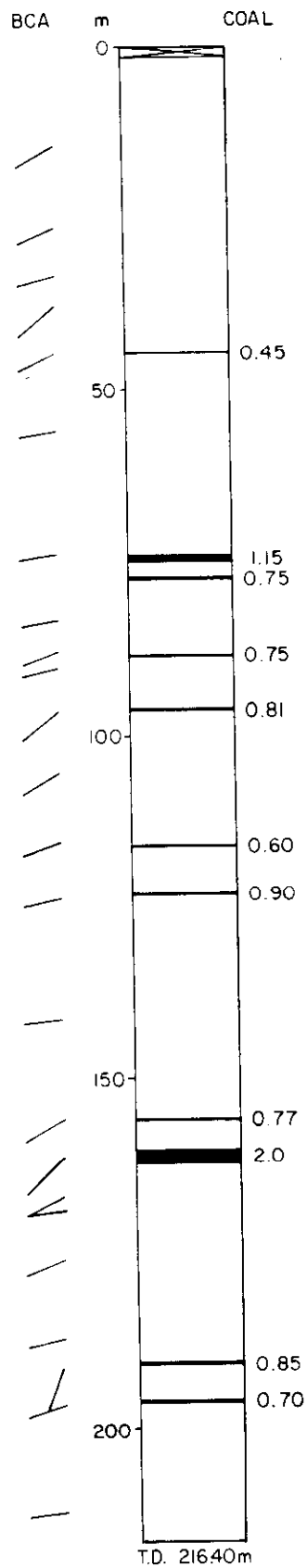
Gulf

QUINTANA DRILL HOLE

DDH - 5

1970

PREPARED BY E. SWANBERGSON	SCALE 1 : 1000
APPROVED BY	DATE APR. / 84 DRAWING No.



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

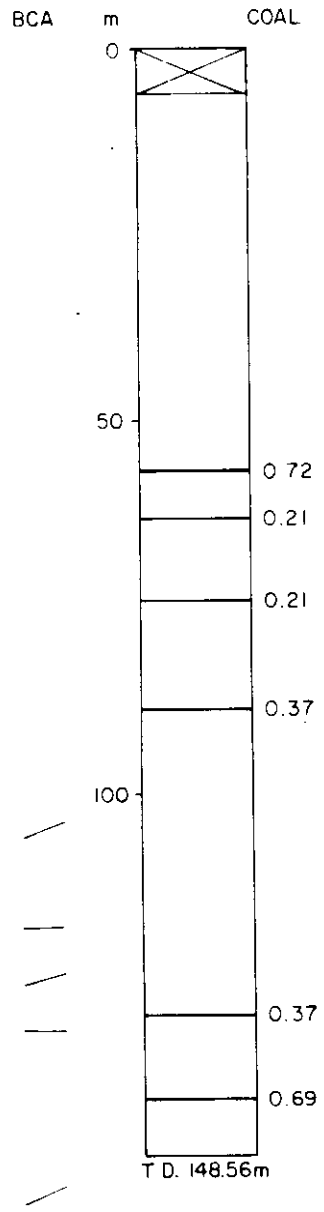
Gulf

IMPERIAL METALS DRILL HOLE

DDH 81-H1

1981

PREPARED BY E. SWANBERGSON	SCALE 1:1000
APPROVED BY	DATE APR./ 84 DRAWING No

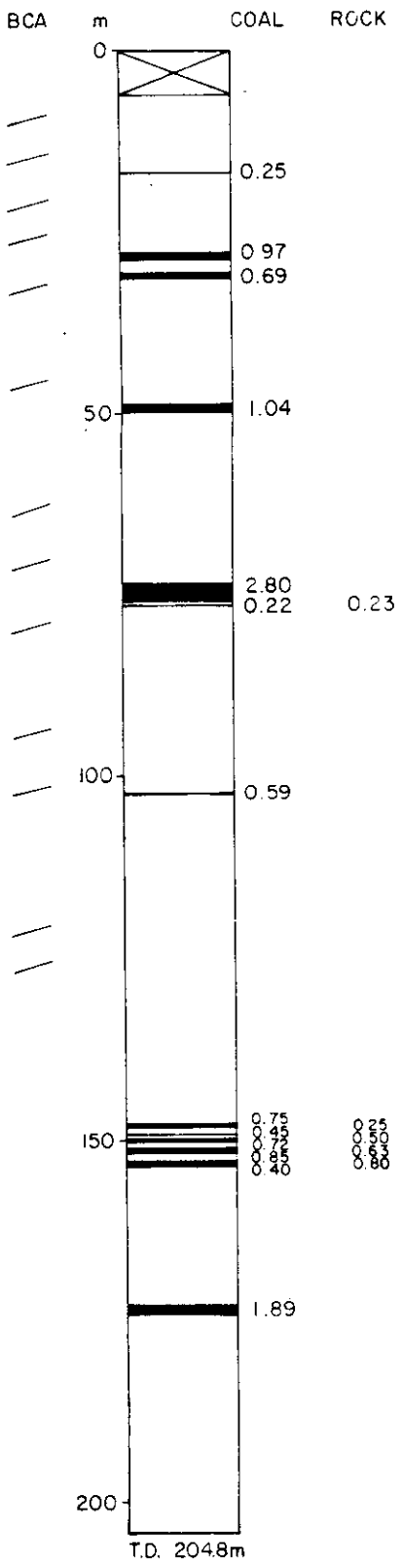


GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

IMPERIAL METALS DRILL HOLE
DDH 81-H2
1981

PREPARED BY E. SWANBERGSON	SCALE 1:1000
APPROVED BY DATE APR / 84	DRAWING No

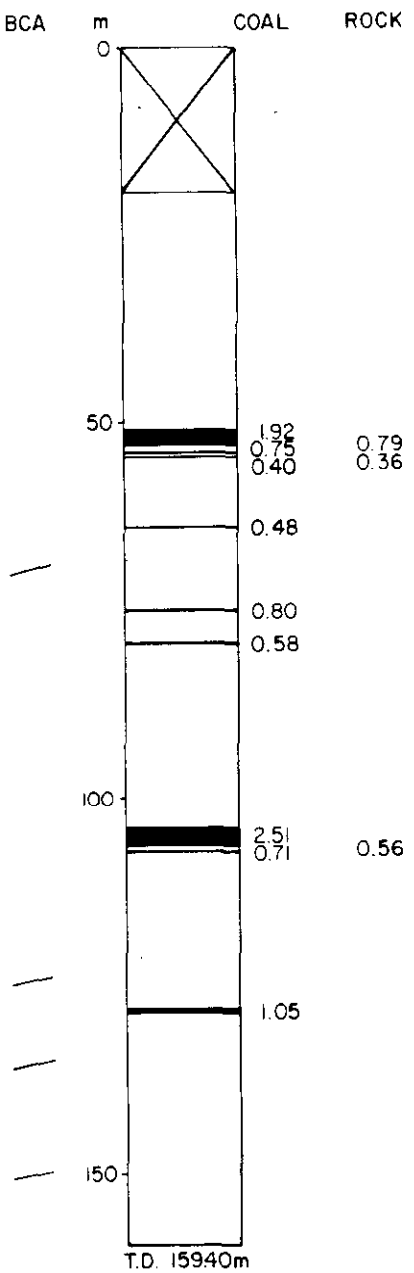


GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

IMPERIAL METALS DRILL HOLE
DDH 81-H4
1981

PREPARED BY	E. SWANBERGSON	SCALE 1:1000
APPROVED BY		DATE APR / 84 DRAWING No



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

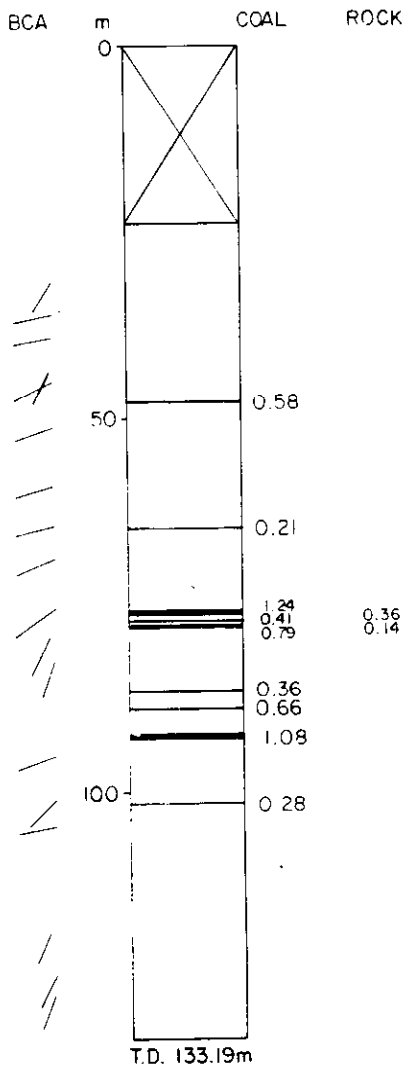
Gulf

IMPERIAL METALS DRILL HOLE

DDH 81-H5

1981

PREPARED BY E. SWANBERGSON	SCALE 1:1000
APPROVED BY DATE APR./84	DRAWING No



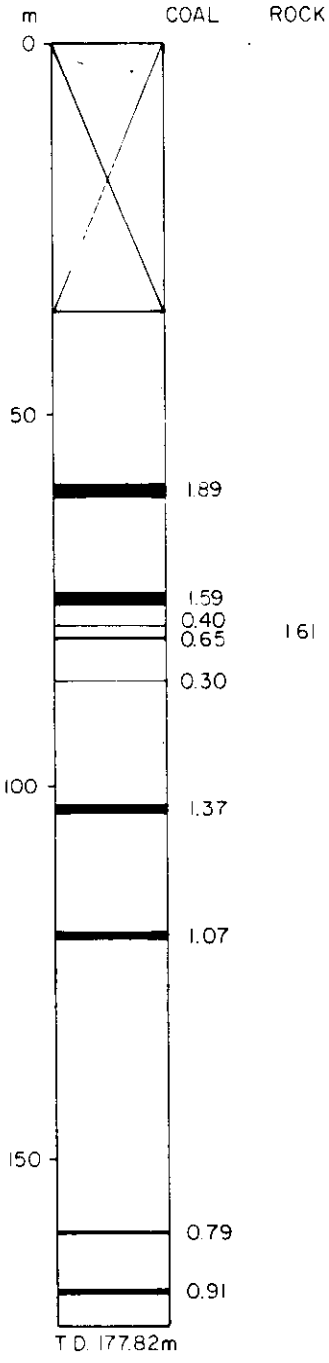
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

IMPERIAL METALS DRILL HOLE
DDH 81-H6
1981

PREPARED BY E. SWANBERGSON SCALE 1:100C
APPROVED BY DATE APR./84 DRAWING No

PREVIOUS DRILLING OFF PROPERTY



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

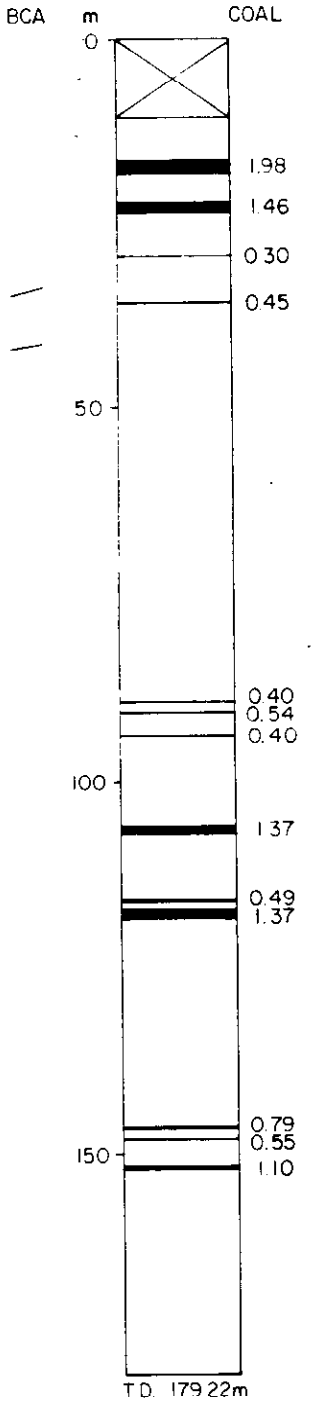
QUINTANA DRILL HOLE

DDH - 2

1970

PREPARED BY E SWANBERGSON SCALE 1:100C

APPROVED BY DATE APR. / 84 DRAWING No



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

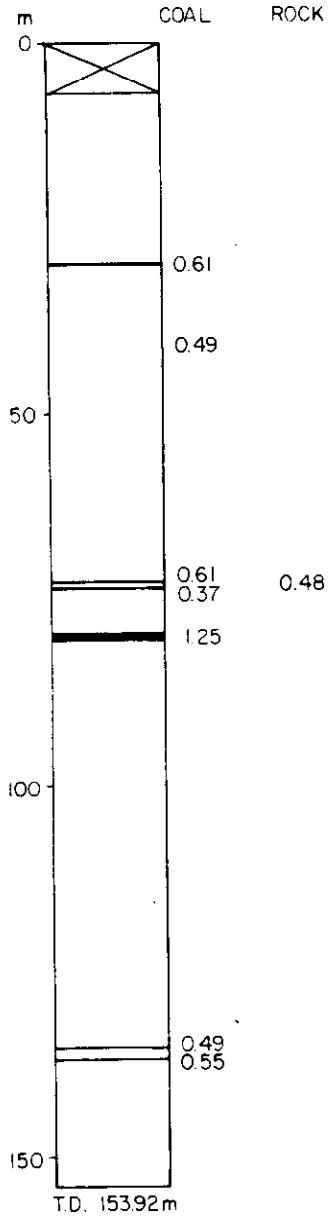
Gulf

QUINTANA DRILL HOLE

DDH-3

1970

PREPARED BY	E. SWANBERGSON	SCALE 1:1000
APPROVED BY	DATE APR./84	DRAWING No



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

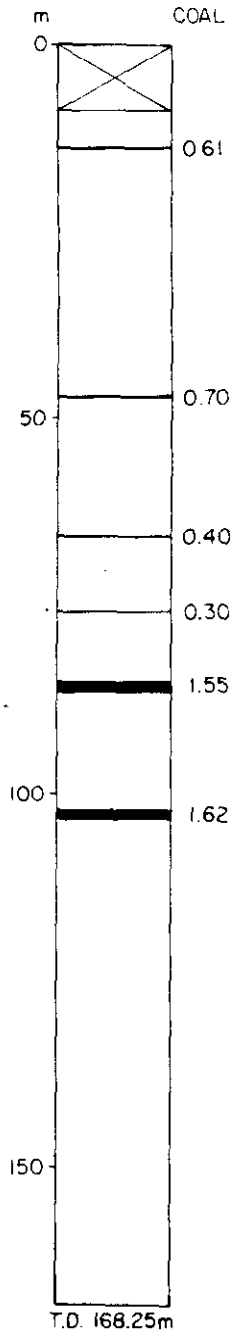
Gulf

QUINTANA DRILL HOLE

DDH - 4

1970

PREPARED BY E. SWANBERGSON	SCALE 1 : 1000
APPROVED BY	DATE APR. / 84 DRAWING No



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

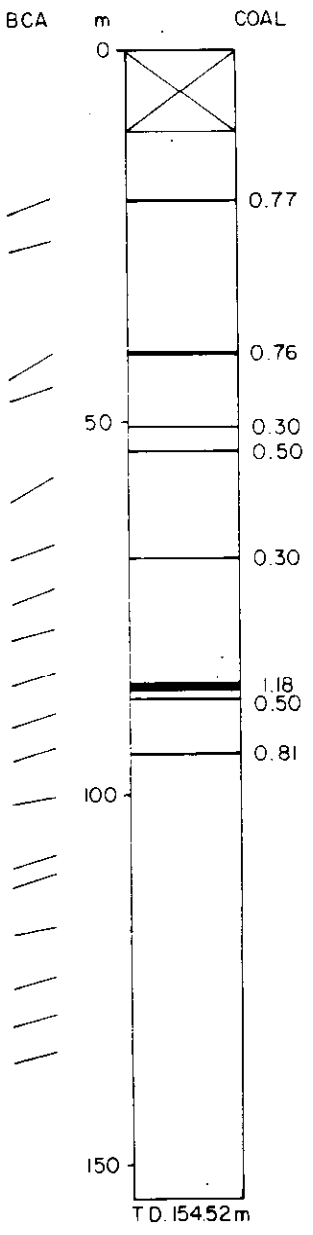
Gulf

QUINTANA DRILL HOLE

DDH-6

1970

PREPARED BY E. SWANBERGSON
SCALE 1:1000
APPROVED BY
DATE APR. / 84
DRAWING No



GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

IMPERIAL METALS DRILL HOLE
DDH 81-H3
1981

PREPARED BY E SWANBERGSON	SCALE 1:1000
APPROVED BY	DATE APR./84 DRAWING No

1983 TRENCH AND COAL QUALITY DATA

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83013 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/03/83
END DATE - 09/03/83

CONTRACTOR -
GEOLOGIST - C. NOGAS
OPERATOR - GCRI.
SURVEYOR -

REMARKS - FLOOR NOT REACHED

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 972.00
ZONE - 9
NORTHING - 6198970.00
EASTING - 543210.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 555610
LONGITUDE - 1281830

- O R I E N T A T I O N -

LENGTH - 10.00
INCLINATION - 25.0
AZIMUTH - 120.0

SIZE WIDTH - 0.5
SIZE HEIGHT - 0.3

ROOF STRIKE - 192
ROOF DIP - 9
ROOF DIR - E

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — COAL DIVISION — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83013 SEAM : INTERVAL(M) : 0.50 - 5.10 ELEVATION(M) : 972.0

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 23/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.50															
				4.60	100.0	8314	8314	4.60 / 0.00 4.60		9.24	20.52	6.53	63.71	0.47	23.02	5.52
	5.10															

PLOT 1 14.38.10 SAT 23 FEB, 1985 JOB-TSTCEGO GULF CANADA LMT DISSPLA 9.2

85/02/25 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83013

	BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	90	0.00	0.50	0.50			CLAYSTONE	ABUNDANT COALMICRO STRINGERS ROOF
	90	0.50	4.15	3.65	06314		COAL	C-1 ABUNDANT CLAYSTONE CARBONACEOUS WEATHER ED FRIABLE
	90	4.15	4.40	0.25	06314		CLAYSTONE	CARB SILICIFIED CONCRETION
	90	4.40	5.10	0.70	06314		COAL	C-1 ABUNDANT CLAYSTONE CARBONACEOUS, FRIABL E FLOOR NOT REACHED

* DENOTES MEASURED BCA
NEWPAGE

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRCS3013

SAMPLE ID	6314	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/93
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.47
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	9.24	FSI	__._
ASH %	20.52	HGI	___._
VOLATILE MATTER %	6.53	CO2 %	__.__
FIXED CARBON %	63.71		

GROSS CALORIFIC VALUE (MJ/KG)	23.02
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83013

SAMPLE ID	6314	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED	11/10/83
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.55
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	4.13	FSI	__._
ASH %	14.93	HGI	___._
VOLATILE MATTER %	4.68	CO2 %	__.__
FIXED CARBON %	76.26		

GROSS CALORIFIC VALUE (MJ/KG)	27.19
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83032 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/04/83
END DATE - 09/04/83

CONTRACTOR -
GEOLOGIST - C. NOGAS

OPERATOR - GCRI.
SURVEYOR -

REMARKS -

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00

LICENCE/LEASE NUMBER - 0

ZONE - 9
NORTHING - 6302891.00
EASTING - 545721.50

LATITUDE - 565210
LONGITUDE - 1281500

- O R I E N T A T I O N -

LENGTH - 4.00

SIZE WIDTH - 0.3
SIZE HEIGHT - 0.2

INCLINATION - 50.0
AZIMUTH - 90.0

ROOF STRIKE - 286
ROOF DIP - 20
ROOF DIR - S

FLOOR STRIKE - 240
FLOOR DIP - 33
FLOOR DIR - S

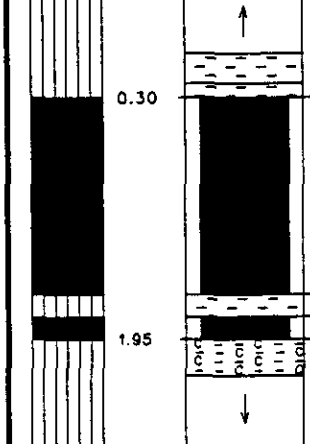
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83032 SEAM : INTERVAL(M) : 0.30 – 1.95 ELEVATION(M) :

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 25/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.30			1.35	100.0	6315	6315	1.50 / 0.15 1.65		9.53	39.94	6.84	43.89	0.34	15.70	4.68
			0.15													
	1.95			0.15												

PLOT 1 13.09.58 MON 25 FEB, 1985 JOB-7STCEGO GULF CANADA LMT DISSPLA 9.2

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83032

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	0.20	0.20			MUDSTONE	THNB
90	0.20	0.30	0.10			CLAYSTONE	ROOF
90	0.30	0.50	0.20	06315		COAL	C-1 ABUNDANT CLAYSTONE CARBONACEOUS
90	0.50	1.65	1.15	06315		COAL	IRON STAIN, WEATHERED IN PLACES
90	1.65	1.80	0.15	06315		CLAYSTONE	BN UNCONSOLIDATED
90	1.80	1.95	0.15	06315		COAL	C-1 ABUNDANT FRACFILS (QTZ) IRON STAIN
90	1.95	2.20	0.25			CLAYSTONE	CARB MINOR COAL STRINGERS < 5MM

* DENOTES MEASURED BCA
NEWPAGE

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83032

SAMPLE ID	6315	DATA TYPE (REAL,BORD,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED 11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	---.--		
SURFACE MOISTURE %	--.--	TOTAL SULPHUR %	0.34
TOTAL MOISTURE %	--.--	PHOSPHOROUS %	-.---
EQUILIBRIUM MOISTURE %	--.--	CHLORINE (PPM)	-----
		SPECIFIC GRAVITY	-.--
RESIDUAL MOISTURE %	9.53	FSI	--.-
ASH %	39.94	HGI	---.-
VOLATILE MATTER %	6.64	CO2 %	--.--
FIXED CARBON %	43.89		

GROSS CALORIFIC VALUE (MJ/KG) 15.70
NET CALORIFIC VALUE (MJ/KG) --.--

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRCS3032

SAMPLE ID	6315	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED 11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.45
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	3.31	FSI	__._
ASH %	17.90	HGI	___._
VOLATILE MATTER %	5.04	CO2 %	__.__
FIXED CARBON %	73.75		

GROSS CALORIFIC VALUE (MJ/KG)	26.20
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83035 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/04/83
END DATE - 09/04/83

CONTRACTOR -
GEOLOGIST - C. NOGAS
OPERATOR - GCRI.
SURVEYOR -

REMARKS - ROOF ATTITUDE NOT AVAILABLE

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00
ZONE - 9
NORTHING - 6194349.00
EASTING - 544819.87

LICENCE/LEASE NUMBER - 0

LATITUDE - 555340
LONGITUDE - 1281700

- O R I E N T A T I O N -

LENGTH - 1.50
INCLINATION - 44.0
AZIMUTH - 7.0

SIZE WIDTH - 0.3
SIZE HEIGHT - 0.2

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -
FLOOR STRIKE - 310
FLOOR DIP - 35
FLOOR DIR - S

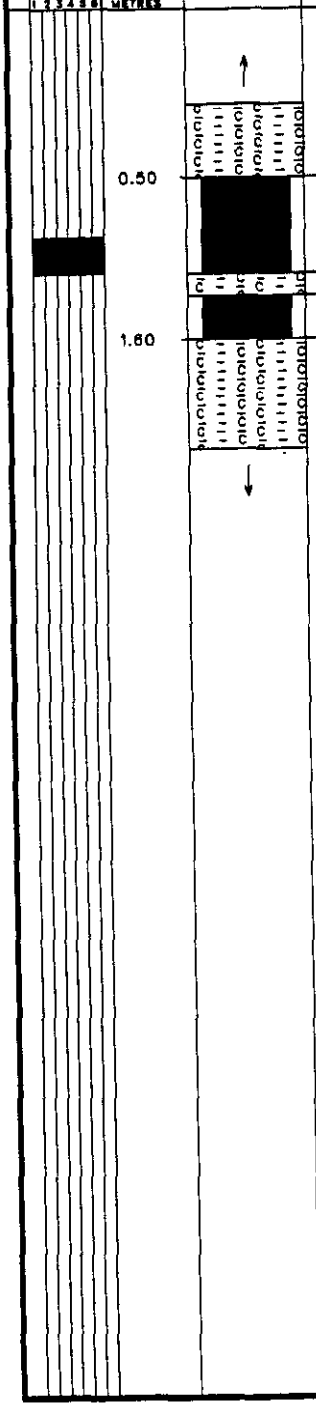
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83035 SEAM : INTERVAL(M) : 0.50 – 1.60 ELEVATION(M) :

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 25/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY A.D.B. RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.50			0.65	100.0	6316	6316	0.95/ 0.15 1.10		10.48	31.57	5.02	52.92	0.32	18.24	4.91
			0.15													
	1.60			0.30												

PLOT 1 13.10.03 MON 25 FEB, 1985 JOB-TSTCOBO GULF CANADA LMT DISSPLA 9.2

85/02/25 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83035

	BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	90	0.00	0.50	0.50			CLAYSTONE	CARB MINOR COAL BANDED, ROOF
	90	0.50	0.90	0.40	06316		COAL	40 % CLAYSTONE CARBONACEOUS, SHEARED WE ATHERED
	90	0.90	1.15	0.25	06316		COAL	C-1 MINOR CLAYSTONE CARBONACEOUS
	90	1.15	1.30	0.15	06316		CLAYSTONE	CARB FREQ COAL PARTICLES, WEATHERED
	90	1.30	1.60	0.30	06316		COAL	HARD, IRON STAIN
	90	1.60	2.10	0.50			CLAYSTONE	CARB MINOR COAL, FLOOR

* DENOTES MEASURED BCA

NEWPAGE

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83035

SAMPLE ID	6316	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED 11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.32
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	10.49	FSI	__._
ASH %	31.57	HGI	___._
VOLATILE MATTER %	5.02	CO2 %	__.__
FIXED CARBON %	52.92		

GROSS CALORIFIC VALUE (MJ/KG) 18.24
NET CALORIFIC VALUE (MJ/KG) __.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRCS3035

SAMPLE ID	6316	DATA TYPE (REAL,BORD,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED	11/10/83
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.43
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	4.26	FSI	__._
ASH %	19.68	HGI	___._
VOLATILE MATTER %	5.50	CO2 %	__.__
FIXED CARBON %	70.56		

GROSS CALORIFIC VALUE (MJ/KG)	24.75
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83045 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/05/83
END DATE - 09/05/83

CONTRACTOR -
GEOLOGIST - C. NOGAS
OPERATOR - GCRI.
SURVEYOR -

REMARKS - ATTITUDE OF ROOF NOT AVAILABLE

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00
ZONE - 9
NORTHING - 6304271.00
EASTING - 544690.56

LICENCE/LEASE NUMBER - 0

LATITUDE - 565255
LONGITUDE - 1281600

- O R I E N T A T I O N -

LENGTH - 2.00
INCLINATION - 65.0
AZIMUTH - 10.0

SIZE WIDTH - 0.4
SIZE HEIGHT - 0.3

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -
FLOOR STRIKE - 316
FLOOR DIP - 10
FLOOR DIR - S

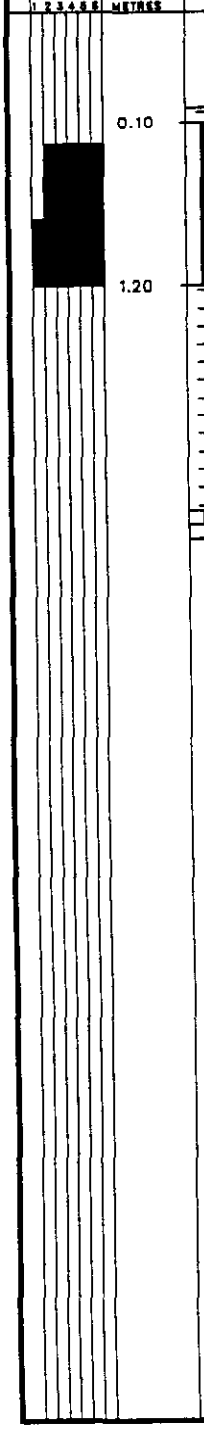
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — COAL DIVISION — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83045 SEAM : INTERVAL(M) : 0.10 - 1.20 ELEVATION(M) :

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 25/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.10															
				1.10	100.0	6317	6317	1.10 / 0.00 1.10		6.69	47.58	9.82	33.93	1.06	11.70	.4.87
	1.20															

PLOT 1 13.10.06 MON 25 FEB, 1985 JOB-TSTDEBD GULF CANADA LMT DISSPLA 9.2

85/02/25 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83045

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	0.10	0.10			CLAYSTONE	DK.GY WEATHERED
90	0.10	0.25	0.15	06317		COAL	HARD, IRON STAIN, QTZ VIEN
90	0.25	0.75	0.50	06317		COAL	C-2 WEATHERED
90	0.75	1.20	0.45	06317		COAL	C-1 HARD, MINOR CLAYSTONE, IRON STAIN
90	1.20	2.70	1.50			CLAYSTONE	
90	2.70	2.80	0.10			COAL	
90	2.80	2.90	0.10			CLAYSTONE	LT.GY UNCONSOLIDATED

* DENOTES MEASURED BCA

NEWPAGE

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83045

SAMPLE ID	6317	DATA TYPE (REAL,BORD,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/83
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	1.06
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	8.69	FSI	__._
ASH %	47.56	HGI	___._
VOLATILE MATTER %	9.82	CO2 %	__.__
FIXED CARBON %	33.93		

GROSS CALORIFIC VALUE (MJ/KG)	11.70
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83045

SAMPLE ID 6317 — DATA TYPE (REAL,BORD,AVER,CALC) REAL
SPLIT SAMPLE ID HD2 — DATE ANALYSED 11/10/83
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.95
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	2.75	FSI	__._
ASH %	16.47	HGI	___._
VOLATILE MATTER %	4.97	CO2 %	__.__
FIXED CARBON %	75.81		

GROSS CALORIFIC VALUE (MJ/KG) 26.71
NET CALORIFIC VALUE (MJ/KG) __.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83049 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/05/83
END DATE - 09/05/83

CONTRACTOR -
GEOLOGIST - C. NOGAS
OPERATOR - GCRI.
SURVEYOR -

REMARKS - FLOOR NOT REACHED

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00
ZONE - 9
NORTHING - 6308603.00
EASTING - 544897.75

LICENCE/LEASE NUMBER - 0

LATITUDE - 565515
LONGITUDE - 1281545

- O R I E N T A T I O N -

LENGTH - 1.50
INCLINATION - 90.0
AZIMUTH - 50.0

SIZE WIDTH - 0.2
SIZE HEIGHT - 0.1

ROOF STRIKE - 246
ROOF DIP - 9
ROOF DIR - E

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

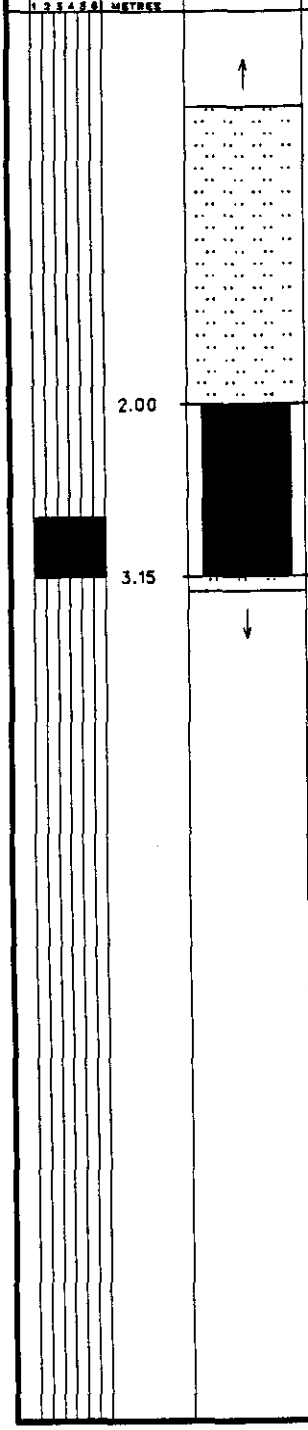
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83049 SEAM : INTERVAL(M) : 2.00 - 3.15 ELEVATION(M) :

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 25/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	2.00			1.15	100.0	6318	6318	1.15 / 0.00 1.15		10.34	16.81	4.21	68.64	1.25	24.58	5.49
	3.15															

PLOT 1 13.10.09 MON 25 FEB, 1985 JOB-TSTCE60 GULF CANADA LMT DISSPLA 9.2

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83049

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	2.00	2.00			SILTSTONE	GY HARD, ROOF
90	2.00	2.50	0.50	06318		COAL	
90	2.50	2.75	0.25	06318		COAL	POWDERED, MINOR CLAYSTONE CARBONACEOUS.
90	2.75	3.15	0.40	06318		COAL	C-1 MINOR THIN CLAYSTONE CARBONACEOUS BANDS
90	3.15	3.25	0.10			SILTSTONE	GY HARD.

* DENOTES MEASURED BCA
NEWPAGE

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83049

SAMPLE ID	6318	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED 11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	1.25
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	10.34	FSI	__._
ASH %	16.61	HGI	___._
VOLATILE MATTER %	4.21	CO2 %	__.__
FIXED CARBON %	68.84		

GROSS CALORIFIC VALUE (MJ/KG) 24.58
NET CALORIFIC VALUE (MJ/KG) __.__

GCRI COAL DIVISION	HEAD	PROJ SKE	BLK XX	DS TRC83049
SAMPLE ID	6318	DATA TYPE (REAL,BORO,AVER,CALC)		REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED	11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)		AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM		

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	1.08
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	3.88	FSI	__._
ASH %	14.33	HGI	___._
VOLATILE MATTER %	4.01	CO2 %	__.__
FIXED CARBON %	77.78		

GROSS CALORIFIC VALUE (MJ/KG)	27.36
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83064 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/13/83
END DATE - 09/13/83

CONTRACTOR -
GEOLOGIST - C. NOGAS
OPERATOR - GCRI.
SURVEYOR -

REMARKS -

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 1080.00
ZONE - 9
NORTHING - 6309810.00
EASTING - 534220.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565557
LONGITUDE - 1282616

- O R I E N T A T I O N -

LENGTH - 10.00
INCLINATION - 0.0
AZIMUTH - 50.0

SIZE WIDTH - 0.3
SIZE HEIGHT - 1.0

ROOF STRIKE - 310
ROOF DIP - 50
ROOF DIR - S

FLOOR STRIKE - 330
FLOOR DIP - 58
FLOOR DIR - S

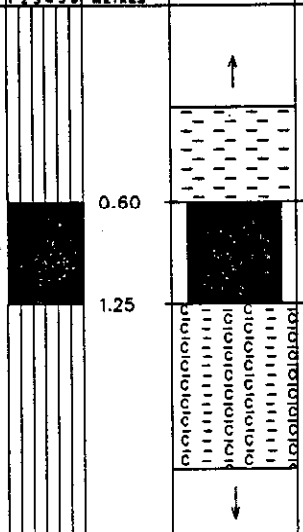
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83064 SEAM : INTERVAL(M) : 0.60 – 1.25 ELEVATION(M) : 1080.0

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 26/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.60			0.65	100.0	6320	6320	0.65/0.00 0.65		3.59	9.81	9.15	77.45	0.63	29.81	2.66
	1.25															

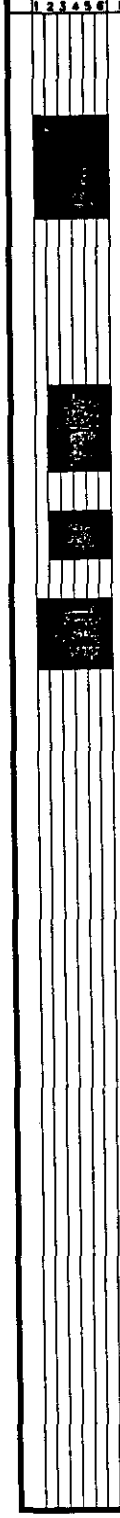
PLOT 4 12.50.33 TUES 26 FEB, 1985 JOB-TSTCE60 GULF CANADA LMT DISSPLA 9.2

GULF CANADA RESOURCES INC.

SEAM DETAIL — COAL DIVISION — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83064 SEAM : INTERVAL(M) : 2.30 – 2.85 ELEVATION(M) : 1080.0

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 26/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	2.30			0.55	100.0	6321	6321	0.55/0.00		12.24	35.13	8.56	46.07	0.75	17.71	—
	2.85							0.55								

GULF CANADA RESOURCES INC.

SEAM DETAIL — *COAL DIVISION* — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83064 SEAM : INTERVAL(M) : 3.10 – 4.10 ELEVATION(M) : 1080.0

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 26/85 DRAWING NO. :

SEAM COMP. (1 2 3 4 5 6)	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	3.10			0.30												
			0.25		100.0	6322	6322	0.75 / 0.25		7.59	35.28	8.48	47.65	0.95	18.33	—
				0.45				1.00								
	4.10															

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83064 SEAM : INTERVAL(M) : 5.20 – 5.65 ELEVATION(M) : 1080.0

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 26/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	5.20			0.45	100.0	6323	6323	0.45 / 0.00 0.45		11.34	21.83	7.10	59.71	0.46	22.94	—
	5.65															

85/02/25 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83064

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	0.60	0.60			CLAYSTONE	DK.GY CARBONACEOUS TOWARDS BOTTOM. (ROOF)
90	0.60	1.25	0.65	06320		COAL	C-1 C-2, VERY MINOR CLAYSTONE BLOCKY, MORE CLAYSTONE TOWARDS BASE
90	1.25	1.50	0.25			CLAYSTONE	CARB ABUNDANT MICRO COAL LAM.
90	1.50	2.30	0.80			CLAYSTONE	CARB MINOR MICRO COAL LAM.
90	2.30	2.85	0.55	06321		COAL	C-2 C-4, BDG CONTORTED, SHEARED PYRITE AT TOP
90	2.85	3.10	0.25			CLAYSTONE	CARB CONTORTED BDG, MAY BE ANTICLINE AXIS (REPEATING SECTION)
90	3.10	3.40	0.30	06322		COAL	C-2 IRON STAIN
90	3.40	3.65	0.25	06322		CLAYSTONE	CARB ABUNDANT COAL LAM
90	3.65	4.10	0.45	06322		COAL	C-1 MINOR CLAYSTONE CARBONACEOUS

* DENOTES MEASURED BCA

FORM 9999

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83064

SAMPLE ID 6320 — DATA TYPE (REAL,BORO,AVER,CALC) REAL
SPLIT SAMPLE ID HD1 — DATE ANALYSED 11/10/83
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.61
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	6.57	FSI	__._
ASH %	16.56	HGI	___._
VOLATILE MATTER %	9.17	CO2 %	__.__
FIXED CARBON %	67.70		

GROSS CALORIFIC VALUE (MJ/KG) 26.14
NET CALORIFIC VALUE (MJ/KG) __.__

GCRI COAL DIVISION | HEAD | PROJ SKE | BLK XX | DS TRC83064

SAMPLE ID 6320
SPLIT SAMPLE ID HD2

DATA TYPE (REAL,BORO,AVER,CALC) REAL
DATE ANALYSED 11/10/93
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.63
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	3.59	FSI	__._
ASH %	9.81	HGI	___._
VOLATILE MATTER %	9.15	CO2 %	__.__
FIXED CARBON %	77.45		

GROSS CALORIFIC VALUE (MJ/KG) 29.81
NET CALORIFIC VALUE (MJ/KG) __.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83064

SAMPLE ID 6321 DATA TYPE (REAL,BORD,AVER,CALC) REAL
SPLIT SAMPLE ID HD1 DATE ANALYSED 11/10/83
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.75
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	12.24	FSI	__._
ASH %	35.13	HGI	___._
VOLATILE MATTER %	6.56	CO2 %	__.__
FIXED CARBON %	46.07		

GROSS CALORIFIC VALUE (MJ/KG) 17.71
NET CALORIFIC VALUE (MJ/KG) __.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRCS3064

SAMPLE ID	6321	DATA TYPE (REAL,BORD,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED 11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.65
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.____
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	______
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	5.06	FSI	__._
ASH %	26.90	HGI	___._
VOLATILE MATTER %	9.29	CO2 %	__.__
FIXED CARBON %	58.75		

GROSS CALORIFIC VALUE (MJ/KG)	21.61
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION	HEAD	PROJ SKE	BLK XX	DS TRC83064	
SAMPLE ID	6322	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/83		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM			

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.95
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	7.59	FSI	__._
ASH %	36.28	HGI	___.-
VOLATILE MATTER %	8.48	CO2 %	__.__
FIXED CARBON %	47.65		

GROSS CALORIFIC VALUE (MJ/KG)	18.33
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83064

SAMPLE ID	6322	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED 11/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.96
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	2.61	FSI	__._
ASH %	13.20	HGI	___._
VOLATILE MATTER %	10.36	CO2 %	__.__
FIXED CARBON %	73.83		

GROSS CALORIFIC VALUE (MJ/KG)	28.27
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83064

SAMPLE ID 6323
SPLIT SAMPLE ID HD1

DATA TYPE (REAL,BORO,AVER,CALC) REAL
DATE ANALYSED 11/10/83
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.46
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	11.34	FSI	__._
ASH %	21.85	HGI	___._
VOLATILE MATTER %	7.10	CO2 %	__.__
FIXED CARBON %	59.71		

GROSS CALORIFIC VALUE (MJ/KG) 22.94
NET CALORIFIC VALUE (MJ/KG) __.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83064

SAMPLE ID	06323	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED 20/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.56
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	4.77	FSI	__._
ASH %	18.15	HGI	___._
VOLATILE MATTER %	9.62	CO2 %	__.__
FIXED CARBON %	67.46		

GROSS CALORIFIC VALUE (MJ/KG)	25.79
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83087 DATE - 02/21/85

- H I S T O R Y -

START DATE - 09/10/83
END DATE - 09/10/83

CONTRACTOR -
GEOLOGIST - C. NOGAS
OPERATOR - GCRI.
SURVEYOR -

REMARKS -

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00
ZONE - 9
NORTHING - 6345375.00
EASTING - 444687.25

LICENCE/LEASE NUMBER - 0

LATITUDE - 571500
LONGITUDE - 1295500

- O R I E N T A T I O N -

LENGTH - 4.00
INCLINATION - 30.5
AZIMUTH - 35.0

SIZE WIDTH - 0.4
SIZE HEIGHT - 1.0

ROOF STRIKE - 297
ROOF DIP - 72
ROOF DIR - S
FLOOR STRIKE - 332
FLOOR DIP - 30
FLOOR DIR - S

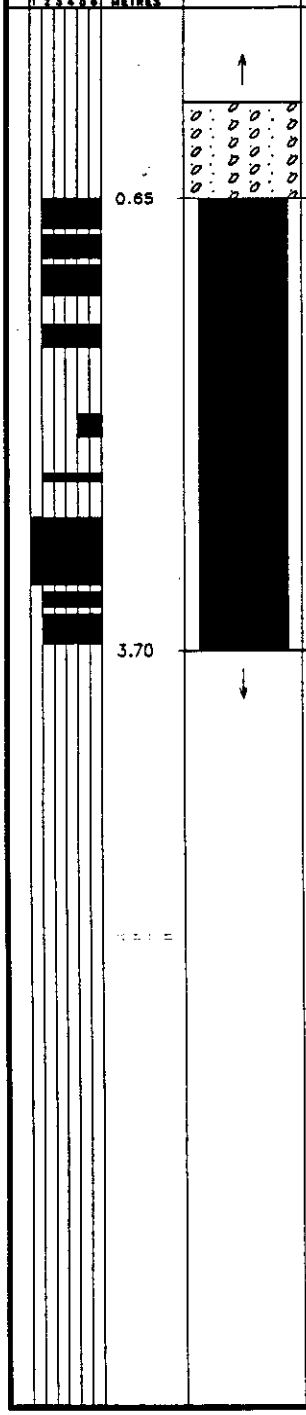
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83087 SEAM : INTERVAL(M) : 0.65 – 3.70 ELEVATION(M) :

GEOLOGIST : C. NOGAS SCALE: 1:40 DATE : FEB 23/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.65			3.05	100.0	6325	6325	3.05/ 0.00 3.05		6.50	42.48	7.44	41.58	0.29	14.25	4.56
	3.70															

PLOT 1 14.38.20 SAT 23 FEB, 1985 JOB-TSTCEGO GULF CANADA LMT DISSPLA 9.2

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83087

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	0.65	0.65			CLAYSTONE	CARB MINOR COAL LAM. ROOF
90	0.65	0.80	0.15	06325		COAL	C-2 ABUNDANT CLAYSTONE (40 - 50%)
90	0.80	0.85	0.05	06325		COAL	C-2
90	0.85	0.90	0.05	06325		CLAYSTONE	MINOR COAL
90	0.90	1.05	0.15	06325		COAL	C-2 IRON STAIN
90	1.05	1.10	0.05	06325		CLAYSTONE	CARB WEATHERED
90	1.10	1.30	0.20	06325		COAL	C-2
90	1.30	1.50	0.20	06325		CLAYSTONE	CARB ABUNDANT COAL BANDS
90	1.50	1.65	0.15	06325		COAL	C-2
90	1.65	2.10	0.45	06325		CLAYSTONE	CARB 30% COAL BANDS

* DENOTES MEASURED BCA

GCRI COAL DIVISION | HEAD | PROJ | SKE | BLK | XX | DS | TRC83087

SAMPLE ID	6325	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/83
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM	

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.29
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	8.50	FSI	__._
ASH %	42.48	HGI	___._
VOLATILE MATTER %	7.44	CO2 %	__.__
FIXED CARBON %	41.58		

GROSS CALORIFIC VALUE (MJ/KG)	14.25
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION	HEAD	PROJ SKE	BLK XX	DS TRC83087
SAMPLE ID	6325	DATA TYPE (REAL,BORO,AVER,CALC)		REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED	17/10/83	
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)		AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM		

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.46
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	4.57	FSI	__._
ASH %	12.13	HGI	___._
VOLATILE MATTER %	6.26	CO2 %	__.__
FIXED CARBON %	77.04		

GROSS CALORIFIC VALUE (MJ/KG)	27.64
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83097 DATE - 02/21/85

- H I S T O R Y -

START DATE - / /
END DATE - / /

CONTRACTOR -
GEOLOGIST -

OPERATOR - G.C.R.I.
SURVEYOR -

REMARKS -

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00

LICENCE/LEASE NUMBER - 0

ZONE - 9
NORTHING - 6307710.00
EASTING - 539690.00

LATITUDE - 565448
LONGITUDE - 1282053

- O R I E N T A T I O N -

LENGTH - 0.00

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83097 SEAM : INTERVAL(M) : 0.00 – 1.21 ELEVATION(M) :

GEOLOGIST : NULL SCALE: 1:40 DATE : FEB 23/85 DRAWING NO. :

SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	COAL/ROCK TOTAL MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.00			0.12												
			0.12													
				0.30												
			0.97		100.0	6326	6326	1.02 / 0.19		12.34	20.62	11.93	54.91	0.32	20.88	3.89
								1.21								
				0.60												
	1.21															

PLOT 1 14.38.21 SAT 23 FEB, 1985 JOB-TSTCC80 GULF CANADA LMT DISSPLA 9.2

85/02/25 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83097

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
* 90	0.00	0.12	0.12	06326		COAL	C-3 OCCASIONAL CLYST. BEDS, WEATHERED
90	0.12	0.24	0.12	06326		CLAYSTONE	SILICIFIED TREE - HARD
90	0.24	0.54	0.30	06326		COAL	C-3 CLYST BANDS - WEATHERED
90	0.54	0.61	0.07	06326		CLAYSTONE	CARB
90	0.61	1.21	0.60	06326		COAL	C-3 FREQUENT CLAYSTONE BANDS
90	1.21	1.41	0.20			SILTSTONE	DK.GY

* DENOTES MEASURED BCA
NEWPAGE

FORM 9999

GCRI COAL DIVISION	HEAD	PROJ SKE	BLK XX	DS TRC83097	
SAMPLE ID	6326	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/83		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)					ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.32
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	12.34	FSI	__._
ASH %	20.82	HGI	___._
VOLATILE MATTER %	11.93	CO2 %	__.__
FIXED CARBON %	54.91		

GROSS CALORIFIC VALUE (MJ/KG)	20.88
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS TRC83097

SAMPLE ID 6326 DATA TYPE (REAL,BORO,AVER,CALC) REAL
SPLIT SAMPLE ID HD2 DATE ANALYSED 20/10/83
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.39
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	7.45	FSI	__._
ASH %	16.60	HGI	___._
VOLATILE MATTER %	13.50	CO2 %	__.__
FIXED CARBON %	62.45		

GROSS CALORIFIC VALUE (MJ/KG) 24.20
NET CALORIFIC VALUE (MJ/KG) __.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXTRC83102 DATE - 02/21/85

- H I S T O R Y -

START DATE - 08/23/83
END DATE - / /

CONTRACTOR -
GEOLOGIST -

OPERATOR - G.C.R.I.
SURVEYOR -

REMARKS -

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00

LICENCE/LEASE NUMBER - 0

ZONE - 9
NORTHING - 6308730.00
EASTING - 540490.00

LATITUDE - 565521
LONGITUDE - 1282006

- O R I E N T A T I O N -

LENGTH - 0.00

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

INCLINATION - 0.0
AZIMUTH - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

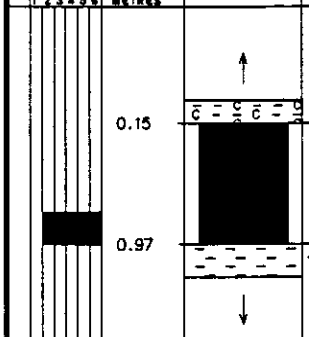
*** NOTE *** 0 INDICATES NO VALUE

GULF CANADA RESOURCES INC.

SEAM DETAIL — **COAL DIVISION** — **TRUE THICKNESS**

DATA SOURCE: SKE XX TRC83102 SEAM : INTERVAL(M) : 0.15 - 0.97 ELEVATION(M) :

GEOLOGIST : NULL SCALE: 1:40 DATE : FEB 23/85 DRAWING NO. :



SEAM COMP. 1 2 3 4 5 6	DRILL DEPTH METRES	COAL SEAM LOG	INTERVAL METRES ROCK	INTERVAL METRES COAL	% REC.	SAMPLE ID SIMP	SAMPLE ID COMP	COAL/ROCK TOTAL COMPOS	MINING SECTION	COAL QUALITY RES MOIST	ASH	VM	FC	TS	CAL.VAL MJ/KG	RO
	0.15															
				0.82	100.0	6327	6327	0.82/ 0.00 0.82		8.44	32.83	6.72	52.01	0.38	18.51	5.36
	0.97															

PLOT 1 14.38.23 SAT 23 FEB, 1985 JOB-TSTCE60 GULF CANADA LMT DISSPLA 9.2

85/02/25 GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG PAGE 1

PROJECT: SKE BLOCK: XX DATA SOURCE: TRC83102

	BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
*	90	0.00	0.15	0.15			MUDSTONE	CARB IRON STAINED
	90	0.15	0.25	0.10	06327		COAL	IRON STAINED
	90	0.25	0.76	0.51	06327		COAL	OCCAISIONAL CLAYSTONE BEDS, WEATHERED
	90	0.76	0.97	0.21	06327		COAL	C-2 CLEAT FILLS; CARBONACEOUS CLAYSTONE BED S AT BASE
	90	0.97	1.19	0.22			CLAYSTONE	DK.GY

FORM 9999

GCRI COAL DIVISION	HEAD	PROJ SKE	BLK XX	DS TRC83102	
SAMPLE ID	6327	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/83		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM			

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.38
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	8.44	FSI	__._
ASH %	32.83	HGI	___._
VOLATILE MATTER %	6.72	CO2 %	__.__
FIXED CARBON %	52.01		

GROSS CALORIFIC VALUE (MJ/KG)	18.51
NET CALORIFIC VALUE (MJ/KG)	__.__

GCRI COAL DIVISION	HEAD	PROJ SKE	BLK XX	DS TRC83102	
SAMPLE ID	6327	DATA TYPE (REAL,BORO,AVER,CALC)			REAL
SPLIT SAMPLE ID	HD2	DATE ANALYSED	11/10/83		
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)			AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO)		ASTM			

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.66
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	3.37	FSI	__._
ASH %	9.16	HGI	___._
VOLATILE MATTER %	4.76	CO2 %	__.__
FIXED CARBON %	82.71		

GROSS CALORIFIC VALUE (MJ/KG)	28.93
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXOTC83062 DATE - 02/25/85

- H I S T O R Y -

START DATE - / /
END DATE - / /

CONTRACTOR -
GEOLOGIST -

OPERATOR - G.C.R.I.
SURVEYOR -

REMARKS - GRAB SAMPLE FOR COAL QUALITY ANALYSIS

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00

ZONE - 9
NORTHING - 6307595.00
EASTING - 546850.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565442
LONGITUDE - 1281350

- O R I E N T A T I O N -

LENGTH - 0.00

INCLINATION - 0.0
AZIMUTH - 0.0

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

GCRI COAL DIVISION | HEAD | PROJ SKE | BLK XX | DS OTC83062

SAMPLE ID	6319	DATA TYPE (REAL,BORO,AVER,CALC)	REAL
SPLIT SAMPLE ID	HD1	DATE ANALYSED	11/10/83
		ANALYSIS BASIS TYPE (AD,DB,AR,EM)	AR

NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	3.17
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	5.85	FSI	__._
ASH %	35.65	HGI	___._
VOLATILE MATTER %	10.50	CO2 %	__.__
FIXED CARBON %	48.00		

GROSS CALORIFIC VALUE (MJ/KG)	18.54
NET CALORIFIC VALUE (MJ/KG)	__.__

GULF CANADA RESOURCES INC.

- D A T A S O U R C E S U M M A R Y -

DATA SOURCE - SKEXXOTC83085 DATE - 02/25/85

- H I S T O R Y -

START DATE - / /
END DATE - / /

CONTRACTOR -
GEOLOGIST -

OPERATOR - G.C.R.I.
SURVEYOR -

REMARKS - GRAB SAMPLE FOR COAL QUALITY ANALYSIS

- L O C A T I O N -

PROVINCE - BC
ELEVATION - 0.00

ZONE - 9
NORTHING - 6314405.00
EASTING - 535455.00

LICENCE/LEASE NUMBER - 0

LATITUDE - 565826
LONGITUDE - 1282500

- O R I E N T A T I O N -

LENGTH - 0.00

INCLINATION - 0.0
AZIMUTH - 0.0

SIZE WIDTH - 0.0
SIZE HEIGHT - 0.0

ROOF STRIKE - 0
ROOF DIP - 0
ROOF DIR -

FLOOR STRIKE - 0
FLOOR DIP - 0
FLOOR DIR -

*** NOTE *** 0 INDICATES NO VALUE

GCRI COAL DIVISION HEAD PROJ SKE BLK XX DS GTCS3085

SAMPLE ID 6324 DATA TYPE (REAL,BORO,AVER,CALC) REAL
SPLIT SAMPLE ID HD1 DATE ANALYSED 11/10/83
ANALYSIS BASIS TYPE (AD,DB,AR,EM) AR
NAME OF STANDARD (ASTM,JIS,DIN,BS,AS,GOST,ISO) ASTM

TOP SIZE (MM)	___.__		
SURFACE MOISTURE %	__.__	TOTAL SULPHUR %	0.94
TOTAL MOISTURE %	__.__	PHOSPHOROUS %	_.___
EQUILIBRIUM MOISTURE %	__.__	CHLORINE (PPM)	_____
		SPECIFIC GRAVITY	_.__
RESIDUAL MOISTURE %	6.18	FSI	__._
ASH %	32.93	HGI	___._
VOLATILE MATTER %	4.07	CO2 %	__.__
FIXED CARBON %	56.82		

GROSS CALORIFIC VALUE (MJ/KG) 20.48
NET CALORIFIC VALUE (MJ/KG) __.__

APPENDIX H

1:500 000 NORTHWESTERN BRITISH COLUMBIA MAP

M01

NORTHWEST BRITISH COLUMBIA

GULF CANADA RESOURCES INC.

95

Produced jointly by GULF CANADA DRAFTING DEPT. and HARDY ASSOC. (1978) LTD., MAPPING SECTION.

Revised to June, 1984

LEGEND

- Highway
- Road, possible
- Road, alternate
- Railway
- Possible Railway Route
- Proposed Dam Site
- Proposed Pits, Mt. Klappan property
- Proposed Townsite, Mt. Klappan property
- Boundary, Park or Reserve
- Boundary, International
- Spot Elevation (feet above sea level)
- Contours (1000 Foot Interval)
- Mine (see separate list)
- Prospect
- City, Town

COAL PROPERTIES

- GULF CANADA RESOURCES INC.
- 33 SUNCOR INC.
- 134 GROUNDHOG COAL LTD.
- 45 SHELL CANADA RESOURCES LTD.
- 55 D. GROOT LOGGING LTD.
- COAL LICENCES UNDER APPLICATION

MINES

1 DOME MOUNTAIN — Ag, Pb, Zn
2 DUTHIE — Ag, Pb, Zn, Au, Cd, Cu
3 SILVER STANDARD — Ag, Pb, Zn, Au, Cu
4 KITSAULT — Mo
5 SCOTTIE GOLD — Au, Ag
6 GRANDUC — Cu, Ag, Au
7 BAKER — Au, Ag

SCALE 1: 500,000

Kilometres 10 5 0 10 20 30 40 50 Kilometres
Miles 5 0 10 20 30 Miles

REFERENCE NOTE

Mines: from The Northwest Region — B.C. Regional Economic Study, 1982.

Prospects: from Kitimat-Stikine Regional District — 1:500,000 Regional Resource Map, 1981.

Base Map: from Dept. of Energy, Mines and Resources, Surveys and Mapping Branch, current N.T.S. series maps.

KEY MAP

PACIFIC OCEAN
Prince Rupert
Smithers
BRITISH COLUMBIA

DEL GR-EVANS CREEK 87(2)A *(1)

LEGEND

ROADS AND RELATED FEATURES
- HARD SURFACE, ALL WEATHER
- LOOSE SURFACE
- CART TRACK, WINTER ROAD, UNDER CONSTRUCTION
- TRAIL, CUTLINE, PORTAGE
- BUILT UP AREA
- RAILWAY, SIDING, STATION, STOP
- BRIDGE
- SEAPLANE BASE, ANCHORAGE

LANDMARK FEATURES
- HOUSE, BARN
- CHURCH, SCHOOL
- POST OFFICE
- HISTORICAL SITE
- TOWERS, FIRE, RADIO
- WELL, OIL, GAS
- TANK, OIL, GASOLINE, WATER
- TELEPHONE LINE
- POWER TRANSMISSION LINE
- MINE
- CUTTING, EMBANKMENT
- GRAVEL PIT (GP)

BOUNDARIES AND CONTROL
- INTERNATIONAL, PROVINCIAL, BOUNDARY MONUMENT
- COUNTY, DISTRICT
- TOWNSHIP, PARISH — SURVEYED, UNSURVEYED
- TOWNSHIP, DLS — SURVEYED, UNSURVEYED, SECTION CORNERS
- MUNICIPALITY
- INDIAN RESERVE, PARK, ETC.
- HORIZONTAL CONTROL POINT
- BENCH MARK (BM 985)
- SPOT ELEVATION, ELEVATION APPROXIMATE (390, ~721')

DRAINAGE AND RELATED FEATURES
- STREAM, SHORELINE, INDEFINITE
- DIRECTION OF FLOW
- LAKE, INTERMITTENT
- INUNDATED, FLOODED LAND
- MARSH OR SWAMP (WOODED)
- DRY RIVER BED WITH CHANNELS
- SAND, ABOVE, IN WATER
- STRING BOG (SB)
- TUNDRA PONDS, POLYGONS (TP, PG)
- RAPIDS
- FORESHORE FLATS (FF)
- ROCK
- DAM
- WHARF
- DITCH

RELIEF FEATURES
- CONTOURS (500, 250)
- APPROXIMATE CONTOUR (100, 125, 75)
- DEPRESSION
- ESKER
- PINGO (PNGO)
- SAND, SAND DUNES (SAND)
- PALSA BOG (PB)
- WOODED AREA (W)

SCALE 1:50,000

0 1 2 3 MILES

0 1000 2000 3000 4000 5000 METERS

INDEX MAP

104 H/2 | 104 H/1 | 94 E/4
104 A/15 | 104 A/16 | 94 D/13
104 A/10 | 104 A/9 | 94 D/12

129°00' 127°30' 57°15' 56°30'

Contours, interval 100 feet

128°30' 128°00' 56°45' 05' 57°00'

95

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
REGIONAL GEOLOGY MAP

PREPARED BY: S. M.
APPROVED BY: E.S. DATE: FEB., 1985
DRAWING No. EVC84A01

H03

TREE FARM LICENCE NO. 1

DISTRICT

BLOCK 4

RICT

ENA

TAINS

MOUNT BEIRNES

PRUDENTIAL MOUNTAIN

MT. LAIDLAW

MT. ALEC

BOSTWICK MTN.

VIEW MTN.

LONESOME MTN.

MOOSE MTN.

EDGAR SLAW MTN.

TABLE MTN.

MT. DON GORDON

GREGATOR MTN.

MT. EVOY

MT. BERWYN

JACKSON

CASSIAR

GROUNDHOG

RANGE

Tp 34

Tp 33

Tp 24

Tp 23

7804 7803 7795 7802 7801 7800 7796 7794 7793 7799 7798 7797 7792 7790 7819 7820 7821 7818 7817 7815 7814 7816 7812 7813 7810 7811 7809 7808 7807 7806 7805

L 2191 L 2192 L 2189 L 2190 L 139 L 2188 L 2187 L 2186 L 2185 L 2184 L 2183 L 2182 L 2181 L 2180 L 2179 L 137 L 138 L 147 L 999 L 998 L 997 L 996 L 995 L 1196 L 2195 L 2194 L 128 L 127 L 126 L 125 L 140 L 139 L 138 L 132 L 124 L 123 L 122 L 992 L 991 L 990 L 989 L 988 L 987 L 986 L 985 L 984 L 983 L 982 L 981 L 980 L 979 L 978

ICE FIELD

RIVER

CREEK

WASH

MOUNTAINS

05'

57°00

56°45'

128°30'

128°00'

Contours, interval 100 feet

LEGEND

ROADS AND RELATED FEATURES

- HARD SURFACE, ALL WEATHER
- LOOSE SURFACE
- CART TRACK, WINTER ROAD, UNDER CONSTRUCTION
- TRAIL, CUTLINE, PORTAGE
- BUILT UP AREA
- RAILWAY, SIDING, STATION, STOP
- BRIDGE
- SEAPLANE BASE, ANCHORAGE

LANDMARK FEATURES

- HOUSE, BARN
- CHURCH, SCHOOL
- POST OFFICE
- HISTORICAL SITE
- TOWERS, FIRE, RADIO
- WELL, OIL, GAS
- TANK, OIL, GASOLINE, WATER
- TELEPHONE LINE
- POWER TRANSMISSION LINE
- MINE
- CUTTING, EMBANKMENT
- GRAVEL PIT — GP

BOUNDARIES AND CONTROL

- INTERNATIONAL, PROVINCIAL, BOUNDARY MONUMENT
- COUNTY, DISTRICT
- TOWNSHIP, PARISH — SURVEYED, UNSURVEYED
- TOWNSHIP, DLS — SURVEYED, UNSURVEYED, SECTION CORNERS
- MUNICIPALITY
- INDIAN RESERVE, PARK, ETC
- HORIZONTAL CONTROL POINT
- BENCH MARK — BM 985
- SPOT ELEVATION, ELEVATION APPROXIMATE — 390 -721

DRAINAGE AND RELATED FEATURES

- STREAM, SHORELINE, INDEFINITE
- DIRECTION OF FLOW
- LAKE, INTERMITTENT
- INUNDATED, FLOODED LAND
- MARSH OR SWAMP (WOODED)
- DRY RIVER BED WITH CHANNELS
- SAND, ABOVE, IN WATER
- STRING BOG — SB
- TUNDRA PONDS, POLYGONS — TP, PG
- RAPIDS
- FORESHORE FLATS — FF
- ROCK
- DAM
- WHARF
- DITCH

RELIEF FEATURES

- CONTOURS — 500, 250
- APPROXIMATE CONTOUR — 100, 50
- DEPRESSION
- ESKER
- PINGO — 0125
- SAND, SAND DUNES — SAND
- PALSA BOG — PB
- WOODED AREA

SCALE 1:50,000

0 1 2 3 MILES

0 1000 2000 3000 4000 5000 METERS

56°15"			56°15"
	104H/2	104H/1	94E/4
	104B/8	104A/8	94D/15
	104B/10	104A/9	94D/12
56°30" 129°00"			56°30" 127°30"

INDEX MAP

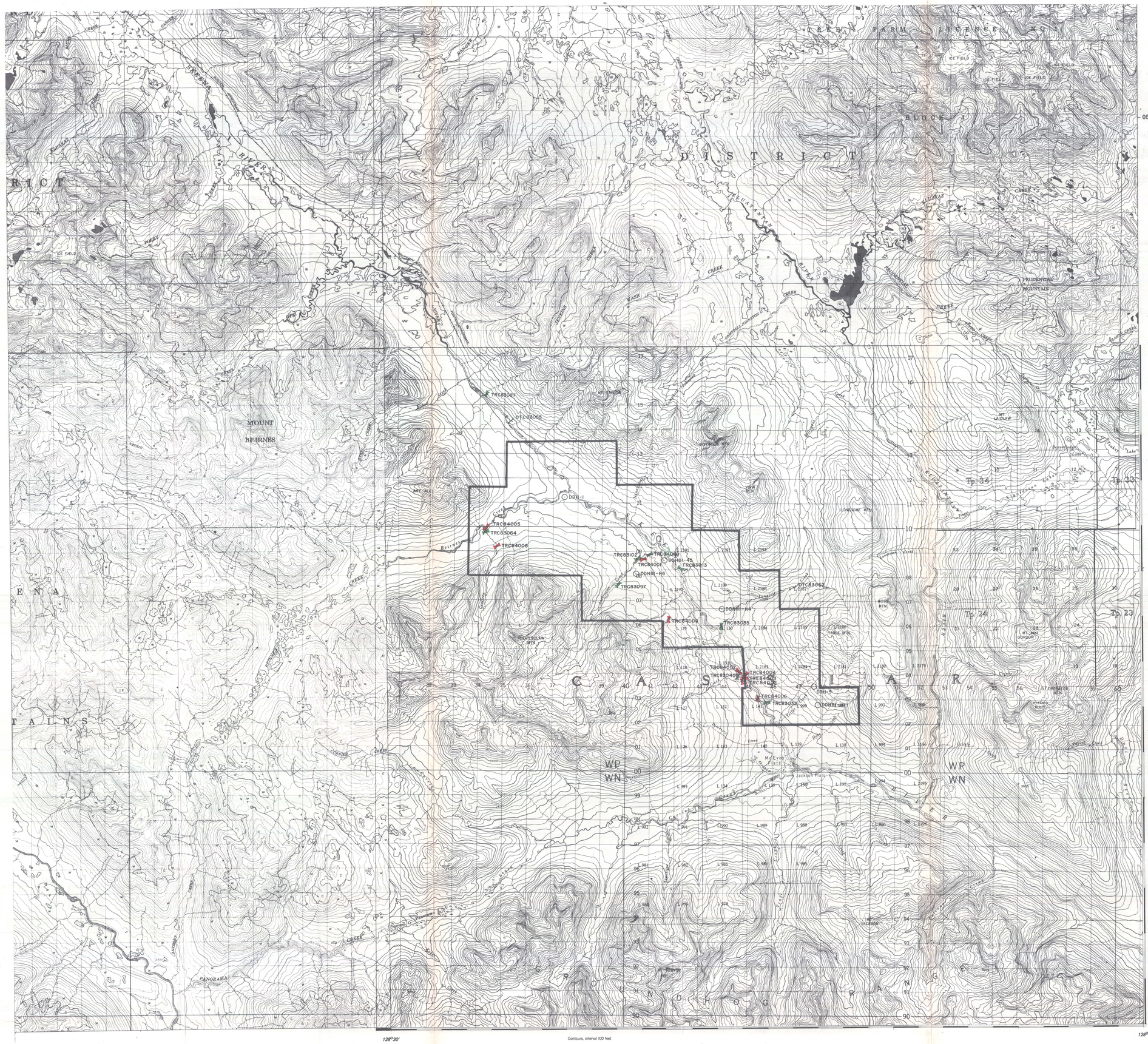
95

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
COAL LICENCE MAP

PREPARED BY: S. M.
APPROVED BY: E. S. DATE: FEB., 1985
DRAWING No. EVC84A02

1104



LEGEND

ROADS AND RELATED FEATURES
- HARD SURFACE, ALL WEATHER
- LOOSE SURFACE
- CART TRACK, WINTER ROAD, UNDER CONSTRUCTION
- TRAIL, CUTLINE, PORTAGE
- BUILT UP AREA
- RAILWAY, SIDING, STATION, STOP
- BRIDGE
- SEAPLANE BASE, ANCHORAGE

LANDMARK FEATURES
- HOUSE, BARN
- CHURCH, SCHOOL
- POST OFFICE
- HISTORICAL SITE
- TOWERS: FIRE, RADIO
- WELL: OIL, GAS
- TANK: OIL, GASOLINE, WATER
- TELEPHONE LINE
- POWER TRANSMISSION LINE
- MINE
- CUTTING, EMBANKMENT
- GRAVEL PIT

BOUNDARIES AND CONTROL
- INTERNATIONAL, PROVINCIAL, BOUNDARY MONUMENT
- COUNTY, DISTRICT
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- TOWNSHIP, DLS — SURVEYED, UNSURVEYED, SECTION CORNERS
- MUNICIPALITY
- INDIAN RESERVE, PARK, ETC.
- HORIZONTAL CONTROL POINT
- BENCH MARK (BM 965)
- SPOT ELEVATION, ELEVATION APPROXIMATE (390 · 721)

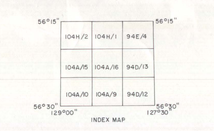
DRAINAGE AND RELATED FEATURES
- STREAM, SHORELINE: INDEFINITE
- DIRECTION OF FLOW
- LAKE: INTERMITTENT
- INUNDATED, FLOODED LAND
- MARSH OR SWAMP (WOODED)
- DRY RIVER BED WITH CHANNELS
- SAND, ABOVE IN WATER
- STRING BOG (SB)
- TUNDRA PONDS, POLYGONS (TP, PG)
- RAPIDS
- FORESHORE FLATS (FF)
- ROCK
- DAM
- WHARF
- DITCH

RELIEF FEATURES
- CONTOURS (500, 250)
- APPROXIMATE CONTOUR (125)
- DEPRESSION (25)
- ESKER
- PINGO
- SAND, SAND DUNES (SAND)
- PALSA BOG (PB)
- WOODED AREA (W, C)
- TRENCH LOCATION
- DIAMOND DRILL HOLE LOCATION
- MEASURED SECTION LOCATION

SCALE 1:50000

0 1 2 3 MILES

0 1000 2000 3000 4000 5000 METERS



INDEX MAP

G.R. Evans Creek Bit Coal Prj. (1)

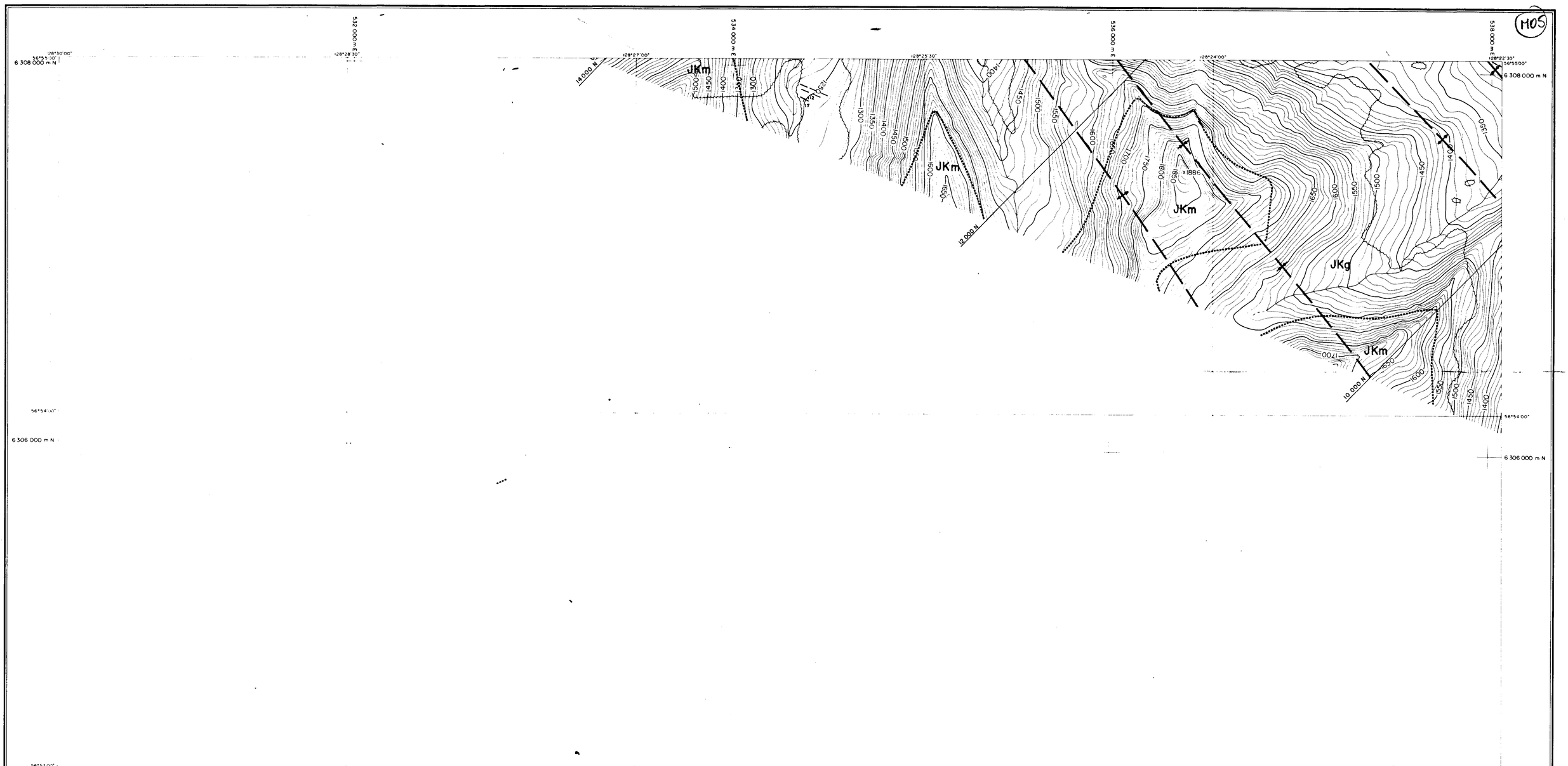
95

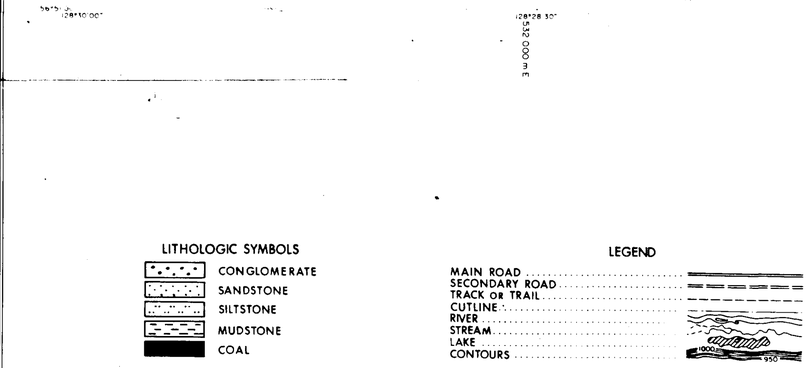
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
TRENCH, DRILL HOLE AND MEASURED SECTION LOCATION MAP

PREPARED BY: S. M.
APPROVED BY: E. S.
DATE: FEB., 1985
DRAWING No. EVC84A03

M05





RHONDDA SEQUENCE

JKr Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

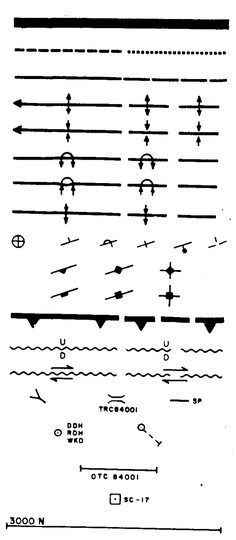
JKm Thick interbeds of mudstones, argillaceous siltstones, fine grained argillacious sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp Predominantly a marine sequence comprised of beds of mudstones, siltstnes and lesser amounts of sandstones and conglomerates. The upper contact is defined as the firs occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.



LEGEND

- LICENCE BOUNDARY
- GEOLOGICAL CONTACT (APPROXIMATE, INFERRED)
- COAL SEAM (DEFINED, INFERRED)
- ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
- OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
- MONOCLINE (DEFINED, APPROXIMATE)
- BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL, UPRIGHT, ESTIMATED)
- FOLIATIONS (INCLINED, VERTICAL, HORIZONTAL)
- JOINTS (INCLINED, VERTICAL, HORIZONTAL)
- THRUST FAULT (DEFINED, APPROXIMATE) TEETH INDICATE UPTHRUST SIDE
- FAULT (DEFINED, APPROXIMATE) UPTHROWN, DOWNTHROWN SIDE
- FAULT (DEFINED, APPROXIMATE) SHOWING RELATIVE MOVEMENT
- ADIT TRENCH COAL SPOIL
- DIAMOND, ROTARY, WINKIE DRILL HOLE (VERTICAL, INCLINED WITH SURFACE PROJECTION)
- MEASURED SECTION
- SURVEY CAIRN
- CROSS SECTION LINE

SCALE 1:10,000

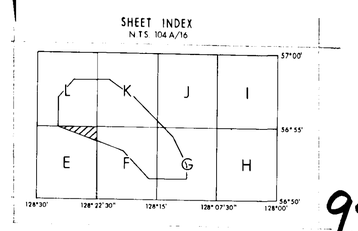
Metres 200 100 50 0 200 400 600 800 1000 Metres

Contour Interval 10 m.
N.T.S. SHEET 104 A/16

SURVEY NOTE

The map data was compiled photogrammetrically, using available control, and is based on the Universal Transverse Mercator Projection (U.T.M.) in metres and Geodetic Datum in metres.

SHEET INDEX
N.T.S. 104 A/16



95

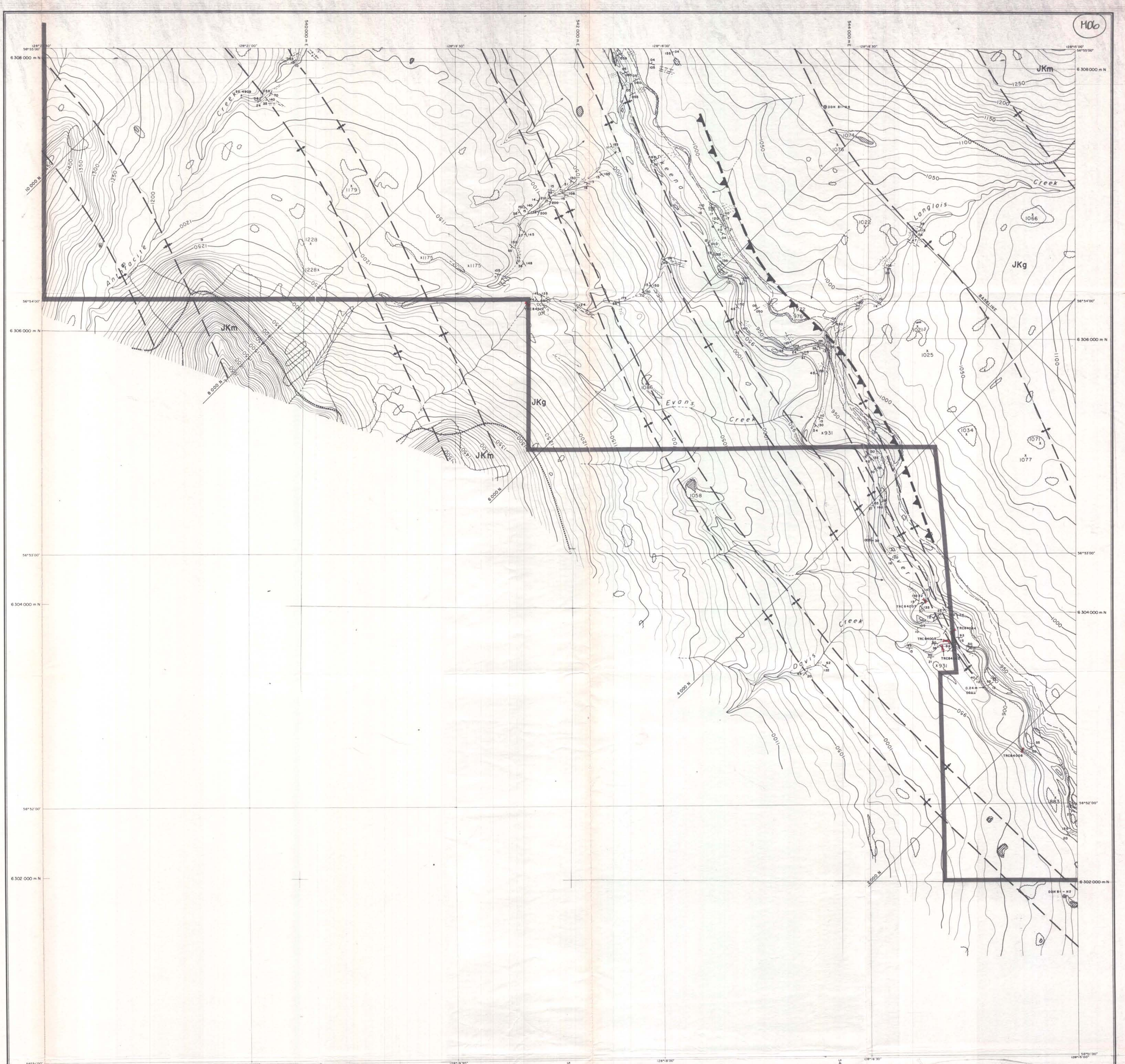
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGY MAP
MAP SHEET 104 A/16E

PREPARED BY: E.S., S.M.	SCALE 1:10,000
APPROVED BY: E.S	DATE: JAN. 1985 DRAWING No. EVC 84801

BR-EVANS CREEK 84151 (A.1)

H06



SCALE 1:10,000

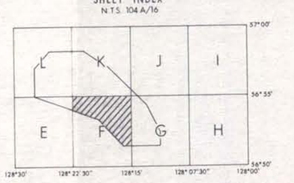
Metres 200 100 50 0 200 400 600 800 1000 Metres

Contour Interval 10 m.
N.T.S. SHEET 104 A/16

SURVEY NOTE

The map data was compiled photogrammetrically, using available control, and is based on the Universal Transverse Mercator Projection (U.T.M.) in metres and Geodetic Datum in metres.

SHEET INDEX
N.T.S. 104 A/16



95

GR. Evans Creek 84(2*)A 4D)

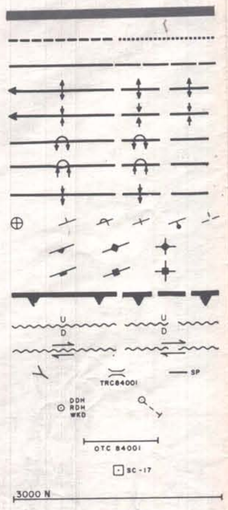
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGY MAP
MAP SHEET 104 A/16F

PREPARED BY: E.S., S.M. | SCALE 1:10 000
APPROVED BY: E.S. | DATE: JAN. 1985 | DRAWING No. EVC84B02

LEGEND

- LICENCE BOUNDARY
- GEOLOGICAL CONTACT (APPROXIMATE, INFERRED)
- COAL SEAM (DEFINED, INFERRED)
- ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
- OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
- MONOCLINE (DEFINED, APPROXIMATE)
- BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL, UPRIGHT, ESTIMATED)
- FOLIATIONS (INCLINED, VERTICAL, HORIZONTAL)
- JOINTS (INCLINED, VERTICAL, HORIZONTAL)
- THRUST FAULT (DEFINED, APPROXIMATE) TEETH INDICATE UPTHRUST SIDE
- FAULT (DEFINED, APPROXIMATE) UPTHROWN, DOWNTHROWN SIDE
- FAULT (DEFINED, APPROXIMATE) SHOWING RELATIVE MOVEMENT
- ADIT TRENCH COAL SPOIL
- DIAMOND, ROTARY, WINKIE DRILL HOLE (VERTICAL, INCLINED WITH SURFACE PROJECTION)
- MEASURED SECTION
- SURVEY CAIRN
- CROSS SECTION LINE



LITHOLOGIC SYMBOLS

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

LEGEND

- MAIN ROAD
- SECONDARY ROAD
- TRACK OR TRAIL
- CUTLINE
- RIVER
- STREAM
- LAKE
- CONTOURS (1000, 950)

RHONDDA SEQUENCE

JKr Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

JKm Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

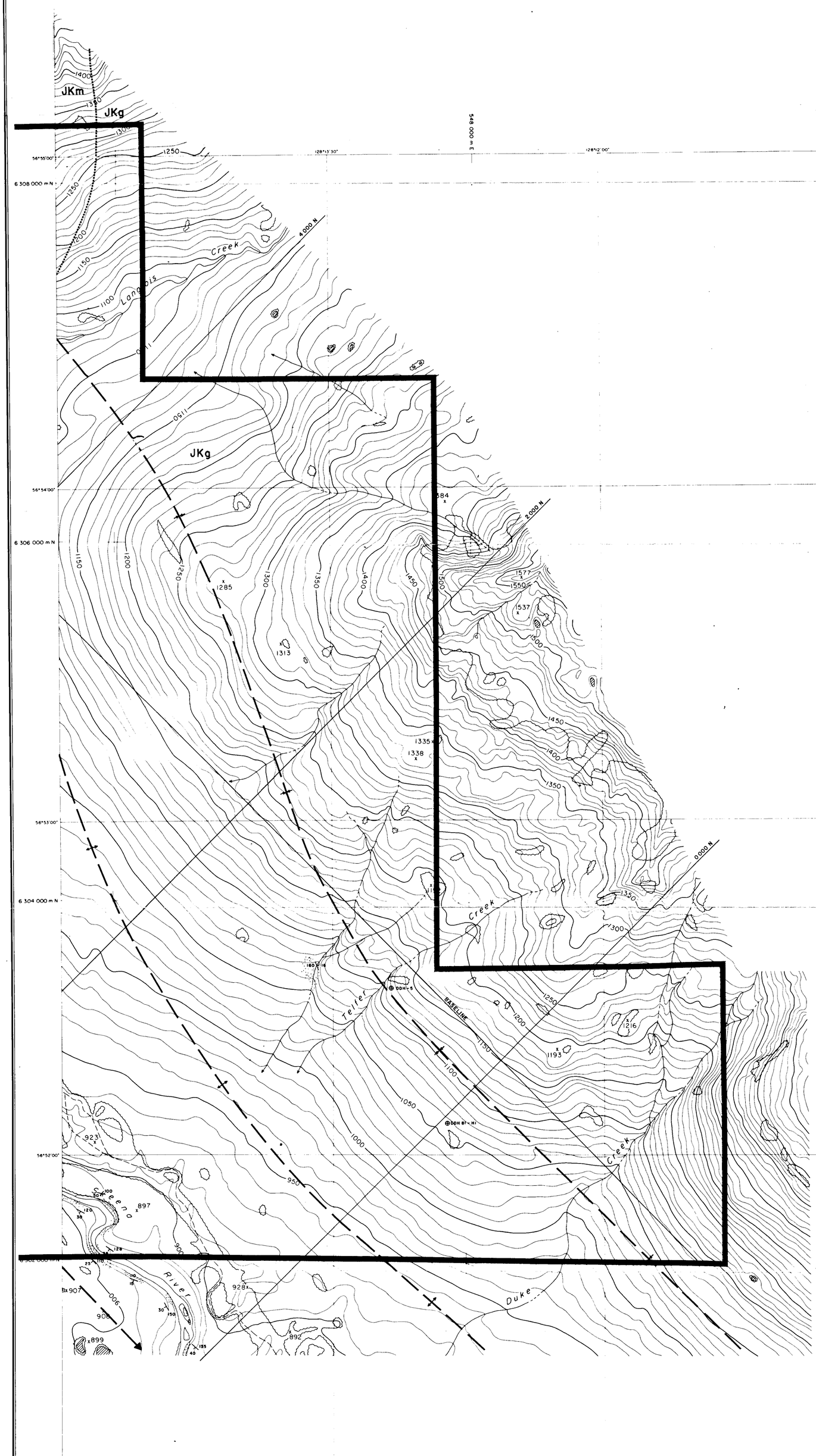
GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

M07



LITHOLOGIC SYMBOLS

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

LEGEND

- MAIN ROAD
- SECONDARY ROAD
- TRACK OR TRAIL
- CUTLINE
- RIVER
- STREAM
- LAKE
- CONTOURS (1000, 950)

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LEGEND

- LICENCE BOUNDARY
- GEOLOGICAL CONTACT (APPROXIMATE, INFERRED)
- COAL SEAM (DEFINED, INFERRED)
- ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
- OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
- MONOCLINE (DEFINED, APPROXIMATE)
- BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL, UPRIGHT, ESTIMATED)
- FOLIATIONS (INCLINED, VERTICAL, HORIZONTAL)
- JOINTS (INCLINED, VERTICAL, HORIZONTAL)
- THRUST FAULT (DEFINED, APPROXIMATE) TEETH INDICATE UPTHRUST SIDE
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- FAULT (DEFINED, APPROXIMATE) SHOWING RELATIVE MOVEMENT
- ADIT TRENCH COAL SPOIL
- DIAMOND, ROTARY, WINKIE DRILL HOLE (VERTICAL, INCLINED WITH SURFACE PROJECTION)
- MEASURED SECTION
- SURVEY CAIRN
- CROSS SECTION LINE

SCALE 1:10,000

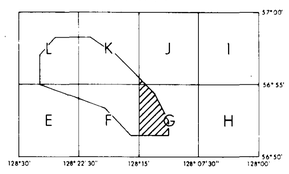
Metres 200 100 50 0 200 400 600 800 1000 Metres

Contour Interval 10 m.
N.T.S. SHEET 104 A/16

SURVEY NOTE

The map data was compiled photogrammetrically, using available control, and is based on the Universal Transverse Mercator Projection (U.T.M.) in metres and Geodetic Datum in metres.

SHEET INDEX
N.T.S. 104 A/16



C/R: EVANS CREEK 84(2")A *(1)

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGY MAP
MAP SHEET 104A/16G,J

PREPARED BY: E.S., S.M.	SCALE 1:10 000
APPROVED BY: E.S.	DATE: JAN. 1985 DRAWING No. EVC 84B03

95

H108

538 000 m E
540 000 m E
542 000 m E
544 000 m E
128°22'30"
128°21'00"
128°19'30"
128°18'00"
128°16'30"
128°15'00"
56°59'00"
56°58'00"
56°57'00"
56°56'00"
56°55'00"
6 314 000 m N
6 312 000 m N
6 310 000 m N

14000 N
12 000 N
10000 N
8000 N

JKg
JKm
JKr
JKp

Skeena River
Anthracite Creek
Sunngud Creek
BASELINE
TRC84001
OTC 84001
DDH 81-H5
DDH 81-H6

SCALE 1:10,000

Metres 200 100 50 0 200 400 600 800 1000 Metres

Contour Interval 10 m.
N.T.S. SHEET 104 A/16

SURVEY NOTE

The map data was compiled photogrammetrically, using available control, and is based on the Universal Transverse Mercator Projection (U.T.M.) in metres and Geodetic Datum in metres.

SHEET INDEX
N.T.S. 104 A/16

L K J I
E F G H

LITHOLOGIC SYMBOLS

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

LEGEND

- MAIN ROAD
- SECONDARY ROAD
- TRACK OR TRAIL
- CUTLINE
- RIVER
- STREAM
- LAKE
- CONTOURS

RHONDDA SEQUENCE

JKr Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

JKm Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

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LEGEND

- LICENCE BOUNDARY
- GEOLOGICAL CONTACT (APPROXIMATE, INFERRED)
- COAL SEAM (DEFINED, INFERRED)
- ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
- OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
- MONOCLINE (DEFINED, APPROXIMATE)
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- FOLIATIONS (INCLINED, VERTICAL, HORIZONTAL)
- JOINTS (INCLINED, VERTICAL, HORIZONTAL)
- THRUST FAULT (DEFINED, APPROXIMATE) TEETH INDICATE UPTHRUST SIDE
- FAULT (DEFINED, APPROXIMATE) UPTHROWN, DOWNTHROWN SIDE
- FAULT (DEFINED, APPROXIMATE) SHOWING RELATIVE MOVEMENT
- ADIT TRENCH COAL SPOIL
- DIAMOND, ROTARY, WINKIE DRILL HOLE (VERTICAL, INCLINED WITH SURFACE PROJECTION)
- MEASURED SECTION
- SURVEY CAIRN
- CROSS SECTION LINE

GR-EVANS CREEK 84(2)A 4/1

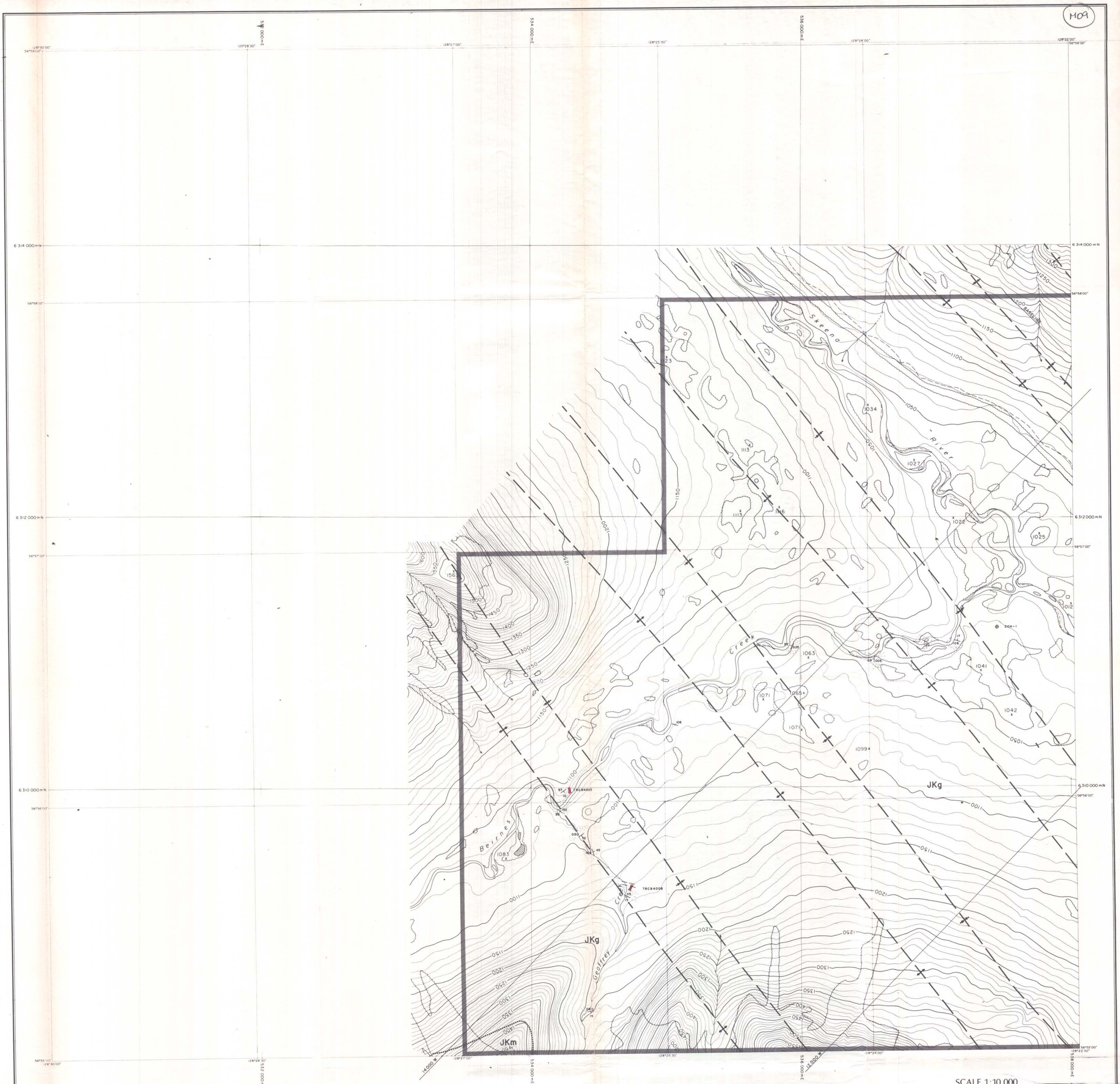
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGY MAP
MAP SHEET 104 A/16K

PREPARED BY: E.S., S.M. | SCALE 1: 10 000
APPROVED BY: E.S. | DATE: JAN. 1985 | DRAWING No. EVC 84804

95

H09



SCALE 1:10,000

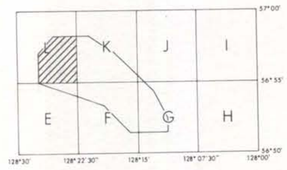
Metres 200 100 50 0 200 400 600 800 1000 Metres

Contour Interval 10 m.
N.T.S. SHEET 104 A/16

SURVEY NOTE

The map data was compiled photogrammetrically, using available control, and is based on the Universal Transverse Mercator Projection (U.T.M.) in metres and Geodetic Datum in metres.

SHEET INDEX
N.T.S. 104 A/16



LITHOLOGIC SYMBOLS

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- MUDSTONE
- COAL

LEGEND

- MAIN ROAD
- SECONDARY ROAD
- TRACK OR TRAIL
- CUTLINE
- RIVER
- STREAM
- LAKE
- CONTOURS

RHONDDA SEQUENCE

JKr Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

JKm Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

LEGEND

- LICENCE BOUNDARY
- GEOLOGICAL CONTACT (APPROXIMATE, INFERRED)
- COAL SEAM (DEFINED, INFERRED)
- ANTICLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- SYNCLINE (DEFINED, APPROXIMATE) ARROW INDICATES PLUNGE DIRECTION
- OVERTURNED ANTICLINE (DEFINED, APPROXIMATE)
- OVERTURNED SYNCLINE (DEFINED, APPROXIMATE)
- MONOCLINE (DEFINED, APPROXIMATE)
- BEDDING (HORIZONTAL, INCLINED, OVERTURNED, VERTICAL, UPRIGHT, ESTIMATED)
- FOLIATIONS (INCLINED, VERTICAL, HORIZONTAL)
- JOINTS (INCLINED, VERTICAL, HORIZONTAL)
- THRUST FAULT (DEFINED, APPROXIMATE) TEETH INDICATE UPTHRUST SIDE
- FAULT (DEFINED, APPROXIMATE) UPTHROWN, DOWNTHROWN SIDE
- FAULT (DEFINED, APPROXIMATE) SHOWING RELATIVE MOVEMENT
- ADIT TRENCH COAL SPOIL
- DIAMOND, ROTARY, WINKIE DRILL HOLE (VERTICAL, INCLINED WITH SURFACE PROJECTION)
- MEASURED SECTION
- SURVEY CAIRN
- CROSS SECTION LINE

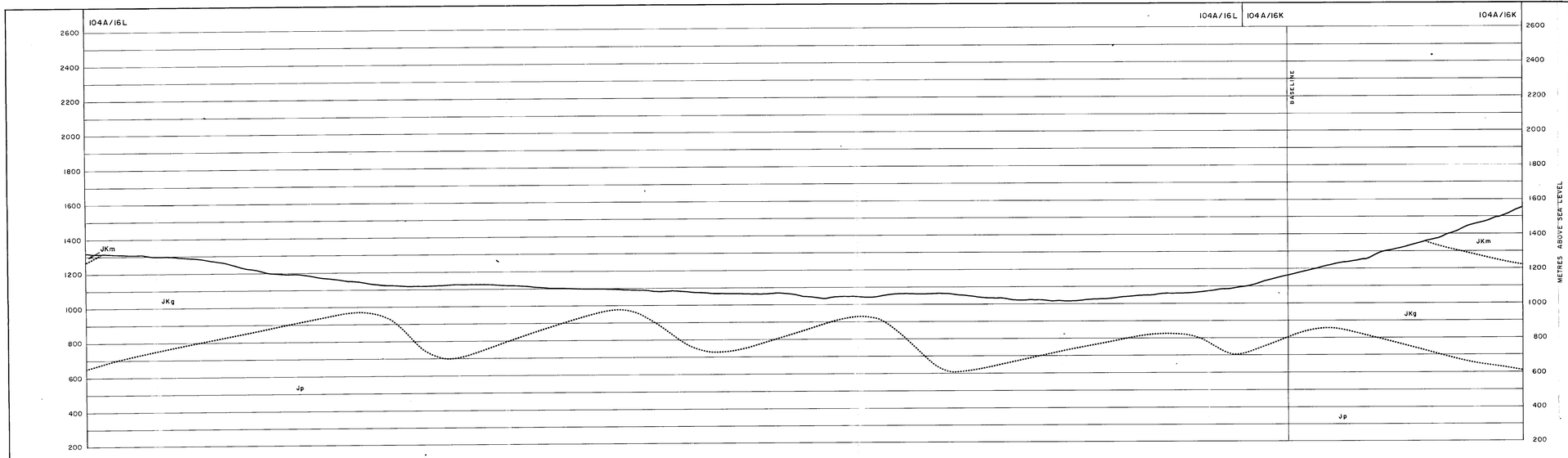
GR-EVANS CREEK 84(24)A*(1)

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGY MAP
MAP SHEET 104 A/16L

PREPARED BY: E.S., S.M. SCALE 1:10 000
APPROVED BY: E.S. DATE: JAN. 1985 DRAWING No. EVC 84 B05

95



RHONDDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thicker clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain silicified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg — Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp — Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

H10

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH 83001

DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

GR. EVANS CREEK SYNCLINE AXIS

GULF CANADA RESOURCES INC.

Coal Division

CALGARY ALBERTA

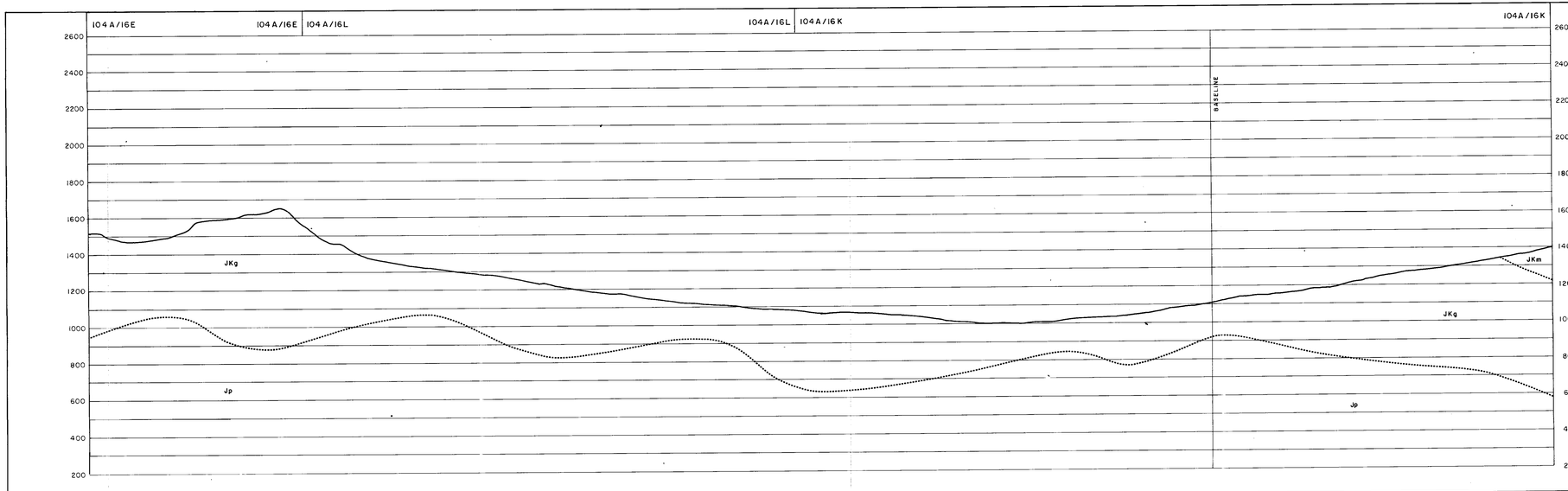
Gulf

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
14000 N

PREPARED BY: S.M. SCALE 1:10,000

APPROVED BY: E.S. DATE: JAN. 1985 DRAWING No. EVC 84 C01

95



RHONDDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg — Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp — Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

M11

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH83001 — DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

G.R. EVANS CREEK 5-4(13)-14 (1)

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
12000N

PREPARED BY: S.M. | SCALE 1:10 000
APPROVED BY: E.S. | DATE: JAN. 1985 | DRAWING No. EVC 84-C02

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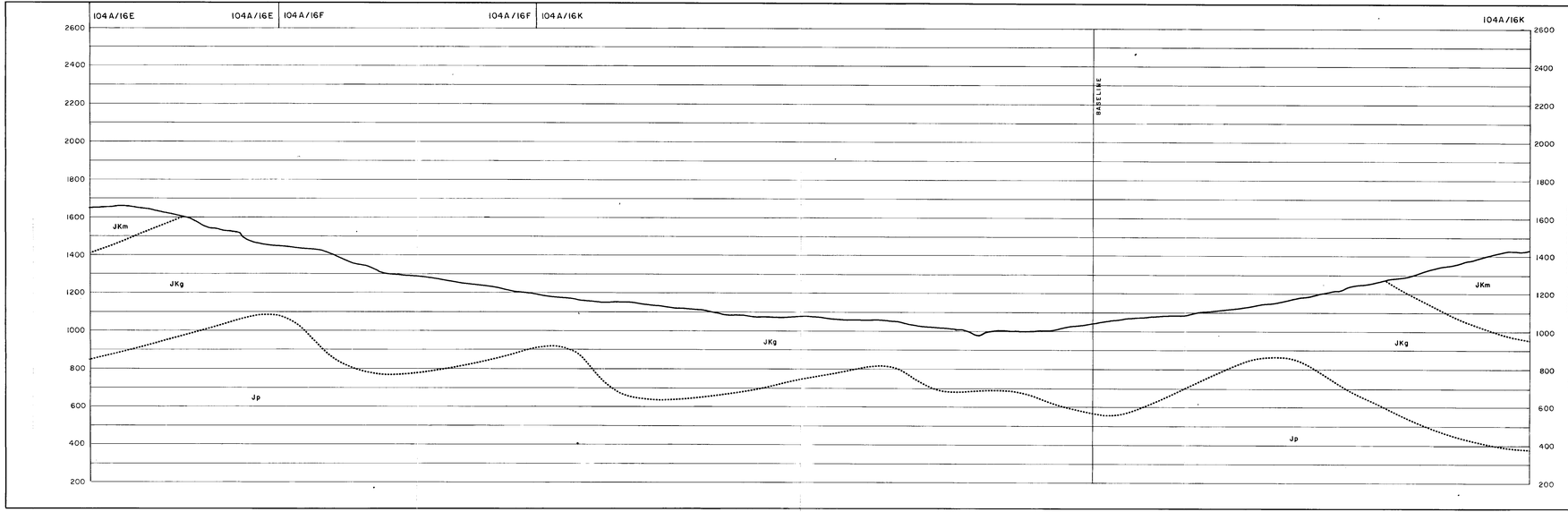

RMONDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg — Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp — Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

H12

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH 83001

DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

GR-EVANS CREEK SW(72)A #1/3

GULF CANADA RESOURCES INC.

Coal Division

CALGARY ALBERTA

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
10000 N

PREPARED BY: S.M. SCALE 1:10,000

APPROVED BY: E.S. DATE: JAN. 1985 DRAWING No. EVC 84 C03

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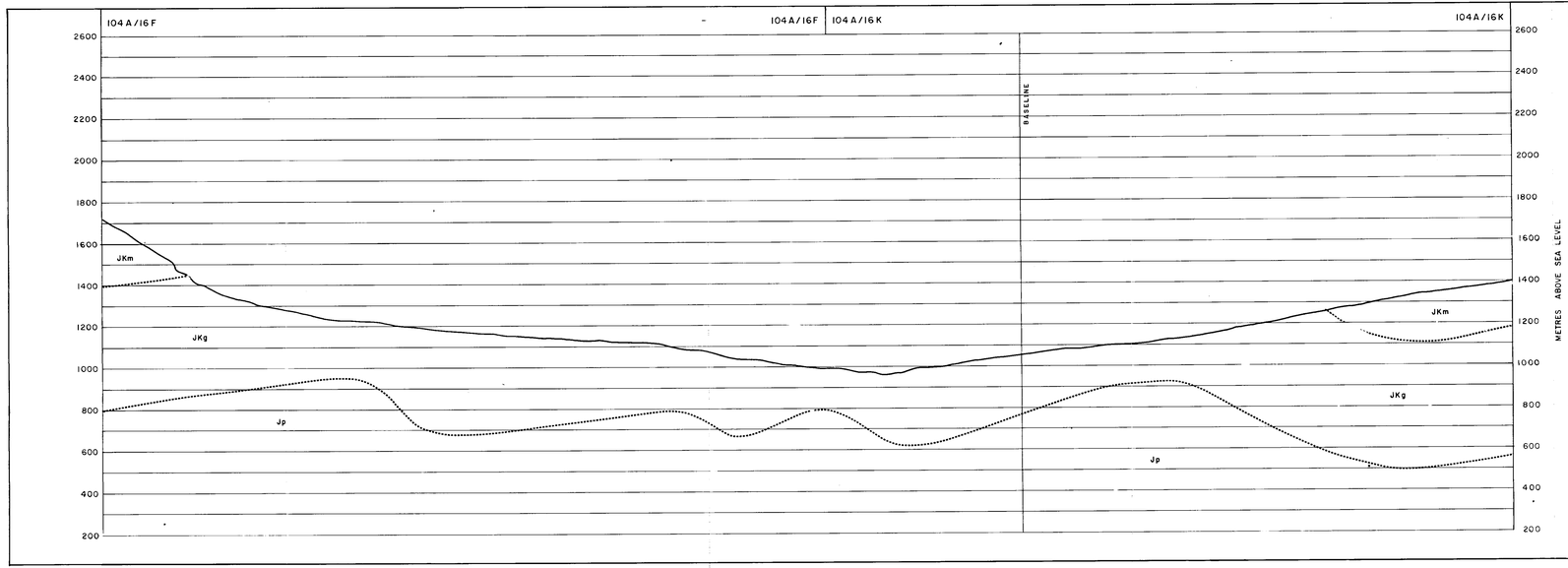


RHONDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit).

JKg — Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages.

PANORAMA SEQUENCE

Jp — Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

M13

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH 83001

DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

C-P EVANS CREEK SECTION 7(1)

GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

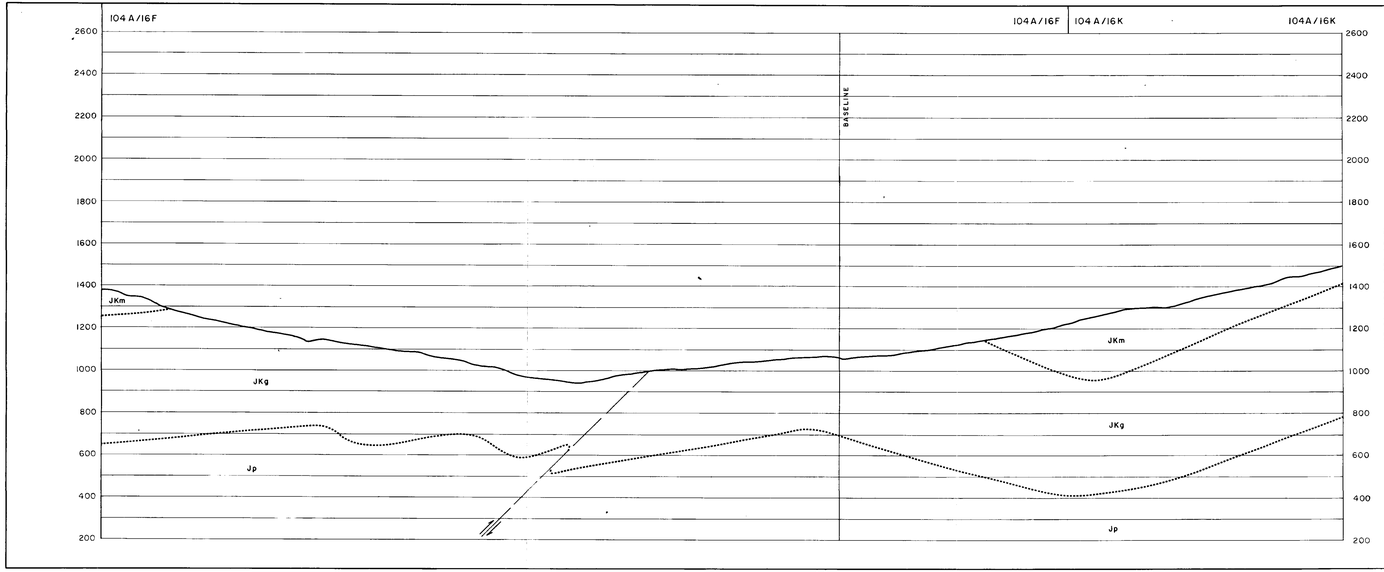
Gulf

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
8000 N

PREPARED BY: S.M. | SCALE 1:10000

APPROVED BY: E.S. | DATE: JAN. 1985 | DRAWING No. EVC 84 C04

95



RHONDDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

GROUNDHOG SEQUENCE (contains main coal-bearing unit)

JKg — Sequence of mudstone, siltstone and fine to medium grained sandstone beds interbedded with numerous coal seams. Minor pelecypod assemblages

PANORAMA SEQUENCE

Jp — Predominantly a marine sequence comprised of beds of mudstones, siltstones and lesser amounts of sandstones and conglomerates. The upper contact is defined as the first occurrence of a non-marine bed. Discontinuous massive conglomerate beds lie in the upper portion of the sequence. Bivalves are abundant and belemnites are rare.

M14

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH 83001 — DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

GR-EVANS (CR16K, Sht 12)JP 9/1

GULF CANADA RESOURCES INC.

Coal Division

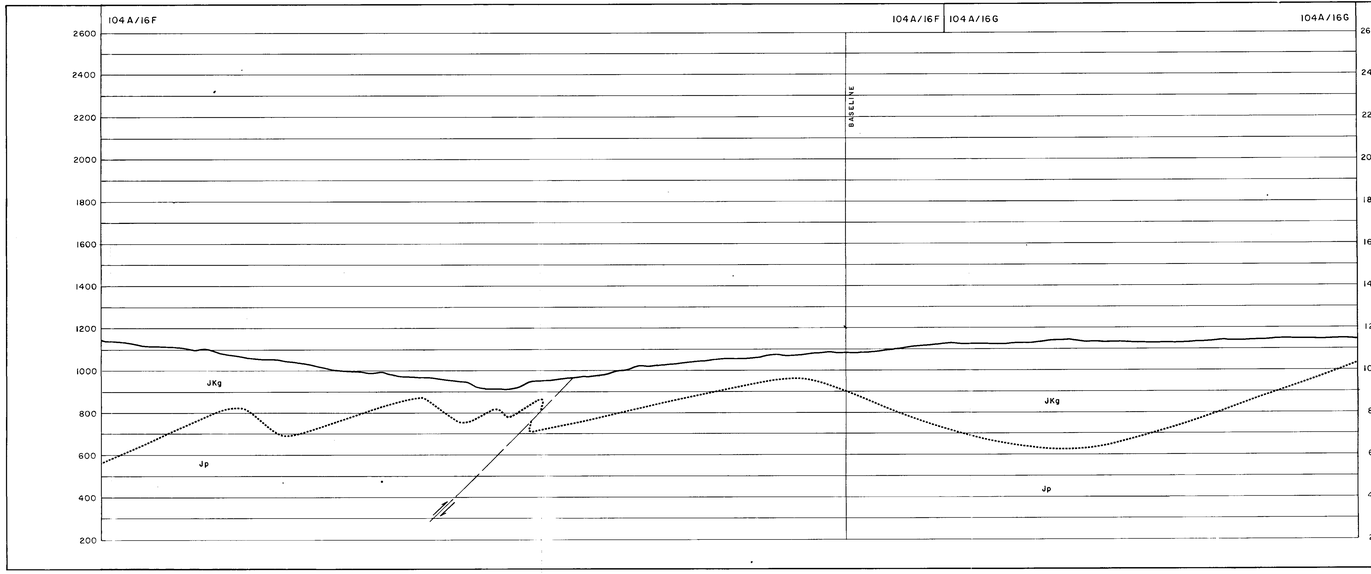
CALGARY ALBERTA

Gulf

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
6000 N

PREPARED BY: S.M.	SCALE 1:10000
APPROVED BY: E.S. DATE: JAN. 1985	DRAWING No. EVC 84 C05

95



RHONDDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

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M15

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.)

BEDDING ATTITUDE

DDH 83001 — DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

GR-EVANS CREEK SH(84)A #11

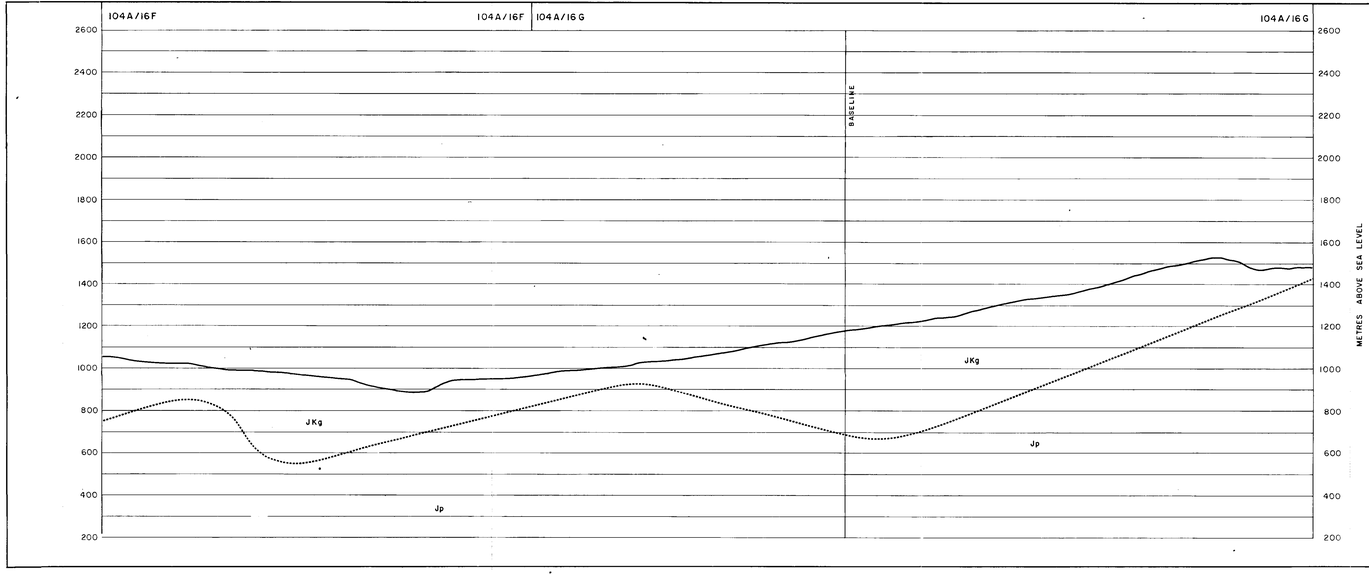
GULF CANADA RESOURCES INC.
Coal Division
CALGARY ALBERTA

Gulf

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
4000 N

95

PREPARED BY: S.M. | SCALE 1:10000
APPROVED BY: E.S. | DATE JAN. 1985 | DRAWING No. EVC84-006



RHONDDA SEQUENCE

JKr — Sequence of thick massive conglomerates and minor gritty sandstones interbedded with an increasing abundance of siltstones and mudstones towards the basal contact.

MALLOCH SEQUENCE

JKm — Thick interbeds of mudstones, argillaceous siltstones, fine grained argillaceous sandstones and thin beds of orange weathering siliceous nodular siltstones. Conglomerate beds tend to be laterally discontinuous. Thick clean sandstone beds and thin coal seams increase in abundance towards the basal gradational contact. Sequence can contain petrified wood and plant fossils. Bivalves are rare.

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M16

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH83001 — DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

cf. EVANS CREEK 84/(2)M-M1

GULF CANADA RESOURCES INC.

Coal Division

CALGARY ALBERTA

Gulf

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
2000N

PREPARED BY: S.M. | SCALE 1:10 000

APPROVED BY: E.S. | DATE: JAN. 1985 | DRAWING No. EVC 84 COT

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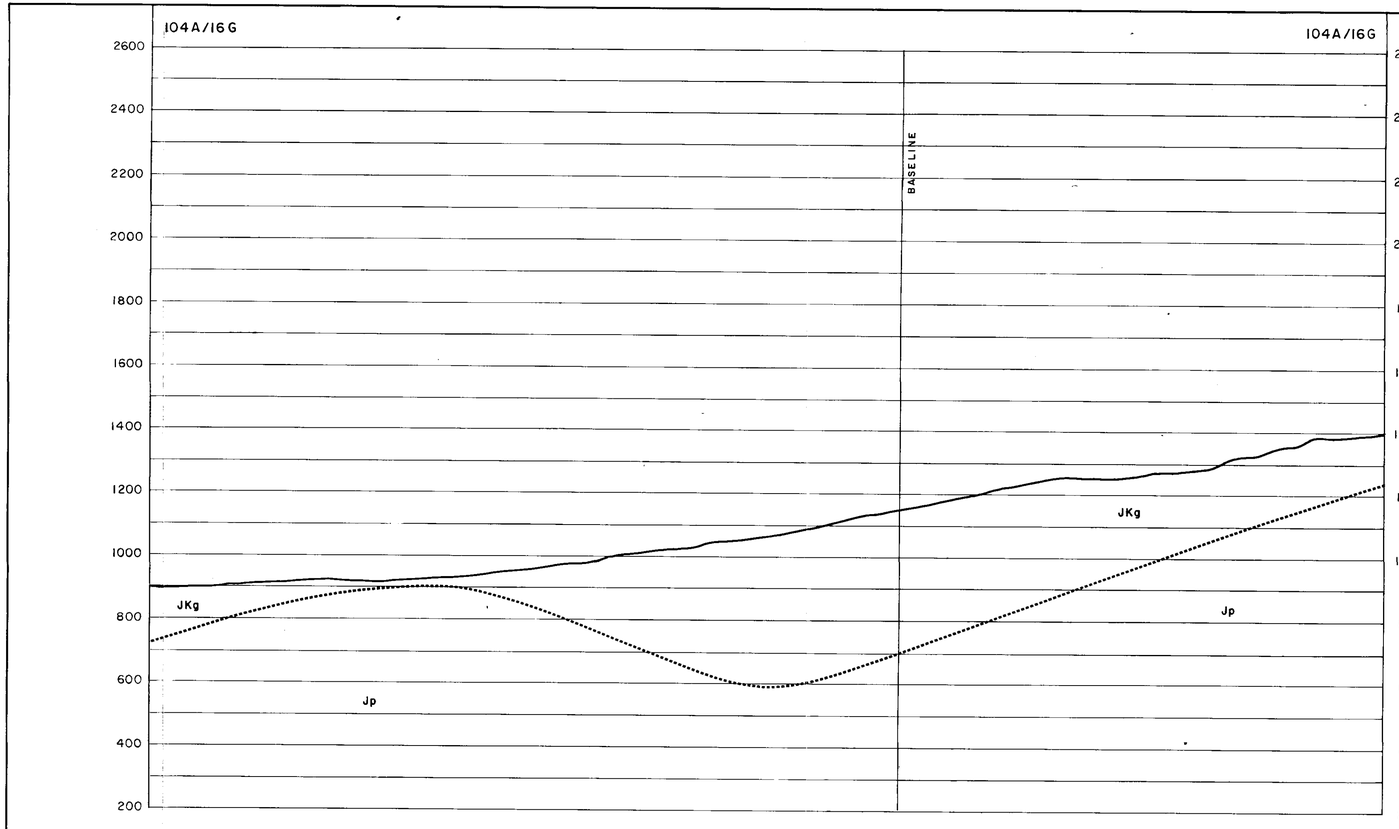

RHONDDA SEQUENCE

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MALLOCH SEQUENCE

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M17

LICENCE BOUNDARY

COAL SEAM TRACE (DEFINED, INFERRED)

GEOLOGICAL CONTACT (APPROX., INFERRED)

FAULT TRACE (DEFINED, APPROX.,

BEDDING ATTITUDE

DDH 83001 — DIAMOND DRILL HOLE WITH ATTITUDE CONTROL

0 1/4 1/2 MILE

0 200 400 600 800 1000 METERS

GR-EVANS CREEK 84(JA)A 41)

GULF CANADA RESOURCES INC.

Coal Division

CALGARY ALBERTA

Gulf

EVANS CREEK COAL PROJECT
1984
GEOLOGICAL CROSS SECTION
000 N

PREPARED BY: S.M.	SCALE 1:10000
APPROVED BY: E.S. DATE: JAN. 1985	DRAWING No. EVC 84 C08

95