Copy #1

QUINTETTE COAL LIMITED
1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND
MESA NORTH EXTENSION
APRIL, 1990

Prepared by Technical Services Department
Quintette Coal Limited

TITLE PAGE

1989 GEOLOGICAL REPORT

TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

COAL LICENCES: 3335, 3339, 3340, 3341,
3593, 3594, 4532,

QUINTETTE COAL LIMITED - Owner/Operator

Submitted: April 12, 1990

Assessment Report for the Application to Extend the Term of Quintette Coal Limited's Licences, 1989 - 1990

Location: Latitude - 55° 00' N
Longitude - 121° 10' W

NTS Map Sheet 93-P-3
93-I-14

Peace River Land District

Work conducted between May 2, 1989 and October 29, 1989

Report prepared by: Technical Services Department
Quintette Coal Limited

PREFACE

This report documents and describes the geology and coal quality based on exploration work completed to the end of 1989, in the Areas known as Transfer Grizzly, and Mesa North Extension located on Quintette Coal Limited's Coal Licences in northeast British Columbia.

Exploration work has been undertaken on Quintette's licences since 1971. All work was completed under the supervision of Denison Mines Limited, Coal Division, and Quintette Coal Limited. The data presented in the report is from rotary/percussion drilling, core drilling, geologic mapping, and refraction seismic surveys. The 1989 geologic data is recorded on geologic maps which locate the mapping, drill holes and similar prior years work. Correlation charts, seam structure contours and cross sections are presented to supplement the geology plans.

The report presents regional and detailed geologic descriptions of the resource.

This report references all previous geologic reports on the Quintette Property.

Previous nomenclature for the areas discussed in this Report:

Transfer Area	- Johnson Area, Hermann Area
Grizzly Area	- Hermann South, Dupont Licence Area
Perry Creek Area	- Wolverine Area, Wolverine River North
Marmot Area	- Marmot Steep, Nabors Road, Hermann North
Mesa North Extension	- Wolverine Valley South
Mesa North	- Mesa Extension

STATEMENT OF QUALIFICATIONS

I, David G. S. Johnson, graduated from Mount Allison University, Sackville, New Brunswick, with a Bachelor of Science Degree in Geology in May, 1970. I have worked in Mineral Exploration for six years, managing field exploration programs and writing reports and recommendations on those programs. I have worked in coal exploration and mine development for the last twelve years in northeast British Columbia. I have conducted field exploration, geologic mapping, core logging, trenching; supervised core drilling, rotary drilling, adit driveage, and associated field work; managed exploration crews, contractors, and reclamation; participated in mine development, coal quality control, reserve evaluation; have prepared several structural and stratigraphic interpretations of coal reserve areas in northeast British Columbia.

David G. S. Johnson
Senior Geologist
Quintette Coal Limited
Tumbler Ridge, B. C.

BIBLIOGRAPHY

Carmichael, S.M.M. (1983): Sedimentology of the Lower Cretaceous Gates and Moosebar Formations, Northeast Coalfields, British Columbia (unpublished Ph.D. Thesis), University of British Columbia, 285 p.

Geoscience Canada. (1980): Facies Models; Reprint Series 1, R.G. Walker (ed.); Geological Assoc. of Canada, 211 p.

Lamberson, M.N., Bustin, R.M., Kalkreuth, W., and Pratt, K.C. (1989): Lithotype Characteristics and Variation in Selected Coal Seams of the Gates Formation, North-Eastern British Columbia (93P/3,4). B.C. Ministry of Energy, Mines and Resources, Geological Fieldwork, Paper 1990, 10 p.

Leckie, D.A. (1983): Sedimentology of the Moosebar and Gates Formations (Lower Cretaceous). McMaster University, Hamilton, Ontario, unpublished Ph.D. thesis, 515 p.

_____. (1986): Rates, Controls, and Sand-Body Geometrics of Transgressive-Regressive Cycles: Cretaceous Moosebar and Gates Formations, British Columbia. The Amer. Assoc. of Petrol. Geol. Bulletin, V.70, No.5, pp. 516-535.

The following are unpublished reports prepared for or by Quintette Coal Limited.

Geo-Physi-Con Ltd. (1988): Refraction Seismic Survey, Transfer/Grizzly Area, Quintette Coal Mine. Geo-Physi-Con Co. Ltd., Calgary, Alberta, variously paged.

Gormley, G.P. (1973): Quintette Project - Wolverine Area: Report on Exploration Work North of the Wolverine River between August 1971 and February 1972. Denison Mines Ltd. Coal Division, Calgary, Alberta, 46 p.

_____. (1974): 1974 Wolverine Exploration Report. Denison Mines (B.C.) Ltd., 35 p. with 2 appendices.

Kilborn Engineering. (1981): Quintette Project Feasibility Study, March 1981. Kilborn Engineering, Volumes I through VI, variously paged.

Piteau Associates. (1987): Geotechnical and Hydrogeological Assessments for the Grizzly/Transfer Project, November 1987. Piteau Assoc. Engineering Ltd., Project 81-339, 39 p., Appendices A-D.

Quintette Coal Limited. (1982): Quintette Coal Limited Project Description, July 1982. Volumes I through VI, variously paged.

_____. (1985): 1984 Geological Report, April 1985. Text and Appendices I and II (separate), variously paged.

_____. (1986): Quintette Coal Limited Development Plan - Revision 2, April 1986, variously paged.

_____. (1987a): Mesa Extension Geological Report, March 1987. Text and Appendices 1.0 to 3.0, variously paged.

_____. (1987b): Mesa Extension Geological Report, December 1987. Text and Appendix 1 and 2 (separate), variously paged.

_____. (1987c): Transfer Area Geological Report, March 1987. Text and Appendices I and II (separate), variously paged.

_____. (1988a): 1987 Exploration Report: Transfer, Grizzly and Perry Creek Areas, February 1988, February 1988. Text and Appendices 1 and 2, variously paged.

_____. (1988b): Geological Report: Transfer, Grizzly and Perry Creek Areas, April 1989. Text and Appendix I and II (separate), variously paged.

_____. (1989a): 1988 Reclamation Report: Persuant to Reclamation Permit C-156, March 1989. 24 p.

_____. (1989b): 1988 Geological Report: Transfer, Grizzly, Perry Creek, Marmot and Wolverine Valley South Areas, April 1989. Text and Appendix 1 and 2 (separate), variously paged.

_____. (1989c): Transfer and Grizzly Geological Report, June 1989. Text and Appendix 1, Parts 1 and 2 (separate), variously paged.

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY, MESA NORTH EXTENSION AREAS

TABLE OF CONTENTS

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

TABLE OF CONTENTS

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS
LIST OF TABLES

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

LIST OF FIGURES

TRANSFER AND GRIZZLY
GEOLOGICAL REPORT

INDEX - APPENDICES

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

INDEX - APPENDIX 1

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

INDEX - APPENDIX 1

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

INDEX - APPENDIX 2

DESCRIPTION

1989 GEOLOGICAL REPORT
TRANSFER, GRIZZLY AND MESA NORTH EXTENSION AREAS

INDEX - ADDENDA

Note: The three Addenda (2 copies of each) are supplied to the Ministry of Energy, Mines and Petroleum Resources, Victoria, B.C., only. Other copies and originals are on file at the Administration Building, Quintette Coal Limited, Tumbler Ridge, B.C.

1.0 SUMMARY

The Quintette Coal Limited (Q.C.L.) property is situated in the Peace River Land District in northeast British Columbia in the inner foothills of the northern Rocky Mountains. Q.C.L. has a contract in place to produce five million tonnes of clean metallurgical coal per year. All coal production is from the Lower Cretaceous Gates Formation.

Exploration work on the Q.C.L. property was initiated in 1971 and has proceeded almost continuously through mine startup in 1982 to date. 1989 exploration was conducted in the Transfer, Grizzly, and Mesa North Extension Areas. Exploration of the Transfer and Grizzly Areas was initiated in 1976 with regional scale geologic mapping and some core drilling. Exploration work has been conducted in the areas between 1984 and 1989 inclusive.

Exploration of the Mesa North Extension Area began in 1976 and 1977 with regional and detailed mapping in and around the current Mesa Pit. Additional mapping was conducted in 1981 and 1982. Drilling was initiated in 1988.

Relative to the current active mining areas, Transfer and Grizzly lie between Shikano and Mesa Pits, and Mesa North Extension is a continuation of the Mesa Extension reserve northwest of Mesa Pit to the Wolverine River Valley.

1.1 WORK COMPLETED

A total of 129 rotary and 36 core holes have been completed in the Transfer and Grizzly Areas to the end of 1989. Most of these holes have intersected Gates Formation coal seams, however, some have drilled the Hulcross, Moosebar and Gething Formations. Geologic mapping along 40.6 km of exploration road cuts and in areas of natural rock exposure has provided excellent structural and stratigraphic control. Drill hole information and seismic refraction survey has allowed delineation of overburden thicknesses in the vicinity of the Shikano Syncline. Adit bulk samples were obtained from all the major coal seams in Transfer and Grizzly. This involved re-sampling of existing adits and driving one new adit in Grizzly area.

Using the geologic data base, an interpretation at 1:2500 scale has been updated and coverage expanded, consisting of structure contours of J seam, cross sections at 500 m intervals, correlation charts, and geology plans.

In the Mesa North Extension Area, regional mapping, 1:2500 scale mapping and rotary and core drilling have been completed to the end of 1989. This area is a continuation of the Mesa North structure beneath Mesa Pit which has had a significant amount of drilling (more than 200) completed in it. The 1989 Exploration program drilled an additional 32 rotary and 3 core holes in the Mesa North Extension structure towards the Wolverine River. Based on field mapping along 9.2km road cuts and the drilling, an interpretation at 1:2500 scale was produced with cross sections at 400 m intervals, a J seam structure contour, correlation charts, and a geology plan.

Core samples have been taken of the coal seams and analyzed for chemical and rheologic properties. Adit samples have undergone pilot scale washability testing and analysis.

Geotechnical studies are ongoing in the Transfer and Grizzly Areas in conjunction with resource evaluation and mine planning.

Reclamation of the 1988 exploration disturbances has been completed.

1.2 STRATIGRAPHY

The stratigraphy within the Transfer, Grizzly, and Mesa North Extension Areas are typical of the regional stratigraphy of the Quintette property. The formations that have been identified are, from oldest to youngest, Gething, Moosebar, Gates, Hulcross and Boulder Creek.

The Moosebar and Hulcross Formations are marine transgressive units separating the Gething and Boulder Creek Formations from the Gates Formation. The Boulder Creek and Gates Formation are basically continental deposits. The

common lithologies of the near shore and deltaic units of these two formations vary from mudstones to pebbly conglomerates with a predominance of fine sandstone. The Middle Gates Formation contains all the productive coal seams (D3, D4, E, F (E2 E3), E4 (G1), G, J and K (J2, J3)). Some thin coals are also encountered in the Upper Gates Formation, but are not considered recoverable.

The marine influence in the Gates Formation increases to the northwest between Transfer and Mesa North Extension. This is particularly noted in the Lower and Upper Gates Formation. Within the Middle Gates Formation, channel sands and conglomerates are present. These conglomerates, of note in Grizzly and Mesa North Extension, can affect the coal seam development.

1.3 COAL SEAM DEVELOPMENT

A total of five continuous seams have been correlated in the Transfer and Grizzly Areas. These seams, F, G, J, K1 and K2 have an average aggregate thickness of 14.25 m in Transfer and 12.89 m (excludes K2) in Grizzly.

In the upper Gates Formation, B seam may be recoverable. D and E seams in the middle Gates occasionally attain mineable thicknesses but due to inseam partings their development is inconsistent.

The partings within G seam in the Grizzly Area can be greater than 1 m thick. Also, the parting thicknesses between J and K1, and K1 and K2 can be thin allowing the J-K sequence to be mined as one section.

The Mesa North Extension Area has similar coal seam development to Mesa Extension in Mesa Pit. Seams D3, D4, E, G and J all have mineable thicknesses. E seam is thick with many rock partings while J is thick with few rock partings. Aggregate thicknesses of the seams is 18.48 m. The upper parting of E Seam, E1, has a very high insitu ash due to the numerous partings in the northern part of Mesa North Extension, and may not be recoverable.

1.4 STRUCTURE

The resource of the Transfer and Grizzly Areas is in a series of northwest trending folds which are dominated by the Transfer Anticline and the Shikano Anticline in the Grizzly Area. Both these folds plunge to the northwest. The Shikano Syncline lies between these two major structures providing further resource potential. The Mesa Fault truncates the Transfer Syncline West Limb and is the only major thrust identified although a number of small faults are interpreted where tight folding occurs.

The Mesa North Extension Area is a continuation of the plunging Middle Anticline and associated structures identified in Mesa North. The structures outcrop in the area providing near surface coal reserves. The southwest limit of the area is interpreted as a series of tight folds with minor faults. In the Wolverine Valley, the structure becomes much simpler as a broad open syncline.

1.5 COAL QUALITY

Analysis has been completed on coal samples from core drilling and adit driveage in previous years. During 1989, core samples were tested for chemical and rheological properties and bulk adit samples for washability. The coals from each of the areas are typically medium to low volatile bituminous coal.

1.6 CONCLUSION

As a result of the current level of geologic data, the consistent seam development and the definition of the structures in the Transfer and Grizzly Areas, the resource in these blocks can be measured with a high degree of confidence.

1989 studies in the M9 and Transfer West Limb structural areas have defined the extent of the resource permitting confident reserve evaluation in the future.

The Mesa North Extension Area provides the potential of expanded current pit development since its coal seams and structure are contiguous with the Mesa Extension reserve. 1989 exploration further defined this area, confirming consistent quality coal and seam development with excellent resource potential. Further definition of structures and resource limits is required.

2.0 INTRODUCTION

The Quintette property is situated in the Peace River Land District of northeast British Columbia in the inner foothills of the northern Rocky Mountains. Quintette Coal Limited (Q.C.L.) has a contract to produce five million tonnes of clean metallurgical coal per year. All coal production is from the Lower Cretaceous Gates Formation.

Work on the Q.C.L. property was initiated in 1971 and has proceeded almost continually through mine startup in 1982 to the present. Exploration of the resources began with regional scale geologic mapping. Initial drilling was performed in 1976 in the Transfer Area, in 1984 in the Grizzly Area, and in 1988 in the Mesa North Extension Area. Drilling and mapping have continued to permit evaluation of the reserve potential.

Extensive sampling and testing programs have confirmed that Q.C.L. coal is a good quality medium volatile coking coal. It is a strong coking coal, and is capable of replacing most of the world's best medium and low volatile coking coals in blends.

Potential mineable reserves on the Q.C.L. property are estimated at 2.8 billion tonnes of coal in-place to a maximum depth below surface of 500 m.

The purpose of the 1989 exploration was to explore for mineable open pit reserves which may represent alternate options to those included in Q.C.L.'s current long term mining plan. Drilling has been completed in both 1989 exploration areas.

2.1 LOCATION AND ACCESS

The Q.C.L. property is located in the Rocky Mountain Foothills belt of northeastern British Columbia (see Figures 2.1 and 2.2). The coal bearing trend of this region is commonly referred to as the Peace River Coal Block.

The locations of the Transfer, Grizzly, and Mesa North Extension Areas relative to the property's primary infrastructure are illustrated in Figure 2.3. The focus of recent exploration activity (1989) was on the two distinct geological structures: Transfer and Grizzly, and Mesa North Extension.

Air distances to communities surrounding the property are as follows:

City	Population*	Distance
Prince George	67,721	160 km southwest
Dawson Creek	10,544	106 km northeast
Chetwynd	2,774	98 km north
Tumbler Ridge	4,385	20 km east

*1986 Census

The property is accessible by three routes: the Boundary Road (Heritage Highway) from Tupper, British Columbia; the Fellers Heights Road (Heritage Highway) from Dawson Creek/Fellers Heights; and Highway 29 from Chetwynd to Tumbler Ridge. The distances for the routes are as follows:

Boundary Road - Dawson Creek to Tumbler Ridge	210 km
Fellers Heights Road - Dawson Creek to Tumbler Ridge	127 km
Chetwynd to Tumbler Ridge	100 km
Tumbler Ridge to plantsite	18 km

Access within the property is gained by several existing roads developed for the mine. The exploration programs established 4-wheel drive access routes from the existing roads into the exploration areas. The location of these routes is shown on the geology plans in Appendix 1.2.

The current road distance from the Preparation Plant and Mine Service Complex to the target areas are listed as follows:

Exploration Areas
Current Road Access Distances

From	To	Distance (km)
Transfer	Preparation Plant	22
	Mine Service Complex	13
Grizzly	Preparation Plant	7
Mesa North Extension	Preparation Plant	22
	Mine Service Complex	4

2.2 PROPERTY DESCRIPTION

The Q.C.L. property consists of 136 Coal Licences covering an area of 33,001 ha and Coal Lease #6 consisting of 11,667 ha (see Figure 2.4 and Appendix T.1). The original Q.C.L. licences were acquired by Denison Mines Limited (D.M.L.) in 1969 and 1970. The first coal exploration on the property was undertaken by D.M.L. in 1970. A significant exploration program was conducted each of the following years to 1977. Smaller programs were completed in 1979 and 1980. In 1981, large scale exploration was again undertaken.

For the purpose of developing the coal licences, Q.C.L. was incorporated under the laws of British Columbia on December 20, 1971.

D.M.L. was appointed by Q.C.L. to manage the Q.C.L. project through the feasibility and construction/development stages of the project and to assume responsibility for the management of operations thereafter.

Current major partners in Quintette Coal Limited are D.M.L., Charbonnages de France, the Japanese Steel Industry, Mitsui Mining, Tokyo Boeki and Sumitomo Corporation.

The Transfer and Grizzly Areas are situated between the two sections of Coal Lease #6. The Transfer Area is approximately 3 km long and 700 m wide (average) while the Grizzly Area is 1.6 km in length and 500 m wide on

average. Slopes vary from gentle (0^{o} to 10^{o}) to maximum natural slopes of 36^{o}.

The Mesa North Extension Area extends from Mesa Pit northwest to the Wolverine River, an area approximately 2.1 km long and 1.5 km wide. Relief is generally high in this area with many slopes approaching 36^{o}.

The Transfer and Grizzly Areas range from sub alpine to well below tree line in the Murray River Valley. The Mesa North Extension Area range is from just below tree line to valley floors. Stands of spruce and pine with cottonwood and poplar are predominant. The range in elevation for each area is as follows:

Maximum and Minimum Elevations Above Sea Level

Area	Maximum Elevation (m)	Minimum Elevation (m)
Transfer	1650	780
Grizzly	1150	780
Wolverine Valley S	1400	850

2.3 EXPLORATION PROGRAMS

A summary of exploration activity undertaken in the exploration areas to the end of the 1989 field season is presented in Table 2.1.

Pre-1989 Exploration:

Regional scale geologic mapping (1:5000) aided by aerial photograph interpretation was the only form of geological assessment undertaken in the Transfer and Grizzly Areas prior to 1984 when the first rotary (6) and diamond (1) holes were completed in the Hermann South Area, now referred to as the Grizzly Area. In 1985, limited mapping and the first two diamond drill holes were completed in the Transfer Anticline. One 1976 core hole, QJD7643 was collared in the West Limb of the Transfer Syncline. This hole intersected only B and D seams.

The 1986 Exploration program allowed for the completion of detailed geological mapping of naturally exposed outcrops as well as those exposed by access routes and trench construction. No rotary drilling was conducted in the Transfer or Grizzly Areas, but a total of 7 diamond drill holes, 2 in the Grizzly Area and 5 in the Transfer Area, were completed. This supplemented the above-noted mapping such that a preliminary determination of resources could be made within approximate pit limits (unscheduled mine area).

During the 1987 exploration season, 7 diamond and 36 rotary drill holes were completed in the Transfer Area while 5 diamond and 21 rotary drill holes were completed in the Grizzly Area. Three adits were driven into the mineable coal seams in each area in order to obtain bulk samples. Aerial photography and topographic mapping at 1:2500 scale were also completed.

During the 1988 exploration season, work concentrated in the Transfer West limb and the Shikano Syncline which lies between the Grizzly and Transfer Areas. A total of 11 core holes and 31 rotary holes were completed in the areas. In addition a seismic refraction survey was conducted to determine overburden depth in the Shikano Syncline. Prior to 1988, Mesa North Extension had only been mapped on a regional scale. During 1988, 1 core hole and 11 rotary holes were completed. Accompanied by geologic mapping and data from additional drilling performed for Q.C.L.'s Production Geology group, an updated interpretation of the structure was done. The interpretation indicates some near surface coal and shows a steeply northwest plunging Middle Anticline.

1989 Exploration:

The 1989 Exploration Program witnessed rotary and core drilling, detailed geologic mapping of naturally exposed outcrops as well as those exposed by access routes, and adit resampling and driveage.

In the Transfer Area, 2 diamond and 24 rotary holes were drilled. Geologic mapping was also done along new access roads and where previously unmapped natural exposures were identified.

The 1987 adits in both Transfer and Grizzly were resampled. One new adit was driven in Grizzly to sample J and K1 seams.

In Mesa North Extension 3 core holes and 32 rotary holes were completed along with detailed mapping of road and natural rock exposures.

2.3.1 Project Management and Primary Contractors

This report and the exploration work was completed by Q.C.L. geology staff, consultants and contractors.

Quintette Coal Limited

D. G. S. Johnson	- Senior Geologist
T. Wall	- Geologist
G. Cane	- Geologist-in-Training
D. P. Lortie	- Computer Applications Geologist
N. C. Hori	- Geological Technician
D. Landry, D. Wall	- Draftspersons

Consultants

W. R. Leeder, E. Toth	- Denison Mines Limited, Coal Division

Contractors 1988

W. Hansen Contracting Ltd.	- Road and Drillsite Construction, Reclamation
J. T. Thomas Drilling Ltd.	- Core Drilling
High Desert Drilling	- Rotary Drilling
Century Geophysical	- Geophysical Logging
Stables, Tryon and Associates	- Surveying
Commercial Testing and Engineering	- Core Analysis
Golder Associates	- Geotechnical Studies
Birtley Coal & Minerals Testing	- Bulk Sample Analysis

2.4 STANDARDS AND PROCEDURES

2.4.1 Geologic Mapping

Geologic mapping in the Transfer, Grizzly, and Mesa North Extension Areas was conducted at 1:2500 scale by Quintette personnel.

The majority of mapping was conducted along exploration roads constructed during 1989. These roads provided excellent rock and coal exposures. Control was based on survey points spaced at approximately 100 m intervals along the roads. All of the geologic mapping was plotted on the geology plans presented in Appendix 1.2.

Reconnaissance mapping off the exploration roads was controlled by previously established survey points, airphoto control points, geologic control points and drill holes. Accuracy was maintained by closing the traverses to one of the known points.

Field data was recorded on map cards at 1:2500 scale. The mapping was done by a modified plane table method using a chain and compass. Lithologies, structural and sedimentological features, and bed orientation were recorded on the map cards.

2.4.2 Rotary Drilling

The contract rotary drilling companies have drilled both vertical holes and angle holes (to -45^{o}) with both downhole hammer and conventional rotary bits, using reverse circulation equipment. During 1989, ~~four~~ two holes in Mesa North Extension were sampled for coal cuttings. The drillers daily reports are kept on file at the Administration Building, Quintette Coal Limited. These reports record coal intersections, water levels and estimated flow rates. The locations of all rotary drill holes are on the geology plans in Appendix 1.2.

Appendix T.2.1 contains summaries of all rotary holes. These summaries identify seam intersections and other notable sedimentary and structural features. Table 2.2 lists all rotary holes with their location, elevation, and depth.

2.4.3 Rotary Drill Sampling and Analysis

In 1989, two Rotary drill holes in Mesa North Extension were sampled over coal intersections using CSR equipment. For thin seams, samples were taken over the entire interval, whereas for the thicker seams, a 2.5 metre sample interval was used. If samples were wet, two sets of screens were utilized to retain drill cuttings and allow water to drain. For dry samples, a ten gallon container was used to catch the cuttings.

Collected raw samples were immediately bagged and labelled. Testing was done at Q.C.L.'s on-site lab. Samples were split and screened, with the 28x60 mesh fraction analysed for ash and FSI on a raw air dry basis. Results of the analysis for the two rotary holes are shown in Table 2.7.

2.4.4 Diamond Drilling

Diamond drill holes were drilled vertically or at an angle providing H.Q. core (64 mm diameter) with conventional wireline recovery equipment. Each drill hole was geophysically logged followed by detailed visual core descriptions and complete sampling of all mineable coal sections. Approximately 5 kilograms of coal sample was taken from each metre of mineable section and sent to commercial laboratories for washability and related analyses as described in the following section.

The location of diamond drill holes are shown on the geology plans in Appendix 1.2 and a summary of each core hole is found in Appendix T.2.2. The detailed written descriptions of all recent cored drill holes are available in the Q.C.L. Administration building. Copies of each descriptive log are presented

as Addendum II to this report. Table 2.3 lists all diamond holes with their location, elevation and depth.

2.4.5 Drill Core Analysis

Drill core samples of mining sections, where 80% or better core recovery has been achieved, normally provide the primary data points for the assessment of in-place ash content, washability yield predictions, and other physical, rheological and chemical properties. Normal procedures involve the segregation of a selected mining section into various sample components based on coal and rock partings. These samples are then combined into a single sample or composite, representing the selected mining section.

The 1985 through 1989 analytical procedure is presented in Figure 2.5. Appendix 2.1 compiles all of the drill core analytical data. Tables 2.4 and 2.5 identify all component samples, the sample intervals and the composite samples for diamond drilling in 1989 and all previous years for both of the exploration areas.

2.4.6 Geophysical Logging

Rotary and diamond drill holes have been logged by down hole geophysical methods since the commencement of drilling. However, in some instances, the caving of drill holes either prevented the completion of geophysical logs or required the holes to be logged through the drill stem.

The types of geophysical logs completed include:

1. Gamma
2. Neutron
3. Density
4. Caliper
5. Deviation
6. Resistivity

Geophysical logging was conducted by Century Geophysical and by Q.C.L. during 1989. Mining section thicknesses are determined from the core holes using detailed geophysical logs. Seam depths are determined from the 1:20 scale density geophysical log. The core descriptive log is then adjusted to these depths and missing core locations identified. The coal seam thickness is determined by adjusting the apparent seam thickness (distance between top and bottom as picked on the geophysical log) by the cosine of the measured bedding angle in the core.

Rotary drill holes are used for seam and rock thicknesses in the sense that the tops and bottoms of coal seams and correlation points are marked on the section profile of the drill holes on the sections. The interpretation then uses the elevation of these intersections when the top (and at times, the bottom) structure contour of each seam is drawn.

Copies of all geophysical logs are available in the Administration Building of Quintette Coal Limited. Copies of the geophysical logs are presented in Addendum I to this report.

2.4.7 Adits

In 1987 adits were driven into the mineable coal seams in both the Transfer and Grizzly Areas. During 1989, the seams were sampled and one new adit driven in Grizzly Area J seam to sample J and K1 seams. Table 2.5 summarizes the adit driveage.

Rideau Enterprises Limited, Kamploops, B.C., constructed and sampled all adits. Adits were constructed by drilling and blasting along the coal seam. Coal waste and coal samples were removed by an air tugger or wheelbarrow depending on conditions. The adits were ventilated by a forcing fan. Adit drawings are presented in Appendix T.4. Adit locations are plotted on the Geology Maps in Appendix 1.2, and a summary presented in Table 2.8.

2.4.8 Adit Sample Analysis

Bulk samples from the major seams (F, G, J, K) were obtained in both the Transfer and Grizzly Areas. These samples were shipped to Birtley Coal and Minerals Testing, Calgary, Alberta, for raw analysis, pilot scale washing and clean coal analysis. The results of this testing program are presented in Appendix 2.1.3.

Each bulk sample was prepared for washing and a short washablility was conducted. One sample, K2 seam from Adit QHA8705, was not washed since the short washability indicated a partially oxidized sample. A portion of the raw coal of each sample was retained. A blend was prepared from this reserve and washed.

2.4.9 Topographic Survey, Survey Control

During 1989, the Transfer, Grizzly, and Mesa North Extension Areas were surveyed by Stables, Tryon and Associates, Dawson Creek, British Columbia. Survey control of drill holes, exploration roads, airphoto targets, and geologic control points was completed using the Model 14A Geodometer and the Wild T16 Theodolite with various control stations established previously. The survey maps are on file in the Q.C.L. Administration Building, with the 1989 survey maps presented in Addendum III.

During July 1989, the Mesa North Extension Area was flown in conjunction with Mesa and Wolverine Pits. Survey control for the topographic mapping was done by Q.C.L.'s survey group. Topographic mapping was done by Western Photogrammetry, Edmonton, Alberta. The maps were prepared from Southwest-Northeast flight lines. Aerial Triangulation and preparation was undertaken on WILD PUG III and BC1 analytical system. The numerical adjustment was done using the PATM-43 program. The data was stream digitized on WILD BC1 using the T Map software system for graphics edit. The digital topographic data is filed at the QCL Administration Office. The topography presented on the Mesa North Extension Geology Map is the plot of the data in this area of interest.

2.4.10 Petrography

Petrographic analysis of all composite core samples and each adit sample was done by David E. Pearson and Associates, Victoria, British Columbia. The results of their petrographic analysis are presented in Appendix 2.1.

Petrographic analysis has confirmed that the Transfer and Grizzly coals are medium to low volatile bituminous and that Mesa North Extension coals are medium volatile.

2.4.11 Reclamation

Reclamation of the 1989 disturbances was conducted by W. Hansen Contracting Limited, Dawson Creek, British Columbia.

The program included bucking of all slash to ensure rapid decomposition and to inhibit fires. Spruce slash was burned.

All roads have been cross ditched as required for erosion control as well as seeded. Some main access roads were not seeded since they will be used in the 1990 exploration season.

The equipment used for reclamation was a small backhoe, chainsaws and a seeder/spreader. The fertilizer mix was 13-16-10 at 200 kg per hectare. The seed mix consisted of Creeping Red Fescue at 55%, Kentucky Blue Grass at 25%, and Alsike Clover at 20%, applied at 50 kg per hectare.

2.5 FUTURE DEVELOPMENT

Exploration work has defined a significant resource in the Transfer and Grizzly Areas. Sampling of the coal has confirmed the quality of the coal. Further work will be required to:

1. Confirm interpreted fault structures in the Transfer West Limb.

2. Define the depth of the Transfer Syncline (Transfer West Limb).

3. Define the extent of J/K seam thinning in the Transfer West Limb.

4. Define the extent of seam thickness anomalies on the Transfer Anticline East Limb (F Seam); in the M-9 structure (J Seam).

5. Further define the M-9 Syncline structure.

Regardless of the extent of future exploration or development work, definition of the geology in the Transfer and Grizzly Areas currently has a high confidence rating. A mine plan based on the geology presented in this report will also have similar confidence rating vis a vis reserve figures.

In the Mesa North Extension Area, drilling in 1989 confirmed near surface coal. Mapping and drilling have indicated the structures on the south western limit are extremely complicated. On the otherhand, the structure is very simple near the Wolverine Valley. Since this area is continuous with the Mesa Extension reserve, further work is required to:

1. Define the structure and coal outcrop limit along the south-west boundary of the resource.

2. Define the structural complications where Middle Anticline rapidly changes to a faulted structure and more open fold.

3. Define coal seam development and structure to the northeast of the resource.

4. Tie the Mesa North structures and Mesa North Extension structures together.

5. Define depth of overburden cover in the Wolverine Valley and the coal seam subcrop limit.

6. Obtain further quality data.

7. Confirm seam thickness and development.

Table 2.1

EXPLORATION SUMMARY

		Transfer and Grizzly	Mesa North Extension	Totals
1989				
Rotary Holes	#	24	32	56
	m	3312	2964	6276
Core Holes	#	2	3	5
	m	435	579	1014
Adits*	#	1	-	1
	m	69	-	69
Roads	km	2.5	4.7	7.2
1988				
Rotary Holes	#	31	11	42
	m	3049	1147	4196
Core Holes	#	11	1	12
	m	1455	234	1689
Geotechnical Holes	#	6	-	6
	m	272	-	272
Roads	km	7.6	4.5	12.1
1987				
Rotary Holes	#	67	-	67
	m	8244	-	8244
Core Holes	#	12	-	12
	m	1844	-	1844
Adits	#	6	-	6
	m	251	-	251
Roads	km	21.4	-	21.4

*In addition, 5 adits driven in 1987 were resampled.

Table 2.1
(continued)

EXPLORATION SUMMARY

		Transfer and Grizzly	Mesa North Extension	Totals
1986				
Core Holes	#	8	-	8
	m	1142	-	1142
Roads	km	7.6	-	7.6
1985				
Core Holes	#	2	-	2
	m	374	-	374
Roads	km	-	-	-
Pre-1985				
Rotary Holes	#	6	-	6
	m	686	-	686
Core Holes	#	1	-	1
	m	110	-	110
Roads	km	1.5	-	1.5
Totals				
Rotary Holes	#	128	43	171
	m	15291	4111	19402
Core Holes	#	36	4	40
	m	5360	813	6173
Geotechnical Holes	#	6	-	6
	m	272	-	272
Adits	#	7	-	7
	m	320	-	320
Roads	km	40.6	9.2	49.8

Table 2.2

ROTARY DRILLING SUMMARY

TRANSFER AND GRIZZLY

Hole	Northing UTM	Easting UTM	Elevation m	Depth m
QHR84017	6095367.55	624352.73	877.05	128.00
QHR84018	6095285.33	623971.80	857.66	238.30
QHR84028	6095484.36	624054.29	879.24	198.00
QHR84027	6095326.53	623962.42	860.26	32.00
QHR84029	6095305.80	623944.90	861.39	54.00
QHR84030	6095326.53	623960.42	860.26	36.00
QHR86022	6095522.74	619535.39	1620.59	79.00
QHR86023	6095599.21	619483.75	1622.70	103.50
QHR86024	6095732.91	619306.29	1626.43	146.00
QHR87001	6096302.76	624678.72	848.18	189.60
QHR87002	6096356.15	624465.26	879.90	156.30
QHR87003	6096422.35	624278.69	895.45	140.00
QHR87004	6096486.65	624117.60	931.67	121.80
QHR87005	6096582.54	623827.89	985.67	117.50
QHR87006	6096741.68	623311.92	1057.87	182.00
QHR87007	6096526.69	623136.87	1117.65	170.20
QHR87008	6096594.04	623196.40	1107.99	107.30
QHR87009	6096471.16	623293.44	1108.97	132.30
QHR87010	6096347.63	623296.43	1109.67	164.40
QHR87011	6096681.67	623132.37	1107.81	121.50
QHR87012	6096590.37	623063.54	1116.81	183.30
QHR87013	6096728.48	623477.31	1041.15	143.70
QHR87014	6096773.65	623194.30	1076.90	207.40
QHR87015	6096508.62	623456.49	1079.99	56.70
QHR87016	6096078.36	623627.55	1071.99	146.60
QHR87017	6095936.65	623801.66	1014.93	164.80
QHR87018	6095705.40	624093.48	978.03	123.00
QHR87019	6095531.26	624218.70	916.10	110.70
QHR87020	6096256.36	624879.72	797.81	244.00
QHR87021	6096160.32	620569.25	1572.82	168.80
QHR87022	6096087.30	620508.12	1580.60	144.60
QHR87023	6095983.11	620432.72	1601.62	171.00
QHR87024	6096026.86	620712.89	1564.25	128.50
QHR87025	6095957.56	620647.17	1585.04	110.00
QHR87026	6095680.63	620701.80	1573.08	140.00
QHR87027	6095842.94	620804.17	1549.64	80.00
QHR87028	6096294.42	620421.70	1542.16	172.00
QHR87029	6095579.20	620866.58	1545.46	110.00
QHR87030	6095302.31	621163.26	1489.50	86.80
QHR87031	6095747.64	621267.20	1425.42	50.00
QHR87032	6095887.35	621106.04	1451.87	92.70
QHR87033	6095148.03	621293.37	1437.70	98.70
QHR87034	6095778.16	621750.45	1319.00	108.00
QHR87035	6096125.30	620293.66	1558.01	129.00
QHR87036	6096202.09	620351.14	1544.31	117.60
QHR87037	6095758.00	620771.32	1562.42	91.80
QHR87038	6096017.01	620942.67	1490.85	129.00
QHR87039	6095418.96	621016.01	1522.50	99.00
QHR87040	6095283.74	622166.77	1361.19	98.20
QHR87041	6095150.74	623801.94	891.53	187.80

Table 2.2 (Continued)

ROTARY DRILLING SUMMARY

TRANSFER AND GRIZZLY (continued)

Hole	Northing UTM	Easting UTM	Elevation m	Depth m
QHR87042	6095081.35	623748.75	891.10	129.70
QHR87043	6094827.36	623622.99	902.11	116.40
QHR87044	6094992.35	623705.19	880.04	135.70
QHR87045	6094837.80	623932.45	838.09	99.00
QHR87047	6094922.28	623977.78	838.73	79.00
QHR87048	6095005.91	624037.45	836.82	111.30
QHR87049	6094780.33	623876.65	841.24	90.80
QHR87050	6095263.27	624327.41	844.50	91.80
QHR87051	6093986.57	622728.37	857.50	147.70
QHR87052	6093829.31	622093.22	951.88	127.90
QHR87053	6094070.22	622065.95	1034.79	86.00
QHR87054	6094207.21	622091.59	1049.43	99.00
QHR87055	6093811.20	622506.62	890.45	55.60
QHR87056	6093869.50	623134.02	857.51	91.30
QHR87057	6094089.28	623303.90	876.83	91.30
QHR87058	6094282.63	623438.87	881.64	79.20
QHR87059	6095942.59	621392.13	1368.63	190.60
QHR87060	6095749.25	621503.17	1346.09	80.30
QHR87061	6095928.12	620875.61	1527.81	99.20
QHR87062	6096057.41	620103.84	1544.99	178.90
QHR87063	6096279.54	620168.56	1508.25	109.90
QHR87064	6096360.01	620222.27	1499.61	103.60
QHR87065	6096311.43	619929.82	1519.31	146.70
QHR87066	6096322.92	620077.60	1505.69	85.20
QHR87067	6096417.41	619995.34	1499.61	42.00
QHR87068	6096527.44	620065.10	1484.15	79.30
QHR88001	6097094.43	618647.29	1342.07	208.28
QHR88002	6096953.54	618567.42	1352.07	200.18
QHR88003	6094622.98	620565.27	1332.38	58.88
QHR88004	6094949.71	620890.49	1354.74	167.36
QHR88005	6094980.67	620710.03	1444.25	147.72
QHR88006	6095268.37	620089.98	1540.25	166.62
QHR88007	6095440.61	619910.34	1586.88	78.20
QHR88008	6096543.65	618879.54	1464.54	234.48
QHR88009	6096037.17	619148.43	1566.86	96.56
QHR88010	6096035.21	619139.83	1565.81	232.22
QHR88011	6095441.10	619907.63	1586.98	198.20
QHR88012	6095444.76	619916.14	1587.17	47.58
QHR88013	6095500.84	619756.99	1610.59	138.72
QHR88014	6095534.88	621839.87	1324.72	95.30
QHR88015	6095021.67	623106.08	1068.53	111.88
QHR88016	6094992.16	622876.22	1112.54	74.76
QHR88017	6095037.25	622921.52	1117.09	84.08
QHR88018	6096199.02	620128.28	1522.53	125.02
QHR88019	6094998.48	621360.92	1349.43	102.04
QHR88020	6094894.41	621303.45	1283.06	126.70
QHR88021	6094893.54	621302.67	1282.11	163.12
QHR88022	6094890.02	621286.02	1282.73	95.92
QHR88023	6094536.19	621724.33	1166.96	173.78
QHR88024	6094535.45	621723.86	1167.16	132.22

Table 2.2 (Continued)

ROTARY DRILLING SUMMARY

TRANSFER AND GRIZZLY (continued)

Hole	Northing UTM	Easting UTM	Elevation m	Depth m
QHR88025	6094661.31	621312.63	1170.74	30.00
QHR88026	6094653.58	621305.39	1171.61	107.84
QHR88027	6094396.58	621638.88	1081.14	53.44
QHR88028	6094395.20	621732.08	1087.83	54.32
QHR88029	6094304.15	622181.67	1072.37	53.32
QHR88030	6094264.46	622137.27	1059.79	53.32
QHR88031	6094991.79	624610.97	797.34	114.36
QHR88032	6095105.97	624423.01	816.85	24.00
QHR88033	6095149.05	624447.34	822.08	119.62
QHR88034	6094883.33	624479.33	779.80	30.10
QHR88035	6094732.38	624054.12	830.42	35.10
QHR88036	6094627.58	623986.40	827.92	52.10
QHR89001	6094814.00	623779.50	851.50	120.00
QHR89002	6094814.20	623778.94	851.55	130.46
QHR89003	6094787.61	623764.35	850.90	103.02
QHR89004	6094816.65	623689.39	876.44	84.90
QHR89005	6094410.04	621916.89	1126.23	108.16
QHR89006	6094409.52	621916.55	1126.25	119.50
QHR89007	6094397.47	621840.95	1121.83	48.32
QHR89008	6094403.80	622007.66	1123.31	99.54
QHR89009	6094402.56	622000.16	1123.34	130.88
QHR89010	6094680.17	621419.82	1175.30	115.06
QHR89011	6094682.04	621421.40	1175.37	133.46
QHR89012	6094683.96	621422.05	1175.44	129.42
QHR89013	6094586.06	621493.24	1160.79	125.00
QHR89014	6094586.78	621493.67	1160.83	85.00
QHR89015	6094524.53	621565.86	1134.85	85.00
QHR89016	6094095.54	621626.35	1078.01	192.00
QHR89017	6094759.50	621506.67	1245.80	125.00
QHR89018	6094758.30	621505.43	1245.71	150.00
QHR89019	6094854.80	621332.10	1271.00	234.36
QHR89020	6094848.75	621193.66	1247.01	167.02
QHR89021	6094857.59	621101.61	1238.05	218.82
QHR89022	6094857.17	621103.13	1237.81	215.68
QHR89023	6095016.64	621219.36	1324.23	109.10
QHR89024	6095024.16	620944.00	1350.45	275.92
				========
				16551.76

****
136.

Table 2.2 (Continued)

ROTARY DRILLING SUMMARY

MESA NORTH EXTENSION

Hole	Northing UTM	Eastins UTM	Elevation m	Depth m
QMR88130	6100041.85	614270.95	1463.20	213.90
QMR88131	6100041.16	614267.88	1463.19	207.00
QMR88151	6100502.56	614122.49	1388.25	284.90
QMR88152	6100269.07	614272.33	1415.55	160.50
QMR88153	6100117.88	614293.28	1429.13	161.00
QMR88154	6100083.43	614266.81	1432.11	193.10
QMR88155	6100738.76	613876.77	1351.57	297.16
QMR88501	6101927.60	612761.81	866.37	102.36
QMR88502	6101124.19	612698.25	1009.93	83.82
QMR88503	6101317.37	612850.22	1051.04	76.84
QMR88504	6101230.74	612782.90	1049.83	90.12
QMR88505	6101452.15	612955.31	1052.12	114.40
QMR88506	6101034.50	612999.20	1108.90	72.06
QMR88507	6100847.72	613208.68	1121.58	59.34
QMR88508	6101238.58	613123.09	1136.00	192.48
QMR88509	6101775.38	612708.72	885.30	47.28
QMR88510	6101889.64	612654.24	857.62	11.00
QMR89501	6101813.84	612933.80	957.87	154.86
QMR89502	6101644.43	612837.27	947.79	103.26
QMR89503	6101111.34	612642.08	993.07	48.36
QMR89504	6101295.93	612699.55	1018.82	60.62
QMR89505	6101224.03	612738.00	1031.69	57.06
QMR89506	6101430.48	612819.26	1023.02	51.08
QMR89507	6101374.97	612742.29	1020.48	57.66
QMR89508	6100911.04	613023.54	1079.76	78.00
QMR89509	6100950.51	612925.67	1066.56	96.22
QMR89510	6100949.17	612924.82	1066.62	189.00
QMR89511	6100861.33	613107.54	1083.47	161.62
QMR89512	6101087.33	612902.33	1083.98	78.62
QMR89513	6100937.81	613131.13	1131.51	75.38
QMR89514	6100792.55	613410.02	1188.16	81.62
QMR89515	6100684.76	613545.51	1202.09	60.72
QMR89516	6100562.66	613691.29	1221.61	72.16
QMR89517	6100470.22	613648.16	1215.72	69.82
QMR89518	6100468.91	613647.50	1215.88	102.76
QMR89519	6100370.56	613773.52	1243.32	61.00
QMR89520	6100371.14	613774.74	1242.81	81.12
QMR89521	6100374.29	613774.87	1242.69	102.82
QMR89522	6100987.97	613255.90	1216.05	149.08
QMR89523	6100837.47	613523.87	1252.46	146.00
QMR89524	6100616.30	613743.96	1264.72	155.52
QMR89525	6100454.51	613949.85	1285.64	147.70
QMR89526	6101074.99	613116.04	1177.40	124.44
QMR89527	6101180.28	612955.44	1103.92	121.70
QMR89528	6101233.00	612635.71	993.85	39.44
QMR89529	6101155.30	612569.65	975.25	33.32
QMR89530	6101578.31	612775.09	951.99	45.56
QMR89531	6102097.10	612843.71	852.63	52.70
QMR89532	6102231.46	612904.71	851.85	60.62
**********				=========
49.				5287.10

Table 2.3

DIAMOND DRILLING SUMMARY

TRANSFER AND GRIZZLY

Hole	Northing UTM	Easting UTM	Elevation m	Depth m
QJD7643	6095755.82	619441.10	1641.49	264.50
QHD84004	6095357.44	624377.18	875.76	109.62
QHD85001	6095479.72	620842.46	1543.20	150.00
QHD85002	6096247.89	620665.99	1549.76	225.00
QHD86001	6096557.33	623975.75	953.93	147.00
QHD86002	6096236.98	623500.76	1095.53	120.40
QHD86003	6096400.24	619865.63	1532.05	225.86
QHD86004	6095039.71	621025.49	1328.95	63.70
QHD86005	6095040.51	621025.89	1329.25	178.31
QHD86006	6095648.46	621718.59	1325.06	99.06
QHD86007	6095276.73	622427.33	1292.95	138.68
QHD86008	6095971.61	621225.68	1413.39	169.50
QHD87001	6096689.55	623618.59	1021.15	160.79
QHD87002	6096678.45	623250.51	1081.36	99.12
QHD87003	6095802.93	623915.72	996.29	177.52
QHD87004	6095885.15	620622.54	1589.74	151.10
QHD87005	6096045.68	620230.28	1573.26	185.78
QHD87006	6096478.67	620295.84	1486.07	202.44
QHD87007	6095442.39	622018.43	1329.15	120.63
QHD87008	6094538.83	621727.19	1167.00	138.62
QHD87009	6095088.70	622957.50	1108.43	105.14
QHD87010	6094879.67	623642.35	894.89	158.55
QHD87011	6095267.55	623875.17	877.77	189.12
QHD87012	6096170.57	624826.02	818.91	155.24
QHD88001	6096312.30	619063.44	1556.25	232.21
QHD88002	6095006.23	620510.67	1464.97	247.50
QHD88003	6094667.81	621309.94	1171.43	120.42
QHD88004	6094804.78	624224.66	814.20	115.60
QHD88005	6094924.77	623402.79	987.16	147.06
QHD88006	6094505.45	621847.87	1168.49	73.76
QHD88007	6094857.37	624457.14	778.71	129.42
QHD88008	6095046.29	624356.10	826.64	195.80
QHD88009	6094925.76	624248.98	828.72	153.80
QHD88010	6094638.05	623985.61	827.92	91.74
QHD88011	6094780.64	624397.61	779.57	100.90
QHD88012	6094785.20	624763.91	776.48	107.59
QHD89001	6094965.93	621172.33	1305.05	308.66
QHD89002	6094828.12	621422.73	1256.73	120.68
				========
				5880.82

****

Table 2.3 (Continued)

DIAMOND DRILLING SUMMARY

MESA NORTH EXTENSION

Hole	Northing UTM	Easting UTM	Elevation m	Depth m
QMD86001	6100003.47	614370.14	1510.87	223.98
QMD88003	6100962.80	613524.60	1302.30	232.20
QMD88004	6100180.45	614348.19	1430.19	212.50
QMD89501	6101941.72	613011.93	947.17	172.50
QMD89502	6101191.93	613205.07	1154.09	218.88
QMD89503	6100743.42	613692.71	1261.44	185.08
				1245.14

****

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

Drill Hole	Component Sample #	Core Interval (m)	Seam	Composite #
QHD84004	QHD84004-7	31.30 - 31.93	F1/F2P(F1+F2)+	
	QHD84004-8	31.93 - 35.27	F2	QH844-14-F
	QHD84004-9	35.27 - 35.97	F2 lower	-
	QHD84004-4	55.46 - 57.36	G1	
	QHD84004-5	57.36 - 57.93	G2P(G2PROC)	QH844-15-G
	QHD84004-6	57.93 - 58.89	G2	
	QHD84004-3J1	80.40 - 85.37	J (J1)	QH844-16-J1
	QHD84004-2J3	86.58 - 87.63	K1 (J3)	QH844-17-J3
	QHD84004-1	91.37 - 92.06	K2 (K seam)	-
QHD85001	1	17.21 - 18.15	D1 (D)	1
	2	45.69 - 45.89	E3 (E1)	2-4
	3	45.89 - 46.14	E3 (E2P)	2-4
	4	46.14 - 46.54	E3 (E2)	2-4
	5	69.58 - 70.83	F1/F2P	5-8
	6	70.83 - 72.45	F2 (F2)	5-8
	7	72.45 - 72.78	F2 (F3P)	5-8
	8	72.78 - 74.89	F2 (F3)	5-8
	9	99.24 - 100.20	G1	
	10	100.20 - 100.51	G2P	
	11	100.51 - 101.39	G2	9-13
	12	101.39 - 101.93	G3P	
	13	101.93 - 102.87	G3	
	14	116.91 - 117.62	J (J1)	14-15
	15	117.62 - 121.43	J (J2)	14-15
	16	121.43 - 122.53	K1P	-
	17	122.53 - 123.43	K1	17
	18	123.43 - 124.41	K2P	-
	19	124.41 - 125.23	K2	19
QHD85002	20	37.73 - 38.74	B	20
	21	98.98 - 100.31	D1/D2 (D)	21
	22	117.80 - 118.35	E1	22-27
	23	118.35 - 118.81	E2P	22-27
	24	118.81 - 119.20	E2 (E2)	22-27
	25	119.20 - 119.52	E2 (E3P)	22-27
	26	119.52 - 120.31	E2 (E3)	22-27
	27	121.67 - 122.77	E3 (E4)	22-27

+Items in parentheses are previous sample identifications

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD85002B	Q86-1081	144.90 - 145.43	F1	T-24
	Q86-1082	145.43 - 146.04	F2P	
	Q86-1083	146.04 - 147.10	F2	
	Q86-1084	147.10 - 147.27		
	Q86-1052	172.60 - 173.55	G1	T-17
	Q86-1053	173.55 - 173.73	G2P	
	Q86-1054	173.73 - 174.43	G2	
	Q86-1018	191.28 - 195.94	J	T-4
	Q86-1019	195.94 - 196.93	K1P	
	Q86-1020	196.93 - 198.08	K1	
	Q86-1021	198.08 - 198.80	K2P	
	Q86-1022	198.80 - 200.16	K2	
QHD86001*	Q86-1074	51.65 - 52.38	F1	T-22
	Q86-1075	52.38 - 52.70	F2P	
	Q86-1076	52.70 - 55.78	F2	
	Q86-1077	55.78 - 56.45	F2 lower	-
	Q86-1043	90.46 - 90.72	G1	T-15
	Q86-1044	90.72 - 91.07	G2P	
	Q86-1045	91.07 - 92.03	G2	
	Q86-1046	92.03 - 92.96	G3P	
	Q86-1047	92.96 - 94.28	G3	
	Q86-1010	115.86 - 120.56	J	T-2
	Q86-1011	120.56 - 121.00	K1P	
	Q86-1012	121.00 - 122.60	K1	
	Q86-1013	127.25 - 127.85	K2	-
QHD86002*	Q86-1078	38.31 - 38.96	F1	T-23
	Q86-1079	38.96 - 39.37	F2P	
	Q86-1080	39.37 - 42.12	F2	
	Q86-1048	77.60 - 77.82	G1/G2P	T-16
	Q86-1049	77.82 - 78.63	G2	
	Q86-1050	78.63 - 79.14	G3P	
	Q86-1051	79.14 - 80.90	G3	
	Q86-1014	95.56 - 100.49	J	T-3
	Q86-1015	100.49 - 101.05	K1P	
	Q86-1016	101.05 - 102.33	K1	
	Q86-1017	105.60 - 106.33	K2	-
QHD86003	Q86-1085	130.66 - 131.40	F1/F2P	T-25
	Q86-1086	131.40 - 133.24	F2	
	Q86-1087	133.24 - 133.49		
	Q86-1088	133.49 - 135.58		

*Intervals derived from summary sheets and quality sheets.

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD86003 (continued)	Q86-1055	163.28 - 163.81	G1	T-18
	Q86-1056	163.81 - 163.97	G2P	
	Q86-1057	163.97 - 165.10	G2	
	Q86-1058	165.10 - 165.44	G3P	
	Q86-1023	183.90 - 188.68	J	T-5
	Q86-1024	188.68 - 189.48	K1P	
	Q86-1025	189.48 - 190.47	K1	
	Q86-1026	192.00 - 193.14	K2	T-6
QHD86005*	Q86-1106	13.75 - 16.01	D1	T-29
	Q86-1027	146.80 - 151.38	J	T-7
	Q86-1028	151.38 - 152.61	K1P	
	Q86-1029	152.61 - 153.52	K1	
	Q86-1030	154.76 - 155.84	K2	T-8
QHD86006*	Q86-1089	11.16 - 12.05	F1	T-26
	Q86-1090	12.05 - 12.49	F2P	
	Q86-1091	12.49 - 12.91	F2	
	Q86-1092	12.91 - 13.02		
	Q86-1059	41.76 - 42.66	G1	T-19
	Q86-1060	42.66 - 42.86	G2P	
	Q86-1061	42.86 - 43.87	G2	
	Q86-1062	43.87 - 44.27	G3P	
	Q86-1063	44.27 - 45.70	G3	
	Q86-1010	65.50 - 70.45	J	T-9
	Q86-1011	70.45 - 71.64	K1P	
	Q86-1012	71.64 - 72.66	K1	
	Q86-1034	73.88 - 75.10	K2	T-10
QHD86007	Q86-1093	42.84 - 43.73	F1	T-27
	Q86-1094	43.73 - 44.36	F2P	
	Q86-1095	44.36 - 46.57	F2	
	Q86-1096	46.57 - 46.62		
	Q86-1097	47.43 - 47.96		
	Q86-1098	47.96 - 49.02		
	Q86-1064*	72.60 - 73.39	G1	T-20
	Q86-1065*	73.39 - 73.56	G2P	
	Q86-1066*	73.56 - 74.69	G2	
	Q86-1067*	74.69 - 75.04	G3P	
	Q86-1068*	75.04 - 76.32	G3	
	Q86-1035*	98.46 - 104.57	J	T-11
	Q86-1036*	104.57 - 105.40	K1P	
	Q86-1037*	105.40 - 106.81	K1	
	Q86-1038*	110.17 - 111.37	K2	T-12

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD86008	Q86-1099	79.40 - 80.45	F1		
	Q86-1100	80.45 - 80.89	F2P		
	Q86-1101	80.89 - 81.95	F2		T-28
	Q86-1102	81.95 - 81.99			
	Q86-1103	81.99 - 83.29			
	Q86-1104	83.29 - 83.42			
	Q86-1105	83.42 - 84.40			
	Q86-1069	125.05 - 126.34	G1		
	Q86-1070	126.34 - 126.48	G2P		
	Q86-1071	126.48 - 127.75	G2		T-21
	Q86-1072	127.75 - 128.38	G3P		
	Q86-1073	128.38 - 129.88	G3		
	Q86-1039	152.94 - 160.02	J		
	Q86-1040	160.02 - 161.01	K1P		T-13
	Q86-1041	161.01 - 162.61	K1		
	Q86-1042	165.64 - 166.97	K2		T-14
QHD87001	1000	67.94 - 68.91	F1		C1
	1001	69.15 - 73.15	F2		
	1002	73.15 - 73.61	F2 lower		-
	1003	118.04 - 118.46	G1		C2
	1004	118.46 - 118.82	G2P		
	1005	118.82 - 119.88	G2		
	1006	119.88 - 120.79	G3P		*
	1007	120.79 - 122.16	G3		C2
	1008	141.76 - 147.69	J		C3
QHD87002	1009	17.14 - 17.71	F1		C4
	1010	17.71 - 18.00	F2P		
	1011	18.00 - 20.55	F2		
	1012	20.55 - 20.87	F2 lower (F3)		-
	1014	61.85 - 62.44	G1/G2P		C5
	1015	62.44 - 63.57	G2		
	1016	63.57 - 63.77	G3P		
	1017	63.77 - 64.57	G3		
	1018	82.25 - 87.45	J		C6
	1019	87.45 - 87.89	K0P K1P		-
	1020	87.89 - 88.21	K0		-
	1021	88.21 - 89.83	K1		C7
	1022	92.68 - 93.48	K2		C8*

*Not included in composite

*No composite analysis - Petrography and component analysis only

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD87003	1147	24.17 - 24.80	D1		C49
	1148	24.80 - 25.24	D2P		
	1149	25.24 - 25.98	D2		
	1023	82.64 - 83.17	F1		C9
	1024	83.17 - 83.53	F2P		
	1025	83.53 - 87.22	F2		
	1013	87.22 - 87.60	F2 lower (F3)		-
	1026	109.89 - 110.69	G2		C10
	1027	110.69 - 111.33	G3P		
	1028	111.33 - 112.09	G3		
	1029	129.08 - 133.22	J		C11
	1030	133.22 - 133.94	K0P	K1P	-
	1031	133.94 - 134.40	K0	K1P	-
	1032	134.40 - 135.41	K1		C12
QHD87004	1033	85.14 - 86.56	G1-A		-
	1034	86.79 - 87.78	G1		C13
	1035	87.78 - 87.98	G2P		
	1036	87.98 - 88.84	G2		
	1037	88.84 - 89.56	G3P		
	1038	89.56 - 90.48	G3		
	1039	104.60 - 108.60	J		C14
	1040	108.60 - 109.35	K0P	K1P	-
	1041	109.35 - 109.62	K0	K1P	-
	1042	109.62 - 110.61	K1		C15
	1043	110.61 - 111.28	K2P		-
	1044	111.28 - 112.53	K2		C16
QHD87005	1141	15.47 - 18.63	B		C50
	1142	100.96 - 101.96		(E)	-
	1143	101.96 - 102.25	E2	(E)	-
	1144	102.25 - 102.50		(E)	-
	1145	103.64 - 104.45	E3	(E)	-
	1146	104.45 - 105.02		(E)	-
	1045	123.48 - 124.09	F1		C17
	1046	124.09 - 124.55	F2P		
	1047	124.55 - 127.44	F2		
	1048	157.47 - 158.67	G1		C18
	1049	158.67 - 158.75	G2P		
	1050	158.75 - 159.61	G2		
	1051	159.61 - 160.18	G3P		
	1052	160.18 - 161.33	G3		
	1053	175.50 - 180.40	J		C19
	1054	183.85 - 184.96	K2		C20

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD87006	1136	15.43 - 16.58	B	C51
	1137	83.08 - 84.30	D1/D2 (D)	-
	1138	105.93 - 106.46	E1	-
	1139	106.46 - 106.89	E2P (E)	-
	1140	106.89 - 108.25	E2	C52
	1055	135.77 - 136.23	F1	C21
	1056	136.23 - 136.94	F2P	
	1057	136.94 - 140.41	F2	
	1058	161.71 - 163.02	G1	-
	1059	164.65 - 166.02	G3	-
	1060	186.83 - 192.19	J	C22
	1061	192.19 - 192.70	KOP (K1P)	-
	1062	192.70 - 193.26	KO	-
	1063	193.26 - 194.26	K1	-
	1064	195.39 - 196.41	K2	C23
	1065	196.41 - 197.17	K2 lower	
QHD87007	1066	32.22 - 33.40	F1	C24
	1067	33.40 - 33.95	F2P	
	1068	33.95 - 38.68	F2	
	1069	72.66 - 73.93	G1	C25
	1070	73.93 - 74.15	G2P	
	1071	74.15 - 75.62	G2	
	1072	75.62 - 76.00	G3P	
	1073	76.00 - 78.50	G3	
	1074	103.12 - 109.99	J	C26
	1075	111.76 - 113.28	K1	-
	1076	116.54 - 118.16	K2	-
QHD87008	No Samples Taken			
QHD87009	1077	24.70 - 25.34	F1	C27
	1078	25.34 - 25.71	F2P	
	1079	25.71 - 27.56	F2	
	1080	61.08 - 61.93	G1	C28
	1081	61.93 - 62.10	G2P	
	1082	62.10 - 63.23	G2	
	1083	63.23 - 63.65	G3P	
	1084	63.65 - 65.20	G3	
	1085	88.12 - 93.94	J	C29

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD87010	1133	22.18 - 23.40	E3	(E)	C53A
	1134	23.40 - 23.76			-
	1135	23.76 - 24.03			C53
	1086	89.91 - 90.82	G1		-
	1087	90.82 - 91.13	G2P		-
	1088	91.13 - 91.94	G2		C30
	1089	91.94 - 92.40	G3P		-
	1090	92.40 - 94.48	G3		-
	1091	114.91 - 117.62	J		C31
	1092	117.62 - 118.24	KOP	K1P	-
	1093	118.24 - 118.80	KO		-
	1094	118.80 - 119.81	K1		C32
	1095	128.06 - 131.11	K2		C33
QHD87011	1127	61.40 - 62.22	D1		-
	1128	62.22 - 62.64	D2P	(D)	-
	1129	62.64 - 63.47	D2		-
	1130	97.80 - 98.39			-
	1131	98.39 - 98.72	E3	(E)	-
	1132	98.72 - 99.07			-
	1096	121.53 - 121.92	F1		
	1097	121.92 - 122.08	F2P		C34
	1098	122.08 - 125.93	F2		
	1099	146.22 - 147.27	G1		
	1100	147.27 - 147.59	G2P		
	1101	147.59 - 148.41	G2		C35
	1102	148.41 - 148.88	G3P		
	1103	148.88 - 150.42	G3		
	1104	170.19 - 175.22	J		C36
	1105	175.22 - 175.76	KOP	K1P	-
	1106	175.76 - 176.36	KO		-
	1107	176.36 - 177.43	K1		C37
QHD87012	1120	24.66 - 26.41	D1		
	1121	26.41 - 26.74	D2P	(D)	C54
	1122	26.74 - 27.64	D2		
	1123	46.80 - 47.18	E3P		-
	1124	47.18 - 48.11			-
	1125	48.11 - 48.49	E3	(E)	-
	1126	48.49 - 48.85			-
	1108	71.44 - 72.01	F1		
	1109	72.01 - 72.43	F2P		C38
	1110	72.43 - 76.51	F2		
	1111	118.83 - 119.16	G1-A		
	1112	119.16 - 119.27	G2P		C39
	1113	119.27 - 120.73	G2		
	1114	120.73 - 121.96	G3P		-
	1115	121.96 - 123.22	G3		C40

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD87012	1116	141.94 - 148.00	J		C41
(continued)	1117	148.00 -(148.64)	KOP	K1P	-
	1118	(148.64)- 149.30	KO	K1P	-
	1119	149.30 - 150.90	K1		C42
QHD88002	3113	12.44 - 13.92	E		C-117
	3114	16.78 - 17.48	E		-
	3115	17.48 - 18.02	E Floor		-
	3116	35.76 - 36.56	F1		C-118
	3117	36.56 - 37.22	F2P		C-118
	3118	37.22 - 38.92	F2		C-118
	3119	38.92 - 39.23	F2P		C-118
	3120	39.23 - 40.96	F2 Lower		C-118
	3121	40.96 - 41.51	F2P		-
	3122	56.58 - 57.60	G1		C-119
	3123	57.60 - 57.78	G2P		C-119
	3124	57.78 - 58.78	G2		C-119
	3125	58.78 - 59.13	G3P		C-119
	3126	59.13 - 60.18	G3		C-119
	3127	60.18 - 60.39	G3 Floor		-
	3128	74.95 - 77.97	J		C-120
	3129	77.97 - 78.52	K1P		-
	3130	78.52 - 79.10	K1		C-121
QHD88003	3046	41.05 - 42.40	G1		-
	3051	42.40 - 42.73	G2P		-
	3052	42.73 - 43.84	G2 Upper		-
	3053	44.20 - 46.80	G2		-
	3054	46.80 - 47.54	G3P		-
	3055	47.54 - 52.62	G3		-
	3056	81.76 - 86.43	J		-
	3057	89.04 - 90.43	K2		-
QHD88004	3131	81.50 - 82.26	K2		-
QHD88005	3058	6.34 - 7.32	E3		-
	3059	32.57 - 33.26	F1		C-122
	3060	33.26 - 33.52	F2P		C-122
	3061	33.52 - 35.75	F2		C-122
	3062	35.75 - 36.49	F2 Lower		-
	3063	36.49 - 36.72	F2 Lower P		-
	3064	36.72 - 38.30	F2 Lower		-
	3065	38.30 - 38.38	F2 Floor O		-
	3066	81.48 - 82.47	G1		C-123**
	3067	82.47 - 83.48	G2P		-
	3068*	84.12 - 85.37 and	G2 and		-
		86.24 - 86.91	G3		-

*

** Core incorrectly placed in storage boxes, resulting in erroneous sampling. Proximate analysis only

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD88005	3069	115.41 - 115.63	J Roof	C-124
(continued)	3070	115.63 - 122.51	J	
	3071	122.51 - 123.85	K1P	-
	3072	123.85 - 125.34	K1	C-125**
	3073	137.36 - 138.44	K2	C-126
	3074	138.44 - 138.66	K2 Floor	-
QHD88006	3075	6.54 - 7.90	E	-
	3076	15.66 - 15.80	F1 Roof	-
	3077	15.80 - 16.61	F1	C-127
	3078	16.61 - 17.05	F2P	
	3079	17.05 - 18.37	F2	
	3080	18.37 - 19.31	F2P	
	3081	19.31 - 20.97	F2 Lower	
	3082	34.14 - 34.92	G1	C-128
	3083	34.92 - 35.26	G2P	-
	3084	35.26 - 36.44	G2	-
	3085	36.44 - 36.78	G3P	-
	3086	36.78 - 37.91	G3	C-129
	3087	37.91 - 38.25	G3 Floor	
	3088	39.17 - 40.85	G3 Repeat	-
	3089	65.29 - 69.95	J	C-130
	3090	69.95 - 70.62	K1P Upper	-
	3091	70.62 - 70.92	K1P Lower	-
	3092	70.92 - 71.09	K1 Roof	C-131
	3093	71.09 - 72.22	K1	
QHD88007	3132	63.36 - 64.00	F1/F2P	C-136
	3133	64.00 - 65.91	F2	
	3134	65.91 - 66.75	F2	
	3135	66.75 - 67.76	F2	
	3136	87.14 - 87.86	G1	C-137
	3137	87.86 - 88.18	G2P	
	3138	88.18 - 88.91	G2	
	3139	88.91 - 89.57	G3P	
	3140	89.57 - 90.69	G3	
	3141	111.39 - 113.27	J	C-138
	3142	113.27 - 114.54	J	
	3143	114.54 - 116.13	J	
	3144	117.19 - 117.64	K1 Upper	-
	3145	117.64 - 118.15	K1 Upper	-
	3146	118.15 - 119.61	K1	-
	3147	123.51 - 124.13	K2	C-139
QHD88008	3148	64.34 - 65.20	D	C-140
	3149	65.20 - 65.54	D Parting	
	3150	65.54 - 66.26	D	
	3151	95.72 - 97.15	E	C-141

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD88008 (continued)	3152	120.44 - 120.63	F Roof	
	3153	120.63 - 121.24	F1/F2P	
	3154	121.24 - 123.79	F2	C-142
	3155	123.79 - 124.09	F2 Rock	
	3156	124.09 - 124.42	F2	
	3157	142.74 - 143.54	G1	
	3158	143.54 - 143.80	G2P	
	3159	143.80 - 144.66	G2	C-143
	3160	144.66 - 145.00	G3P	
	3161	145.00 - 146.30	G3	
	3162	175.86 - 177.72		
	3163	177.72 - 178.85	J	C-144
	3164	178.85 - 180.40		
	3165	180.40 - 181.16	K1P	-
	3166	181.16 - 181.34	K1 Upper	-
	3167	181.34 - 181.58		C-145
	3168	181.58 - 182.58	K1	
	3169	187.32 - 187.96	K2	C-146
QHD88009	3170	82.79 - 83.48	F1/F2P	-
	3171	83.48 - 86.02	F2	
	3172	86.02 - 87.47		
	3173	108.04 - 108.96	G1	-
	3174	108.96 - 109.30	G2P	-
	3175	109.30 - 109.87	G2	-
	3176	109.87 - 110.15	G3P	-
	3177	110.15 - 111.56	G3	-
	3178	132.98 - 135.08		C-147
	3179	135.08 - 136.75	J	
	3180	136.75 - 138.25		
	3181	139.48 - 139.70	K1 Upper	C-148
	3182	139.70 - 140.92	K1	
	3183	145.90 - 146.63	K2	C-149
QHD88010	No Samples			
QHD88011	3196	80.96 - 86.16	J	C-150
	3197	86.16 - 87.07	K1P	-
	3198	87.07 - 88.70	K1	-
	3199	93.50 - 94.20	K2	C-151
QHD88012	3184	65.11 - 65.20		
	3185	65.20 - 66.06		
	3186	66.06 - 66.34		
	3187	66.34 - 67.44	G	C-152
	3188	67.44 - 68.00		
	3189	68.00 - 69.31		

Table 2.4
TRANSFER/GRIZZLY
CORE SAMPLING SUMMARY

QHD88012 (continued)	3190	94.89 - 96.93	J	C-153
	3191	96.93 - 97.91		
	3192	97.91 - 99.66		
	3193	99.66 - 100.96	K1P	
	3194	100.96 - 102.17	K1	C-154
	3195	107.25 - 107.83	K2	C-155
QHD89001	4001	56.38 - 59.85	E	-
	4002	158.52 - 162.79	F1	
	4003	162.79 - 163.82	F2P	
	4004	163.82 - 169.29	F2	C-206
	4005	169.29 - 169.64		
	4006	169.64 - 175.24		
	4018	201.57 - 203.56	G1	
	4019	203.56 - 204.16	G2P	
	4020	204.16 - 206.27	G2	C-207
	4021	206.27 - 207.48	G3P	
	4022	207.48 - 209.23	G3	
	4023	209.23 - 210.14	G3 lower	
	4024	248.11 - 250.89	Coal	-
	4025	263.49 - 264.90	Coal	-
	4026	268.72 - 284.75	J	C-208
	4027	284.75 - 286.55	K1P	-
	4028	286.55 - 288.28	K1	C-209
QHD89002	4007	23.60 - 24.17	F	-
	4008	47.34 - 48.97	G1/G2	
	4009	48.97 - 49.45	G3P	C-202
	4010	49.45 - 50.30	G3	
	4011	50.30 - 50.64	G3 lower	
	4012	67.37 - 71.25	J	C-203
	4013	71.25 - 72.06	K1P	-
	4014	72.06 - 72.38		
	4015	72.38 - 73.60	K1	C-204
	4016	75.53 - 76.21	K2	C-205
	4017	76.21 - 76.80		

Table 2.5

MESA NORTH EXTENSION
CORE SAMPLING SUMMARY

Drill Hole	Component Sample #	Core Interval (m)	Seam	Composite #
QMD86001	M861-1	132.52 - 132.92	D3	38
	M861-2	132.92 - 134.69		
	M861-3	134.69 - 134.84	D3 lower	-
	M861-4	136.33 - 136.74	D4U	-
	M861-5	136.74 - 137.64	D4	39
	M861-6	141.31 - 141.53	E1U	-
	M861-7	141.53 - 142.02		-
	M861-8	142.02 - 142.33	E1	40
	M861-9	142.33 - 142.69		
	M861-10	142.69 - 143.85		
	M861-11	143.85 - 144.79	E2P	-
	M861-13	144.79 - 146.18	E2	41
	M861-14	146.18 - 146.36		
	M861-15	146.36 - 148.34		
	M861-16	148.34 - 148.73	E3P	
	M861-18	148.73 - 149.20	E3	
	M861-19	149.20 - 149.56		
	M861-20	149.56 - 150.51		
	M861-21	150.51 - 150.52		-
	M861-22	152.11 - 152.90	E3L	-
	M861-24	152.90 - 153.28		
	M861-25	154.78 - 155.83	E4	42
	M861-26	155.83 - 156.14	E4 parting	-
	M861-27	156.14 - 156.38	E4L	-
	M861-28	165.58 - 165.80	G1	-
	M861-29	165.80 - 166.00	G2 parting	-
	M861-30	166.00 - 167.18	G2	43
	M861-31	167.18 - 167.43	G2 lower	-
	M861-32	192.99 - 193.28	J1 roof	-
	M861-33	193.28 - 198.58	J1	44
	M861-34	198.58 - 199.05	J2P	
	M861-35	199.05 - 200.65	J2	
	M861-36	200.65 - 200.81	J3P	-
	M861-37	200.81 - 201.70	J3 roof	-
	M861-38	201.70 - 202.03	J3	-
	M861-39	202.03 - 202.28		
	M861-40	202.28 - 202.54	J3 floor	-

Table 2.5

MESA NORTH EXTENSION
CORE SAMPLING SUMMARY

Drill Hole	Component Sample #	Core Interval (m)	Seam	Composite #
QMD88003	3094	69.69 - 70.38	B	-
	3095	178.68 - 180.21	D3	C-132
	3096	180.21 - 180.36	D3 floor	-
	3097	181.57 - 181.91	D4 upper	-
	3098	181.91 - 182.23	D4 lower	-
	3099	185.38 - 185.96	E	-
	3100	185.96 - 186.47	E parting	-
	3101	186.47 - 187.52	E	-
	3102	189.29 - 190.19	E	C-133
	3103	190.19 - 190.38	E floor	-
	3104	204.76 - 205.30	E	-
	3105	206.13 - 207.56	E	C-134
	3106	207.56 - 207.88	E floor	-
	3107	209.43 - 210.08	E	C-135
	*3108	210.08 - 210.38	E parting	
	3109	210.38 - 211.82	E	
	3110	211.82 - 212.57	E parting	-
	3111	212.57 - 218.56	E3	-
	3112	222.04 - 223.02	E lower	-

*Sulphur analysis on raw sample.

QMD88004	1	66.21 - 67.57	D3	C-156
	2	67.57 - 68.43		
	3	70.94 - 71.68	D4	C-157
	4	[illegible] - 77.44	E0	
	5	[illegible] 77.92	E1P	
	6	[illegible] - 79.63	E1	
	7	79.63 - 79.86		
	8	79.86 - 80.60	E2P	C-158*
	9	80.60 - 81.10		
	10	81.10 - 82.84	E2	
	11	82.84 - 83.10		
	12	83.10 - 84.31		
	13	86.40 - 87.22	E2 repeat	
	14	87.22 - 88.10		-
	15	98.95 -100.32	E4	C-159
	16	113.92 -114.40	G	-
	17	114.40 -116.24	[illegible]	-
	18	167.10 -179.49	J1/J2	C-160

*Component 12 not included in composite.

Table 2.5

MESA NORTH EXTENSION
CORE SAMPLING SUMMARY

Drill Hole	Component Sample #	Core Interval (m)	Seam	Composite #
QMD89501	4029	18.32 - 19.73	B	C-210
	4030	86.67 - 88.78	D3	C-211
	4031	88.78 - 89.60	D4P	C-211
	4032	89.60 - 90.30	D4	C-211
	4033	90.30 - 91.53	E0P	
	4034	91.53 - 92.56	E0	-
	4035	92.56 - 93.26	E0	-
	4036	93.26 - 93.63	E0	-
	4037	93.63 - 95.00	E1P	-
	4038	95.00 - 95.58	E1	-
	4039	95.58 - 97.28	E1	-
	4040	97.28 - 97.63	E1	-
	4041	97.63 - 98.62	E2P	
	4042	98.62 -101.35	E2	C-212
	4043	101.35 -101.75	E3P	C-212
	4044	101.75 -103.44	E3	C-212
	4045	107.35 -108.09	E3L	C-213
	4046	110.20 -110.55	E4	-
	4047	136.92 -137.76	G	C-214
	4048	155.05 -162.50	J	C-215
QMD89502	4049	109.87 - 111.77	D3	C-216*
	4050	111.77 - 112.16	D4P	C-216*
	4051	112.16 - 112.82	D4	C-216*
	4052	112.82 - 113.10	D4	C-216*
	4053	113.10 - 113.93	D4	C-216*
	4054	118.73 - 120.34	E1/E1 rpt	C-217
	4055	120.34 - 121.98	E1/E1 rpt	C-217
	4056	121.98 - 124.23	E1/E1 rpt	C-217
	4057	124.23 - 125.61	E2P/top E2	C-217
	4058	125.61 - 125.96	E2/E3	C-218
	4059	125.96 - 130.46	E2/E3	C-218
	4060	137.83 - 138.65	E3L/E3Lrpt	C-219
	4061	138.65 - 139.35	E3L/E3Lrpt	C-219
	4062	141.57 - 141.95	E4	-
	4063	175.87 - 176.75	G	C-220
	4064	199.33 - 205.71	J	C-221
	4065	205.71 - 208.51	J	C-221

* Component 4052 not included in composite

Table 2.5

MESA NORTH EXTENSION
CORE SAMPLING SUMMARY

Drill Hole	Component Sample #	Core Interval (m)	Seam	Composite #
QMD89503	4066	82.55 - 82.98	D3	C-222
	4067	82.98 - 87.17		
	4068	87.17 - 89.31	D4P	-
	4069	89.31 - 92.10	D4	C-223
	4070	100.92 - 102.67		
	4071	102.67 - 103.29		
	4072	103.29 - 104.66	E1	C-224
	4073	104.66 - 105.78		
	4074	105.78 - 106.80		
	4075	106.80 - 107.44		
	4076	107.44 - 108.37	E2P	
	4077	108.37 - 109.89		
	4078	109.89 - 110.94	E2	C-225
	4079	110.94 - 113.30		
	4080	113.30 - 113.80	E3P	
	4081	113.80 - 114.40	E3	
	4082	114.40 - 114.72		-
	4083	118.68 - 119.64	E3L	C-226
	4084	122.18 - 123.45	E4	C-227
	4085	134.85 - 136.61	G	C-228
	4086	167.95 - 171.83	J	C-229
	4087	171.83 - 174.22		

Table 2.6 1 of 2

TRANSFER AND GRIZZLY

Geotechnical Drill Hole Summary

Drill Hole	Inclination (°)	Total Depth (m)	Collar Elevation (m asl)	Piezometer/Standpipe Label	Depth (m)	Stratigraphic Location
QHD86006*	60	99.20	1,325.06	P1	96.90	Below K2
				P2	69.30	J Seam
				S3	38.70	Above G
QHR87033*	90	99.00	1,437.70	P1	95.90	Below K2
				S2	71.60	J Seam
QHR87024*	90	131.00	1,564.25	P1	97.20	Below G
				P2	69.45	Below F&G
				P3	37.80	Above F
QHR87023*	90	173.00	1,601.62	P1	169.50	Below K2
				P2	130.50	Across G
				P3	104.80	F Seam
QHR87017*	90	165.20	1,014.93	P1	161.35	Below K2
				P2	135.15	Top of J
				S3	127.20	Below G
QHR87013*	65	144.00	1,041.15	P1	139.63	Below K2
				P2	118.02	Between G&J
				S3	100.70	Above G
QHR87007*	90	171.20	1,117.65	P1	169.75	Below K2
				P2	133.60	Across G
				S3	110.00	Between F&G
QHR87004*	65	123.00	931.67	P1	100.40	Top of J
				P2	64.34	Between F&G
				S3	52.80	Below F
QHR88701	90	16.50	778.42		-	-
QHR88702	90	72.60	793.49		72.54	Overburden
					17.37	Overburden
QHR88703	90	45.70	788.71		-	Overburden
QHR88704	90	50.60	781.02		50.60	Overburden
					21.95	Overburden
QHR88705	90	31.10	775.42		-	Overburden
QHR88706	90	55.50	775.85		38.40	Overburden

Table 2.6

TRANSFER AND GRIZZLY

Geotechnical Drill Hole Summary

Drill Hole	Inclination (°)	Total Depth (m)	Collar Elevation (m asl)	Piezometer/Standpipe Label	Depth (m)	Stratigraphic Location
QHR88031*	90	114.00	797.34		114.36	Below K2
QHR88033*	90	121.00	822.08		121.00	Below K2
QHD88007*	90	129.84	778.71		129.84	Below K2
QHD88011*	90	97.80	779.57		97.80	Below K2
QHD88012*	90	107.59	776.48		107.59	Below K2

*Note: Summary information for these drill holes are included in the Rotary and Diamond Drilling summary tables.

Table 2.7

MESA NORTH EXTENSION
ROTARY SAMPLING ANALYSIS

Drill Hole	Seam	Sample Interval (m)	Ash %	F.S.I
QMR89514	J	63.0-65.5	15.61	5.0
		65.5-68.0	6.55	7.5
		68.0-70.5	18.45	6.0
		70.5-73.0	39.44	2.5
		73.0-75.1	14.30	6.5

Note: G seam was drilled prior to sampler's arrival.

QMR89516	E3U*	5.0.- 6.0	62.44	0
	E3L*	10.5-11.5	34.49	1.0
	E4*	13.0-14.0	23.61	0.5
	G	23.0-24.0	16.02	3.0
	J	48.0-50.5	27.11	1.5
		50.5-53.0	8.93	7.5
		53.0-55.5	35.53	3.5
		55.5-58.0	39.17	2.0
		58.0-60.5	35.33	1.5
		60.5-63.0	16.82	3.0
		63.0-63.5	59.89	1.0
	Coal	64.0-64.5	53.34	1.0

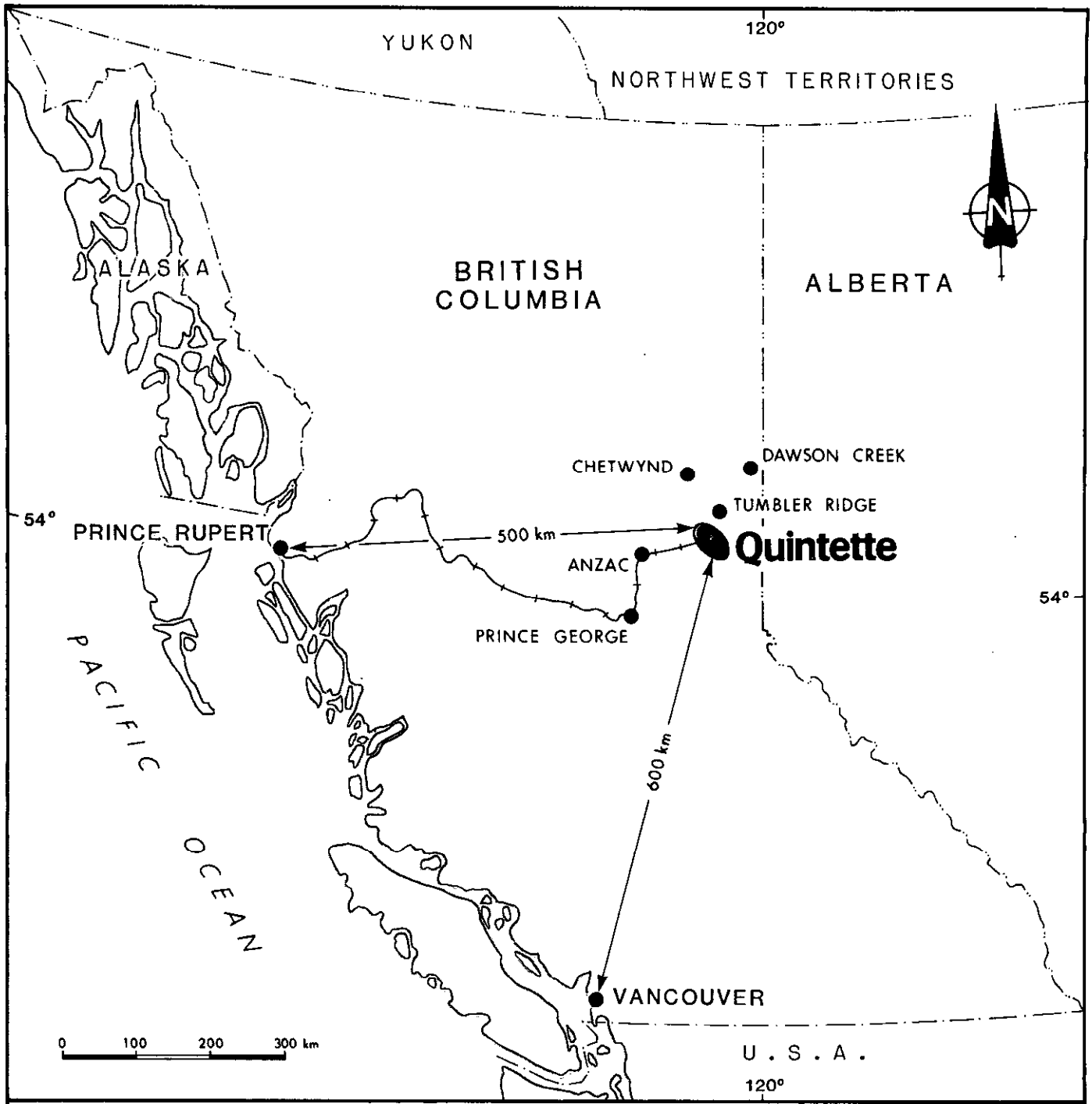
*Unscreened raw analysis.

Table 2.8

TRANSFER AND GRIZZLY ADIT SUMMARY

Area	Adit #	UTM (Portal) Northing	Easting	Elevation	Length	Seams
		m	m	m	m	
Grizzly	QHA87001	6095325.99	624536.73	854.44	34.3	J, K1
	QHA87002	6095311.63	624502.24	858.67	39.3	G
	QHA87003	6095276.27	624481.29	851.26	38	F
	QHA89001	6096399.28	624039.72	942.17	68.9	J,K1
Transfer	QHA87004	6095890.45	620942.38	1502.52	45	F
	QHA87005	6095711.51	621260.97	1424.55	44	J, K1,K2
	QHA87006	6095747.71	621265.62	1423.45	49.5	G
Total Driveage					**320.0**	

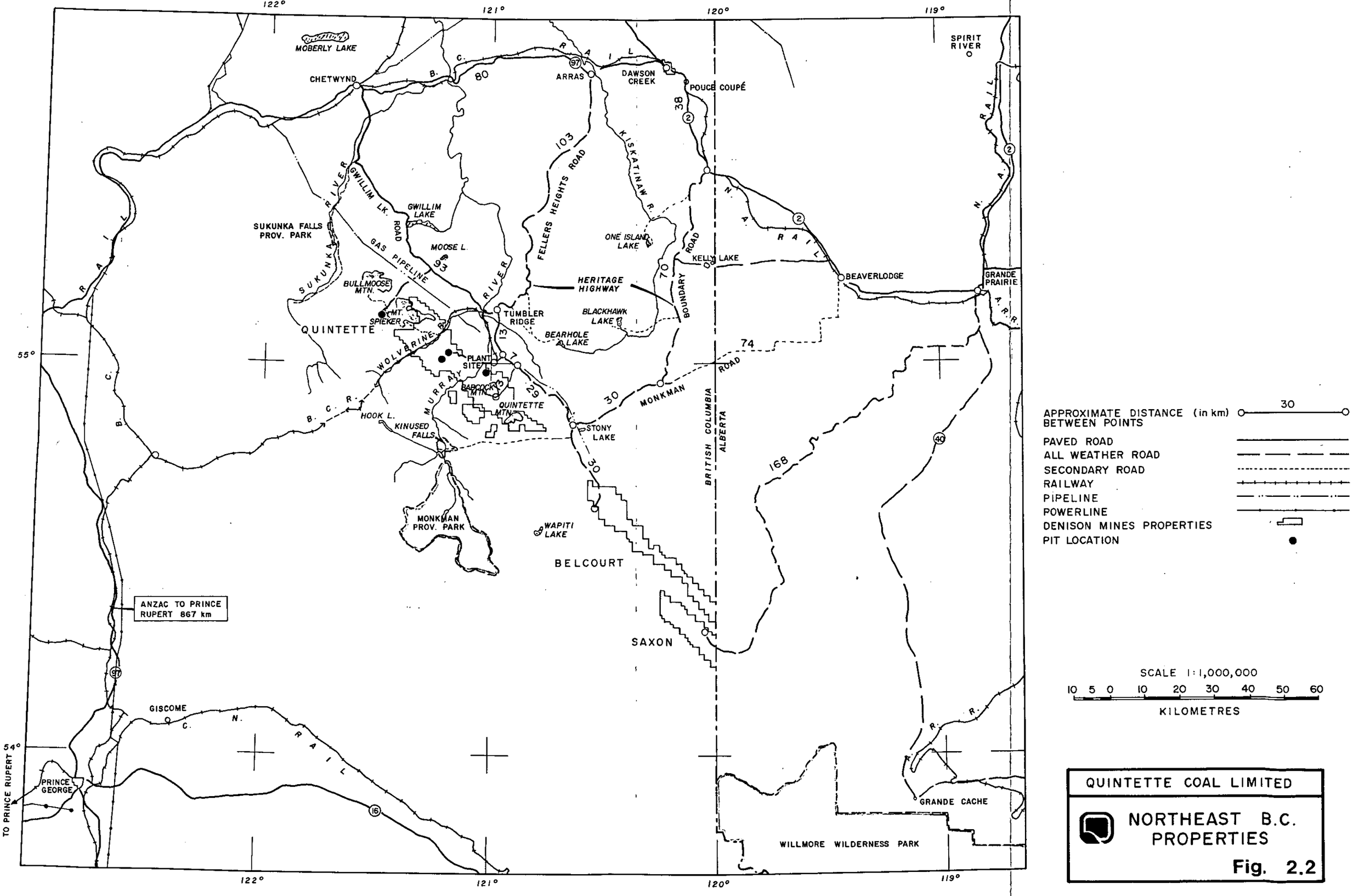
NOTE: 1987 adits (QHA87002 through QHA87006) were resampled in 1989.



Quintette Coal Limited

GENERAL LOCATION

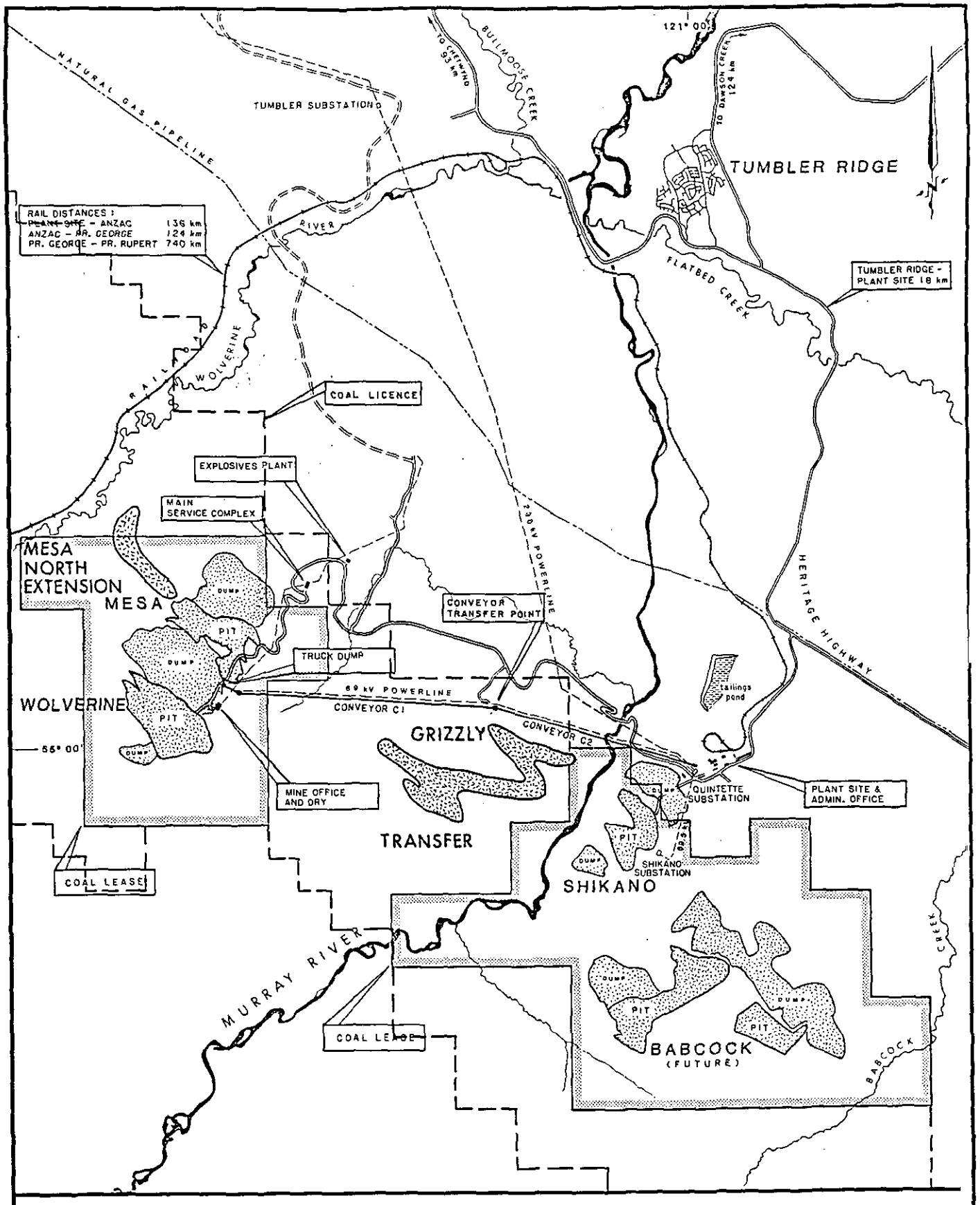
Fig. 2.1



QUINTETTE COAL LIMITED

NORTHEAST B.C. PROPERTIES

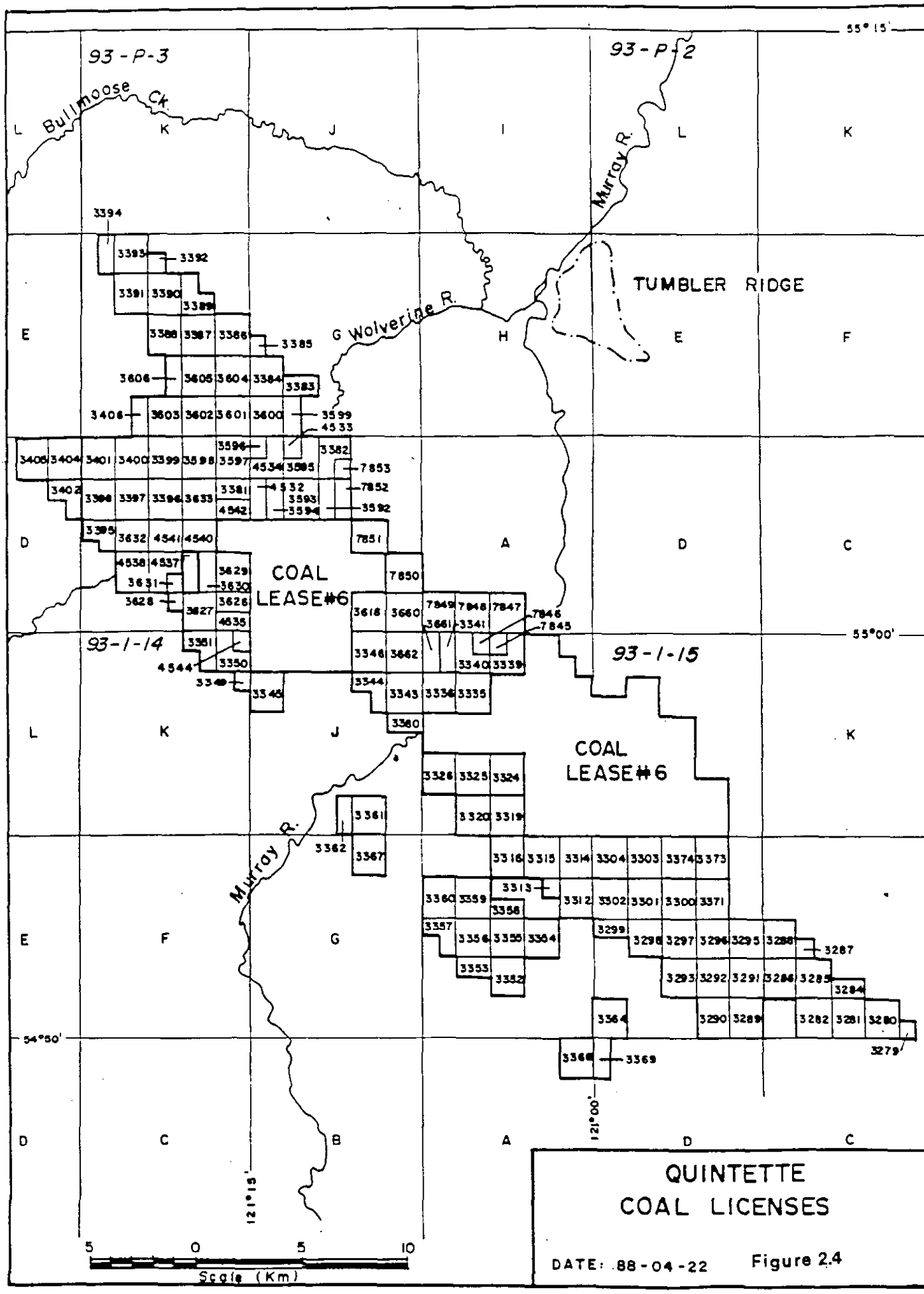
Fig. 2.2



QUINTETTE COAL LIMITED

SITE INFASTRUCTURE

Fig. 2.3



QUINTETTE COAL LICENSES

DATE: 88-04-22

Figure 2.4

QUINTETTE COAL LIMITED

1985 - 89 DRILL CORE ANALYSIS FLOW DIAGRAM

(+40% Core Recovery)

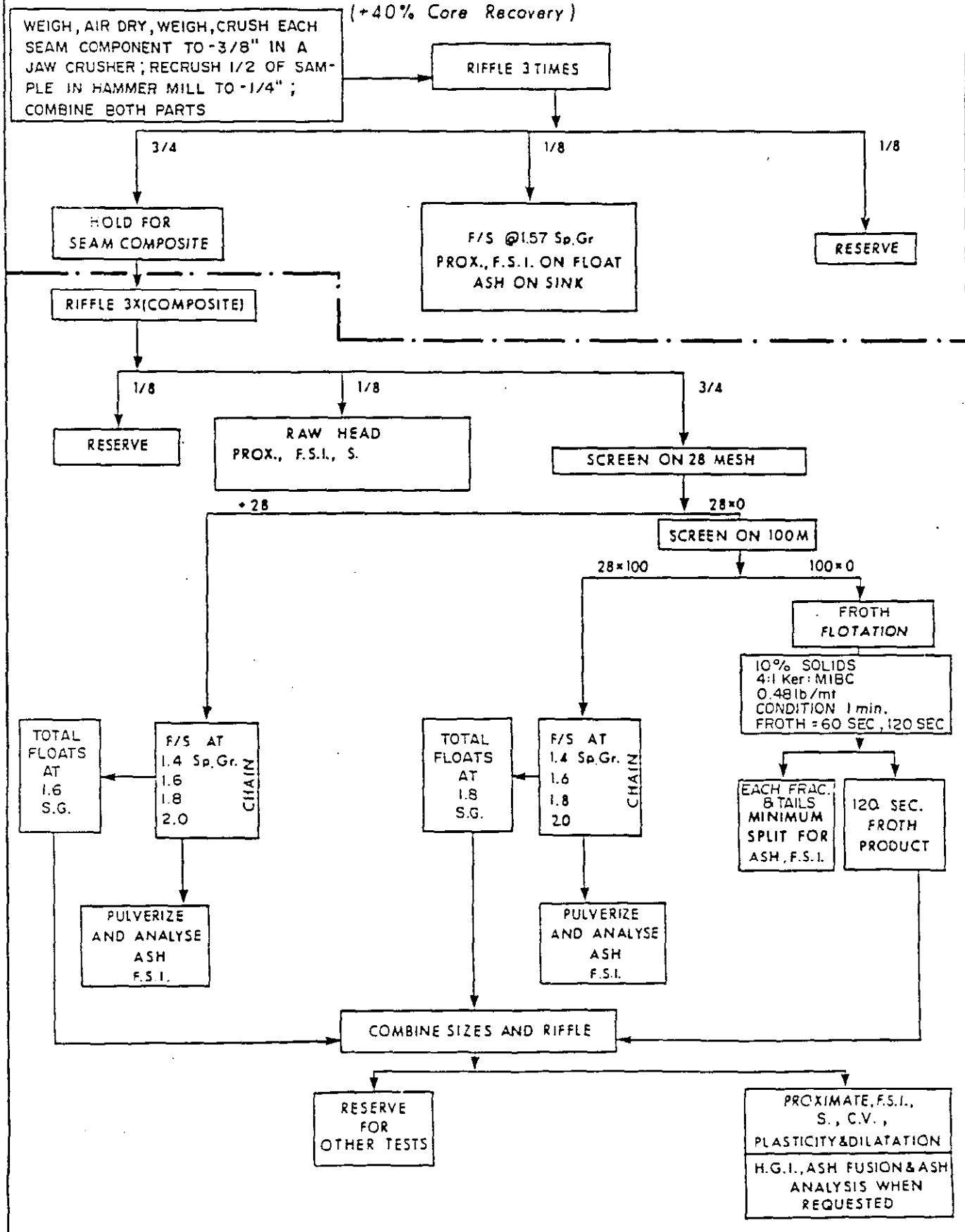


Fig. 2.5

3.0 GEOLOGY

3.1 REGIONAL STRATIGRAPHY

The stratigraphic succession exposed on the Quintette property ranges from Upper Jurassic to Lower Cretaceous in age. It consists of an interfingering of shales and sands both marine and continental in origin. Most of the coal-bearing strata is derived from deltaic and near-shore environments. The table of formations for Quintette is outlined in Figure 3.1 and indicates general formation thickness ranges and coal zones. The coal seams of economic thickness and quality are found in the Gates and Gething Formations. The regional distribution of these formations is illustrated on the Regional Geology Map in Appendix T.5.3. Further descriptions of the formations encountered at QCL can be found in previous QCL Geological Reports. Table 3.1 summarizes formation thicknesses in Transfer and Grizzly.

3.2 LOCAL STRATIGRAPHY

3.2.1 Transfer

The stratigraphic sequence drilled and exposed in the Transfer Area is the Boulder Creek Formation, Hulcross Formation, Gates Formation, Moosebar Formation and Gething Formation. The Geology Maps (Appendix T.5) illustrate the distribution of these stratigraphic units, where they are exposed, and the position of the economic coal seams.

Boulder Creek Formation

The Boulder Creek Formation, the uppermost unit exposed in the Transfer Area, is distributed in the northeast limb of the Transfer Anticline and in the core of the Transfer Syncline. This formation consists mainly of massive sandstone and conglomerate with minor shale and thin inferior coal seams. It is known to create ridges in this region. In the Transfer Area, a ridge formed by the lower part of the Boulder Creek Formation is conspicuous and easily traced both in the field and on the topography maps. The formation thickness is estimated at approximately 130 metres.

Hulcross Formation

The Hulcross Formation is conformably overlain by the Boulder Creek Formation. It is essentially characterized by homogeneous dark grey marine shales/siltstones interbedded with very fine sandstones. Intermittent thin beds of sandstone, calcareous shale and bentonite have been identified within this sequence as well. In the top and bottom 5 metres of the formation, siltstone is dominant and contains interbeds of shale. The base of the formation is marked by a thin bed of pebble conglomerate or coarse sandstone. The thickness of the Hulcross Formation is approximately 90 to 100 metres.

Owing to its very fine grained nature, the Hulcross Formation has little definitive outcrop being exposed only where there is high relief, although the access road from the Gething to the Transfer Area provides good continuous exposures. The formation's location is defined as the recessive strata which exists between the resistant, ridge-forming conglomerate in the lower Boulder Creek Formation and the resistant, ridge-forming conglomerates and sandstones in the upper sequence of the Gates Formation.

Gates Formation

The Gates Formation contains the economic coal seams of the Transfer Area, and is widely distributed in both limbs of the Transfer Anticline. The formation can be divided into three members: Upper, Middle and Lower. Although each of the members contains coal, seams of economic thickness occur only in the Middle Gates Member. The total thickness of the formation is 290 metres ($\pm$ 10 metres). The correlation charts in Appendix T.3 show the stratigraphic variation within the Gates Formation.

(i) Upper Gates Member:

The upper member of the Gates Formation is defined as between the base of the Hulcross Formation and the top of the D Seam. This sequence is approximately 80 metres thick.

The upper half of this member is non-marine and consists of fluvial and estuarine channel deposits (interbedded sandstones, siltstones, mudstones) and thin coals typical of a coastal plain environment. Occasional thin and continuous conglomerates have been identified.

In the Transfer Area, as well as other areas of the property, three coal horizons designated as A, B and C are found in this upper portion. All three are considered to be uneconomic due to their thinness (usually less than 0.5 metres) and inconsistent development. In the Transfer Area, A and C seams are poorly developed, present only as carbonaceous shale. However, the thickness of B seam may exceed 2.5 metres in the nose of the Transfer Anticline (see QHD87005).

The lower sequence of Upper Gates is basically a shallow marine to near shore distributary set of regression deposits. Very fine and fine grained sandstone are predominant with subordinate amounts of shale and siltstone. Halfway through this section is a tuffaceous horizon, used as a marker for stratigraphic correlation. The conglomerate present at the base of the Upper Gates in the Transfer Area is stratigraphically equivalent to the "Caprock" found in the Mesa, Wolverine and Shikano Pits. The thickness of the conglomerate in Transfer however, is relatively thin compared to other locations and ranges up to only 2.75 metres in the southwest.

(ii) Middle Gates Member

The Middle Gates Member is from the top of D seam to the floor of K seam. The member contains six coal seams (D, E, F, G, J and K in descending order) which readily correlate to the coal seams in Shikano Pit (See Figure 3.2). Only four of the coal seams are considered mineable in the Transfer Area, since D and E seams have poorly developed thicknesses. The Stratigraphic Correlation Chart in Appendix T.3.1 illustrates the Middle Gates Development.

Interseam strata are related to fluvial channels and overbank deposits, composed mainly of shale with minor sandstone and siltstone, or of alternating beds of shale and sandstone. In some places, discontinuous channel sandstones are found at different horizons creating variations in interseam thickness ie; between D and E in QHD 86003, and F and G in QHD 86008). The thickness ranges and general lithologies of the interseam strata are summarized on Table 3.2. The Middle Gates Member is approximately 100 metres thick.

(iii) Lower Gates Member

The Lower Gates Member is comprised of two major thick coarsening up sequences of fine to medium sandstones. The units were deposited in a near shore/shoreface-beach environment occasionally cut by distributary channels as evidenced by coarser less well sorted conglomerate and coarse sandstones occasionally found in these units. In the Transfer and Grizzly Areas, the two sequences are separated by a zone of non-marine carbonaceous units that progressively become more marine to the north (Perry Creek Area) where the non-marine units are replaced by two thinner marine coarsening up sequences.

The upper massive light or pale green sandstones grade to underlying thinner beds of fine and very fine sandstones interbedded with sandy shales and shales of a marine transgression referred to as a transition zone. One thin coal seam designated as L seam is found between two coarsening up sequences approximately 40 metres below K2. The thickness of the Lower Gates Member is approximately 110 metres, its base marked by the first thick sandstone in the lower transition zone.

Moosebar Formation

The Moosebar Formation is a marine sequence grading from very fine sandstones and interbedded siltstones and shales at the top, to marine shales with thin bentonite layers at its base. The unit is defined as between the base of the first thick sandstone in the Lower Gates Formation transition zone and the top of the Gething. In the Transfer Area it is interpreted as 85 metres thick.

Gething Formation

The Gething Formation has been drilled and mapped at various locations in the Murray River Valley. It is divided into three zones with the upper zone, approximately 50 metres thick and containing coal seams exceeding 2 metres thick. The middle zone is a marine coarsening up sequence of approximately 90 metres thickness while the lower zone is approximately 70 metres thick and made up of thin channels and overbank deposits, but no significant coal.

Overburden

During the 1988 exploration season a refraction seismic survey was conducted at the southeast portion of Transfer (Shikano Syncline), with lines perpendicular and parallel to an existing seismic line. The survey results were used to determine the depth of overburden.

Results revealed the presence of three layers in the survey area characterized by different compression wave velocities. The upper layer had velocities indicating unconsolidated and unsaturated material. The intermediate layer had velocities typical of consolidated and/or saturated overburden. Samples taken show a well consolidated glacial till with a matrix of clay. The lower layer's velocities are typical of bedrock. In some areas an additional intermediate layer of unconsolidated and unsaturated material is present.

The depth to bedrock in the seismic survey area is quite variable, ranging up to 100 metres to the southwest.

3.2.2 Grizzly

The stratigraphy underlying the Grizzly Area is identical to that of the Transfer Area: Boulder Creek, Hulcross, Gates, and Moosebar Formations in descending order. Four coal seams of mining interest, F, G, J and K1 seams, are found in the Middle Gates Member. The Grizzly Stratigraphic Correlation

chart is in Appendix T.3.3. The development of the Middle Gates Member is the same as that of the Transfer Area, with the following primary differences:

1. A thick conglomerate and sandstone bed of zero to 30 metres is present between F and G seams, thickening the interval.

2. The interseam thickness between J and K1 is relatively thin 38 metres - 1.16 metres) for most of the area.

3. The interval between K1 and K2 is thicker (2.6 metres - 5.7 metres) than the Transfer area where it can be less than one metre thick.

The thickness ranges and general lithologies of the interseam strata are summarized on Table 3.4. The distribution of the various stratigraphic units is also illustrated on the Grizzly Geology Map in Appendix 1.2.2.

3.2.3 Mesa North Extension

The stratigraphic sequence drilled and exposed in Mesa North Extension includes the Boulder Creek, Hulcross, Gates and Moosebar Formations. The Mesa North Extension Geology Map, presented in Appendix 1.2.3, illustrates the distribution of these stratigraphic units, where they are exposed and the position of the economic coal seams. The formations have similar stratigraphy to that in the Transfer Area and as described in the Mesa Extension Geological Report. (See Table 3.1)

The following notable exceptions are made:

1. Hulcross Formation is interpreted to be between 100 and 110 m thick which is consistent with the general thickening of all Marine units to the Northwest in the Quintette Property.

2. Upper Gates Member is interpreted to be approximately 120 m thick. This thickness is independent of the Caprock thickness which varies between zero and 18 m in the area. In general, however, it has been noted, that unit thickness and interseam thickness vary with the thicknesses of their conglomerate units. That is, if caprock increases by 20 m, so does the overall thickness of the Upper Gates Member.

The thickness of the Upper Gates is partially taken from the folded and faulted upper section of QMD88003 (see Mesa North Extension Gates Correlation, Appendix T.3.5).

3. The Middle Gates Member (top of D Seam to the bottom of J seam) is between 59 m and 78 m, very similar to Mesa Pit. The increasing thickness directly results from the development of the E4 conglomerate to the Northwest where it reaches 14 m. This conglomerate develops from a thin parting near the floor of E4 seam and therefore splits the seam. The parting between D3 and D4 seams thins to the northwest permitting one D seam mining section. The seams that are currently considered mineable in Mesa North Extension are D (D3, D4), E(E1 is very high ash to the Northwest), E3 lower, E4 (where the conglomerate does not exist), G, and J. Interseam thickness ranges and general lithologies are summarized in Table 3.6.

3.3 LOCAL COAL SEAM DEVELOPMENT AND CORRELATION

3.3.1 Transfer

As mentioned in the stratigraphic descriptions, six coal seams are present in the Middle Gates Member in the Transfer Area, four of these (F, G, J and K seams) are termed "mineable". The cumulative coal seam thickness (F,G,J,K,K1 and K2) in the Transfer Area exceeds 14 metres.

Both D and E seams are split into thin coal beds by partings and are considered as "non-mineable" in the area. In some drill holes, however, these seams have a mineable thickness of more than 1 metre ie; D seam in QHD86005 and E seam in QHD86003. A detailed reserve evaluation may delineate areas in which D and or E seams are recoverable. Figures 3.3 and 3.4 illustrate D and E Seam Development. Table 3.3 summarizes average seam thickness for the Transfer Area. The seam correlation charts for Transfer are in Appendix T.3.2.

F Seam

F seam is well developed throughout the Transfer Area, averaging more than 4 metres. The columnar section depicted in Figure 3.5 shows a typical F seam development. The seam is generally divided into three portions designated as F1, F2 Parting and F2 from top to base. In the vicinity of QHD86003, F1 is not present and the parting (F2P) forms the top portion of F seam. The parting between F1 and F2 (F2P) is composed mainly of high ash coal and carbonaceous shale. F2 comprises the major portion of the seam, and consists mainly of low ash coal with two to four discontinuous thin partings.

The thickness of the partings is normally less than 10 centimetres, but the parting developed at the middle of F2 can be relatively thick. This in fact, results in the lower portion of F2 being unmineable in the vicinity of QHD87009, because of a thinning of the seam in this area. The top and bottom of the seam consist of shale or carbonaceous shale, with coal stringers.

G seam

G seam is characterized by two major continuous partings, and is divided into five sections: three coal beds identified as G1, G2 and G3; and two rock partings denoted as G2P and G3P. Figure 3.6 shows a typical G seam section. G1 has few or no partings. G2P is composed of shale, carbonaceous shale, and inferior coal. G2 occasionally contains one or two very thin partings in the lower half. G3P is composed of shale and siltstone, in some places (QHD86001, 86007) consisting entirely of siltstone with very thin bands of shale at the top and bottom. G3 is characterized by a group of partings near the base. The roof of G seam is shale, occasionally with a thin carbonaceous layer underlying it. The floor of G seam consists of carbonaceous shale.

J Seam

J seam is well developed throughout the Transfer Area, averaging more than 4.5 metres. Figure 3.7 shows a typical J seam section. Although no major parting appears in J seam, many thin inferior coal bands (fusinite?), usually less than 5 centimetres thick, are present. The top of the seam consists of shale or carbonaceous shale, and the bottom is carbonaceous shale with coal bands. Structural thinning of J seam is noted in QHD87010 in the M-9 structural Area and in several intersections in the Transfer Area (including a complete "Loss" of J seam in QHR89024). Although these thinnings are currently interpreted as structural, some may in fact be stratigraphic which may point to changes in depositional environments in these areas.

K Seam

K seam is composed of two separate sub-seams, identified as K1 for the upper, and K2 for the lower. A typical K seam section is shown in Figure 3.7.

(i) K1 Seam

K1 seam is characterized by alternating thin beds of coal and carbonaceous shale in the upper section. This high ash zone is often excluded from the K1 Mining section and included in the K1 Parting between J and K1 seams. The lower section of K1 seam is very clean and is usually considered the K1 Mining section.

In the Transfer Area, the interval between J and K1 is often less than 1 metre, however toward the southeast on both limbs of the Transfer Anticline, the parting thickness can exceed 1.5 metres.

(ii) K2 Seam

K2 seam has one or two discontinuous thin partings. The interseam strata between K1 and K2 consists of shale, siltstone and carbonaceous shale with coal stringers, with sandstone appearing in the eastern part of the area. The

thickness of the interseam is normally greater than 1 metre, increasing to more than 4 metres toward the southeast (Grizzly). In some areas the interseam is less than 1 metre in which case J to K2 Seam may form a single mining section. A small coal parting below K2 seam is sometimes part of the mining section (see the seam correlation chart), depending on its thickness and the parting thickness separating it from K2 seam.

In one drill hole (QHR87030) K2 is missing. This is currently considered to be a stratigraphic anomaly and therefore K2 Seam's thickness is considered to be 0 at this drill hole location.

3.3.2 Grizzly

The characteristics of each mineable coal seam in the Grizzly Area are very similar to that of the Transfer Area. Only points of significant difference are described here. The cumulative mineable coal seam thickness (excluding K2) in the Grizzly Area exceeds 12 metres. Table 3.5 summarizes the average seam thickness for the Grizzly Area. The Grizzly Seam Correlation Chart is presented in Appendix T.3.4. Seams D and E are not considered recoverable in this area and are illustrated in Figures 3.8 and 3.9 respectively.

F Seam

F seam maintains a good thickness as compared to the Transfer Area, averaging 3.82 m. Seam development is similar to Transfer. Figure 3.10 illustrates F Seam in Grizzly Area.

G Seam

In the northeast limb of the Grizzly Structure, the thickness of the lower parting (G3P) thickens to just under 1 metre. It is noted to exceed 1 metre in the axis of the Shikano Anticline.

G seam is overlain directly by a thick conglomerate and sandstone bed in most of the Grizzly Area. This conglomerate rapidly thins in the west limb of the anticline. Figure 3.11 illustrates G Seam in Grizzly Area.

J Seam

J seam has a similar development with an almost identical average thickness to Transfer. Figure 3.12 illustrates J Seam in Grizzly Area.

K1 Seam

K1 seam may be mined together with J seam in a single mining section owing to the thin interval between the two seams and the better coal development in the upper part of K1 seam. Figures 3.12 and 3.13 illustrate K1 seam in Grizzly Area.

K2 Seam

K2 seam is thinner (less than 1 metre), and is separated by a thick interseam (up to 5.7 metres) from K1, and may not be considered recoverable in the Grizzly Area. Figure 3.13 illustrates K2 Seam in Grizzly Area.

3.3.3 Mesa North Extension

Seam development in Mesa North Extension is similar to Mesa Pit and Mesa North (Mesa Extension). A total of six seams are considered mineable in the area (D, E, E3, E4, G, and J Seams) with a total thickness exceeding 18 metres.

D Seam

D Seam is represented by good coal development of D3 and D4 seams and a generally thin carbonaceous D4 parting between them (See Figure 3.14). Therefore, at most locations D3 and D4 will be recovered as one D seam section. The coal content of the D3/D4 parting is variable and is generally less to the northwest where D3 is overlain by Caprock conglomerate. Toward Mesa Pit, the parting exceeds 1.5 metres precluding combined recovery of D3

and D4. D3 is a consistently well developed (averaging 1.78 metres in thickness) seam, usually with minor partings concentrated at the top of the seam.

E Seam

Total E seam thickness can exceed 8 metres (QMD89501) however, at this location, the upper 3.6 metres (E1) is too high ash to be considered recoverable (See Figure 3.15). The main recoverable section is the E2/E3 sections which are typical of E seam development with numerous thin rock partings throughout, generally concentrated in E3 (see QMD89502 and Figure 3.16). The upper E1 section will be recoverable with the entire E seam in the south eastern half of the resource area towards Mesa Pit. The E1 section is very high ash, exceeding 40%, with a rock parting approaching 1 metre (QMD88004) separating it from E2/E3 seams. Seams E2 and E3 average more than 4 metres.

As was observed in the Mesa North stratigraphy, a lower split of E3 has formed a separate mining section in Mesa North Extension. E3 lower is consistently developed about 3.5 metres below E3 averaging 0.88 metres in thickness. Ash content (ie partings) is highly variable. Figure 3.17 illustrates E3 lower and E4 seam development.

E4 seam is 2 metres below E3 lower seam. In the southeast of the resource, toward Mesa Pit, it is a well developed low ash seam at 0.94 metres. However, to the northwest, the thin parting in the lower half developes into a thick (14 metres) conglomerate separating E4 into two thin partings that are not considered recoverable. (See Mesa North Extension Gates Correlation, Appendix T.3.5)

G Seam

G Seam is a consistently well developed thin seam with an average thickness of 1 metre. It has no significant partings. The roof of the seam can be coaly and carbonaceous toward Mesa Pit. Figure 3.18 illustrates G Seam in Mesa North Extension.

J Seam

J Seam represents the greatest potential reserve in Mesa North Extension. It is the thickest seam averaging 5.73 metres with a relatively few thin rock partings (See Figure 3.19). Thickness increases to the Northwest (see QMD89501) where the seam is expected to consistently exceed 7 metres with thinner rock partings (and therefore lower insitu ash) than the mining sections nearer Mesa Pit (see QMD86001). The roof of the seam is generally carbonaceous while the floor of the seam often consists of the medium grained sandstones of the Torrens Sandstone (Quintette Member). Towards Mesa Pit, the floor becomes carbonaceous with some thin coal partings within 2 metres of the base of the seam. J seam development is different from Mesa Pit, in that the J2 Parting and J3 Parting are not identifiable within the seam.

3.4 REGIONAL STRUCTURE

The regional geologic structure is best illustrated on the Regional Geology Map in Appendix 1.2.4. The Regional Map highlights the formation outcrops which are primarily controlled by a series of northwesterly trending folds. The fold system characterizes the structure of the exploration areas discussed in this report.

The Transfer and Grizzly Areas are comprised of a series of major folds designated from west to east as the Transfer Syncline, Transfer Anticline, Shikano Syncline and Shikano Anticline. Smaller folds have developed on the Transfer Syncline east limb and on the Shikano Syncline west limb (M-9 structure). The Transfer Anticline West Limb or Transfer Syncline is the most structurally complicated reserve area in Transfer Area, being comprised of several smaller folds and associated faulting. The Mesa fault is interpreted to truncate the structure to the southwest.

The Mesa North Extension structures are a continuation of the Mesa North structures. The dominant Middle Anticline plunges northwest losing itself in a faulted mionocline nearer the Wolverine River Valley. The syncline along the southwest limit of the resource is interpreted to be structurally complicated with several smaller folds within it.

Figure 3.20 highlights the regional structure and the relative position of both exploration areas.

Geological structures and topography define, to a large extent, the coal reserve areas within the Q.C.L. property. This is most obvious in some of the pit areas where the coal reserves are entirely contained within synclines which form topographic highs (Wolverine and Mesa Pits and the Deputy Subpit). Underground reserves are located in large, structurally continuous blocks on limbs of anticlines and synclines. Faulting is not frequent within these folds, however it does become more common as the folds become tighter.

3.5 LOCAL STRUCTURE

The local structures of the Transfer, Grizzly and Mesa North Extension Areas are illustrated by the Geology Maps in Appendix 1.2, the Structure Contours in Appendix 1.3, and the Cross Sections in Appendix 1.1.

3.5.1 Transfer

The dominant structure in the Transfer Area is the northwest-southeast trending Transfer Anticline that plunges (10^{o}-20^{o}) to the northwest. The coal-bearing Gates Formation is distributed on both limbs of the anticline.

Dips on the northeast limb of the anticline are 35^{o} to 40^{o} in the north western half of the limb, becoming steeper toward the southeast and at depth, with dips exceeding 60^{o} at the southeastern end. On the southwest limb, dips are relatively steep and range from 50^{o} to 90^{o}.

The southwest limb of the Transfer Anticline is a relatively complicated structure. This limb between the Transfer Syncline axis and the Transfer Anticline axis is interpreted to have a smaller anticline and syncline pair that develops near the Transfer Syncline axis at Section 28500, (Appendix 1.1.1). This structure becomes the most dominant syncline by section 28000. Thrust faulting is also interpreted along this limb. Significant displacements have been drilled to the southeast (Section 27500). Some of the faulting is interpreted to travel along coal seams becoming "blind" in them and also resulting in the thinning or elimination of the coal seam (See F seam QHD89002 and J Seam QHR89024). Thrust faulting around the axes of the synclines are also interpreted on both limbs of the folds (see section 28500). The southwest limb of the Transfer Syncline is vertical overturned with interpreted normal faults (see Section 29000). This limb is also the forelimb of an anticline that is truncated by the Mesa Fault to the southwest.

The major thrust that separates the Gething Area and the Transfer Area, the Mesa Fault, is interpreted to be southwest dipping, truncating the steeply dipping coal section in the Transfer Syncline west limb. Coal intersections are noted in the fault zone, but many cannot be confidently identified due to the structural disturbance.

Minor southwest dipping faults are interpreted along the backlimb of the Transfer Anticline (see Section 29000, Appendix T.4.1). These faults have the effect of increasing the Gates Formation thickness on the backlimb and the coal section along the axis of the anticline.

A stylized section of the Transfer and Grizzly structure is shown in Figure 3.2.1.

The M-9 Anticline and Syncline and the Shikano Syncline lie between Transfer and Grizzly. These folds have the effect of bringing the coal section close to surface. Excessive overburden buries the fold structures in the Murray River Valley and has been defined by drilling and seismic surveying. The drilling and seismic work has defined the subcrop of the coal seams (the extent of erosion) and the flat to minimal northwest plunge of the Shikano Syncline.

The southwest limb of the M-9 Syncline is interpreted to be vertical to overturned (see Section 26500) with possible structural thinning of the coal seams (see QHD87010). This is a local phenomenon that is not considered to greatly affect resources since surrounding drill data confirms the normal thicknesses of coal in the limbs of M-9 Syncline.

3.5.2 Grizzly

The geologic structure of the Grizzly Area is controlled by the Shikano Anticline plunging 10^{o}-30^{o} to the northwest. This anticline has a broad or box-like top of about 100 metres in width. The strata dips 55^{o} to 65^{o} on the northeast limb of the anticline and about 45^{o} on the southwest limb. No major faults have been found in the area. As in the case of the Transfer Area, further minor faults will likely occur along or near fold axes resulting in seam and interseam thickening. Minor faulting has been identified (QHR87018 and QHR87019) on the southwest limb.

The stylized section (Figure 3.8) further illustrates the Grizzly structure.

3.5.3 Mesa North Extension

The Mesa North Extension Area is the northwestern exposure of the Mesa Extension structures in Mesa Pit. The sections and J seam contour in Appendices 1.1.2 and 1.3.3 respectively illustrate the structure. A stylized section of the Mesa North Extension Structure is shown in Figure 3.22.

The dominant fold is the steeply northwest plunging Middle Anticline and the syncline to the southwest. These folds keep some of the coal just below surface as they plunge toward the Wolverine River Valley (see Section 37800) The forelimb of the Middle Anticline is very steep, dipping generally between 60^{o} and 90^{o}. Faulting in this limb is interpreted from drilling where several repeated sections have been noted. (see section 38600). The limb has been mapped as overturned in the Boulder Creek Formation (see section 38600) and this folding is interpreted to be the culmination of the Middle Anticline. Faulting is also interpreted along the back limb of The Middle Anticline. The

syncline, southwest of The Middle Anticline, also plunges steeply northwest. It is less well defined, and J seam outcrop, on its steeply dipping southwest limb, is interpretive. Mapping and drilling have indicated that this fold may be considered as a group of several small chevron folds paralleling the major fold structure (see section 38600).

The syncline northeast of the Middle Anticline (Mesa Syncline) becomes a broad open fold at the Wolverine River Valley (see Section 39000). Beyond this structure, the interpretation is speculative based on regional mapping and airphoto interpretation.

A more detailed description of the Mesa North structure can be found in the Mesa Extension Geological Report.

Table 3.1

EXPLORATION AREAS
SUMMARY OF FORMATION THICKNESSES

	Transfer and Grizzly (m)	Mesa North Extension (m)
Formations		
Boulder Creek	+110	-
Hulcross	90-100	100-110
Gates	280-300	290
Upper Gates Member	70- 90	120
Middle Gates Member	90-120	59-78
Lower Gates Member	100-120	-
Moosebar	80- 90	-
Gething	200-250	-

Table 3.2

TRANSFER
INTERSEAM THICKNESS AND LITHOLOGY

Interval	Thickness Range (m)	General Lithology
D seam to E seam	11 - 26	Mainly shale with minor very fine sandstone and channel sandstone.
E seam to F seam	15 - 26	Southwest limb of Transfer Anticline - predominantly sandstone with interbedded shale. North limb of Transfer Anticline - shale with minor interbedded sandstone and sandy shale.
F seam to G seam	11 - 33	Interbedded shale and sandstone, with occasional channel sandstone.
G seam to J Seam	12 - 21	Shale with interbedded sandstone. 3 - 4 metres of sandstone overlies J seam.
J seam to K1 seam	0.7 - 1.6	Shale, carbonaceous shale.
K1 seam to K2 seam	0.6 - 4.5	Shale, carbonaceous shale and very fine to fine sandstone.

Table 3.3

TRANSFER
AVERAGE SEAM THICKNESS

Seam	Thickness Range (m)	Average Thickness (m)
F	3.56 - 5.46	4.31
G	2.88 - 4.07	3.45
J	3.76 - 5.96	4.41
K1	0.79 - 1.35	1.05
K2	0.83 - 1.44	1.03
	Total Cumulative Average	**14.25**

Note: Thickness data from Diamond Drill holes and adits only.

Table 3.4

GRIZZLY
INTERSEAM THICKNESS AND LITHOLOGY

Interval	Thickness Range (m)	General Lithology
D seam to E seam	12 - 30	Carbonaceous shale with interbedded very fine to medium sandstone.
E seam to F seam	17 - 22	Very fine to fine sandstone with underlying shale and carbonaceous shale.
F seam to G seam	16 - 39	Upper 6 to 9 metres is shale with minor fine sandstone underlain by conglomerate and fine sandstone.
G seam to J seam	14 - 18	Interbedded shale, siltstone and fine sandstone.
J seam to K1 seam	0.6 - 1.2	Carbonaceous shale and siltstone.
K1 seam to K2 seam	2.6 - 5.7	Shale interbedded with very fine to fine sandstone.

Table 3.5

GRIZZLY
AVERAGE SEAM THICKNESS

Seam	Thickness Range (m)	Average Thickness (m)
F	3.36 - 4.54	3.82
G	2.97 - 3.79	3.35
J	4.01 - 4.91	4.52
K1	0.90 - 1.52	1.20
K2	0.51 - 0.83	0.66
	Total Cumulative Average	**13.55**

Note: Thickness data from Diamond Drill holes and adits only.

Table 3.6

MESA NORTH EXTENSION
INTERSEAM THICKNESS AND LITHOLOGY

Interval	Thickness Range (m)	General Lithology
Above D3 seam		Interbedded sandstone, sandy shale and shale (marine).
D3 seam to D4 seam	0.3 - 1.9	Shale, coally shale and coal.
D4 seam to E seam	3.9 - 4.8	Very fine sandstone, shale and coally shales and coal (E0).
E seam to E3 lower	1.4 - 3.8	Fine sandstone, shale near coal.
E3 seam to E4 seam	1.4 - 2.1	Very fine sandstone and sandy shale.
E4 seam to G seam	8 - 25	Upper half conglomerate with thin coals and sandstone/sandy shale in lower half.
G seam to J seam	16 - 25	Thin sandstone and sandy shale. Shale and coally shale above J seam.
Below J seam		Medium to fine sandstone.

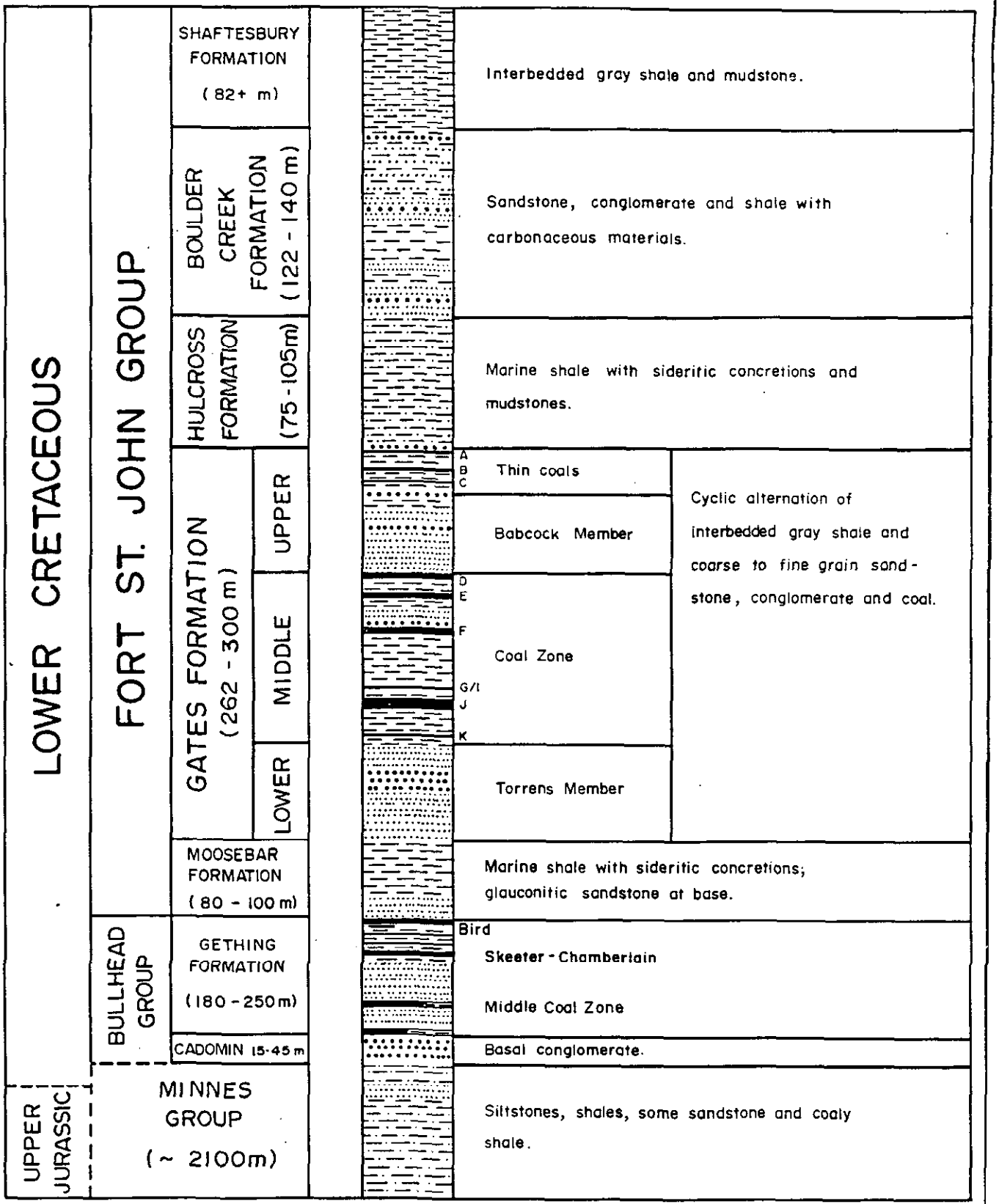
Note: Thickness data from diamond drill holes only.

Table 3.7

MESA NORTH EXTENSION
AVERAGE SEAM THICKNESS

Seam	Thickness Range (m)	Average Thickness (m)
D3	1.47 - 2.07	1.78
D4	0.56 - 1.61	0.96
E	6.59 - 8.21	7.42
E3 lower	0.72 - 0.98	0.88
E4	0.34 - 0.97	0.71
G	0.83 - 1.29	1.00
J	5.11 - 7.35	5.73
	Total Cumulative Average	**18.48**

Note: Thickness data from Diamond Drill holes only.

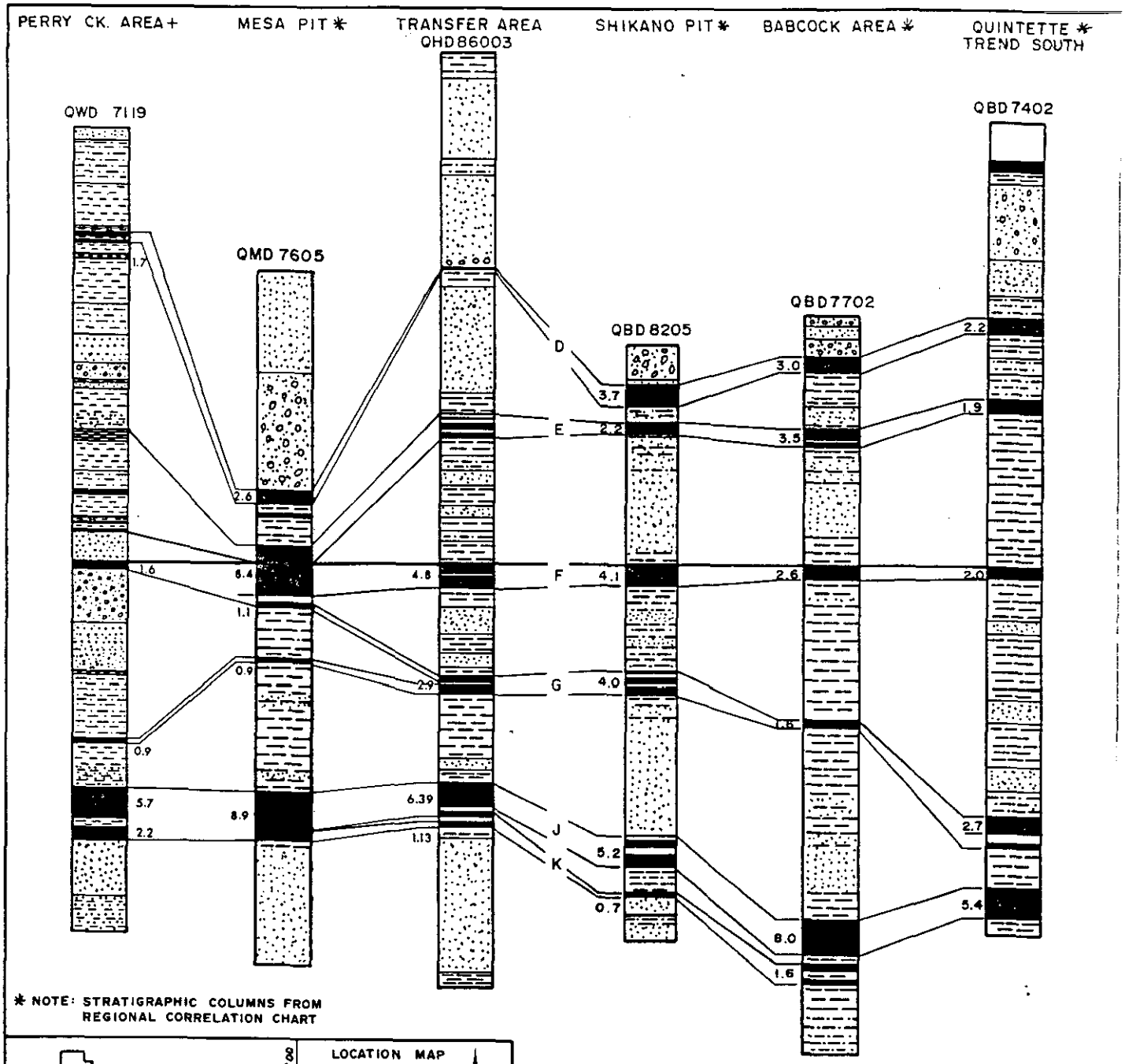


QUINTETTE COAL LIMITED

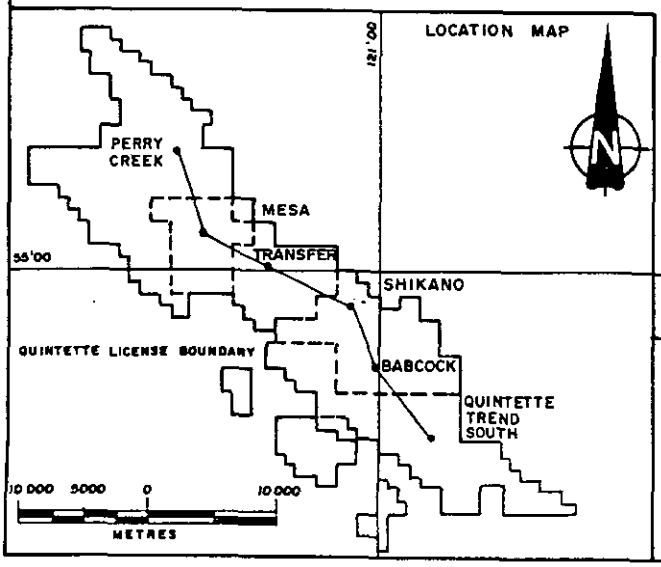
GENERAL STRATIGRAPHIC SECTION

(Updated April, 1988)

FIGURE 3.1



* NOTE: STRATIGRAPHIC COLUMNS FROM REGIONAL CORRELATION CHART



UPDATED 90-03-26

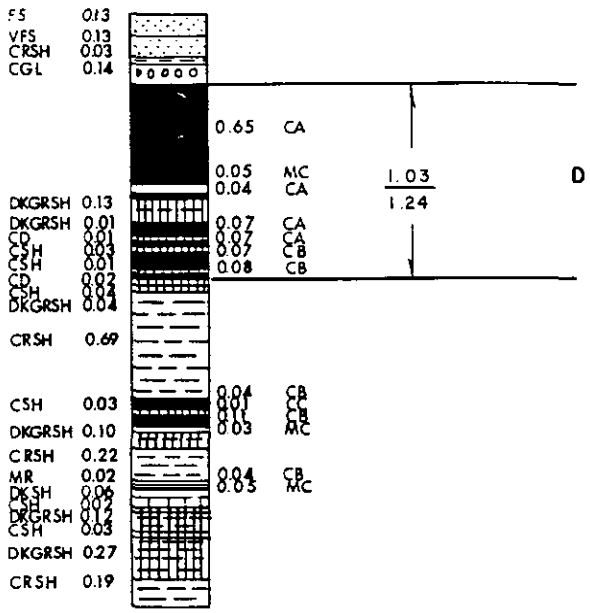
10 0 10 20 30 40 50

METRES (VERTICAL SCALE ONLY)

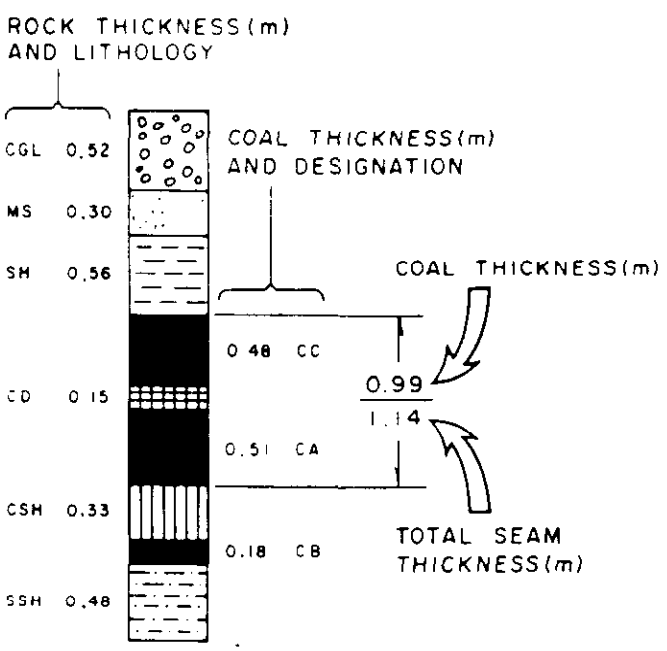
QUINTETTE COAL LIMITED

MIDDLE GATES FORMATION REGIONAL STRATIGRAPHIC CORRELATION

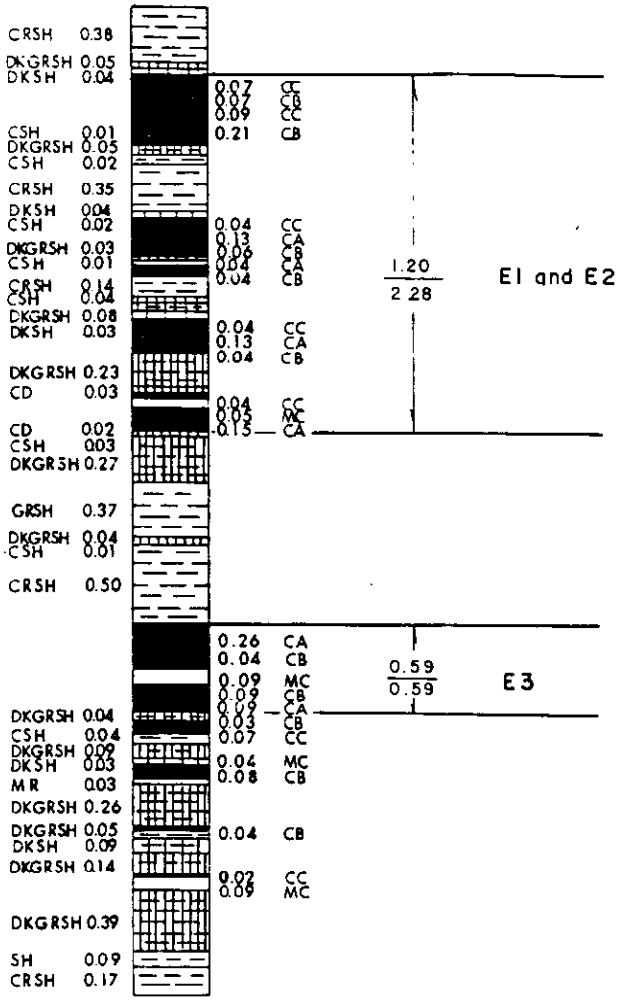
FIGURE 3.2



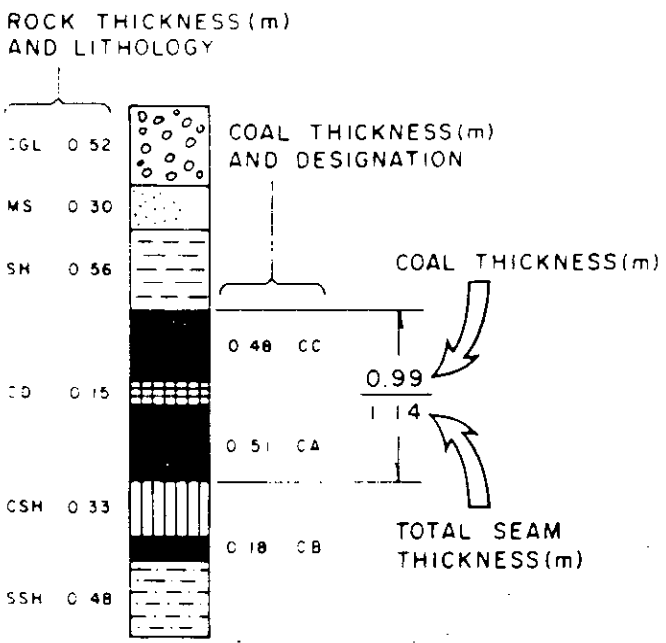
LEGEND



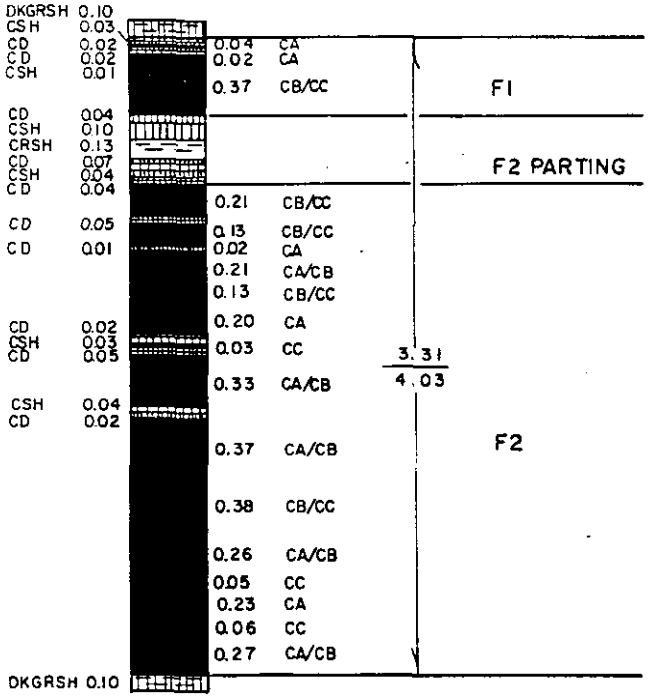
DATE: 90-03-06	Quintette Coal Limited	TYPICAL SECTION OF D SEAM
DESIGN: NCH	TRANSFER AREA	
DRAWN: KJV		TAKEN FROM QHD85002
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m		Figure 3.3 Rev. 0



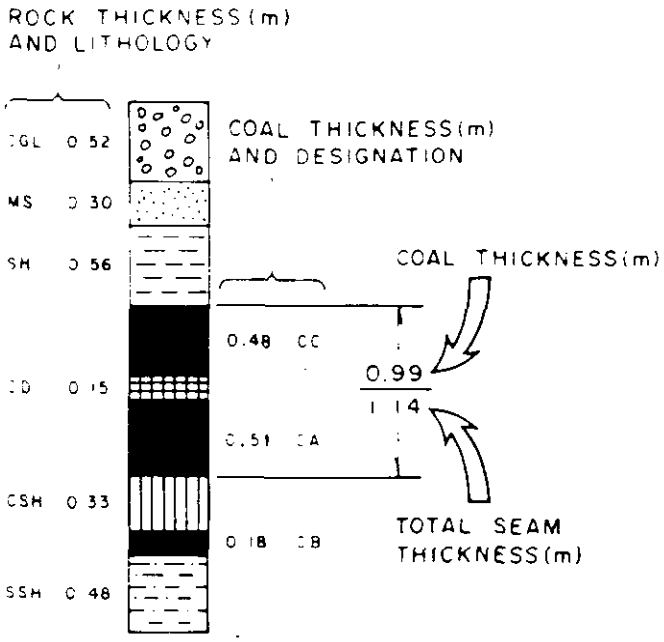
LEGEND



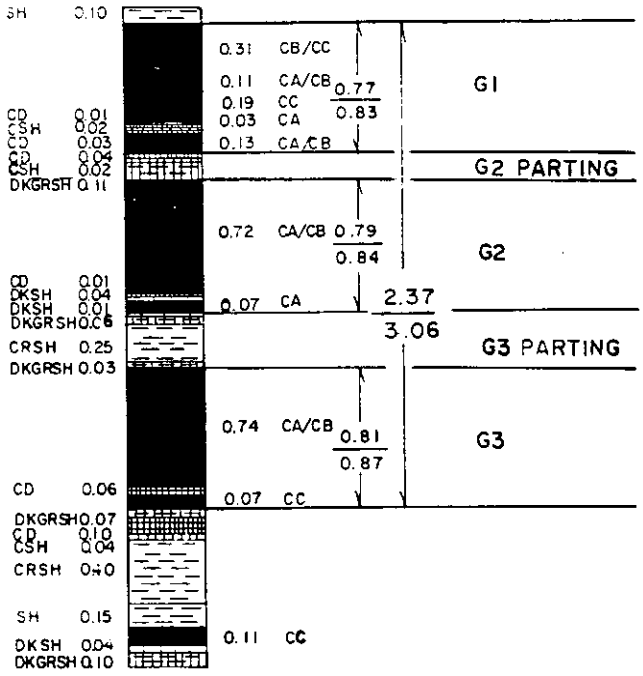
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF E SEAM
DESIGN: NCH	TRANSFER AREA	TAKEN FROM OHD85002
DRAWN: KJV		
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.4 Rev. 0



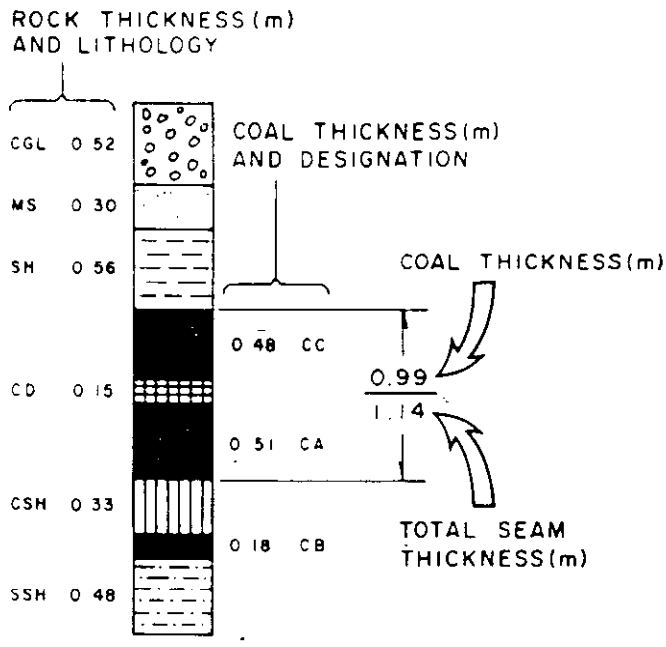
LEGEND



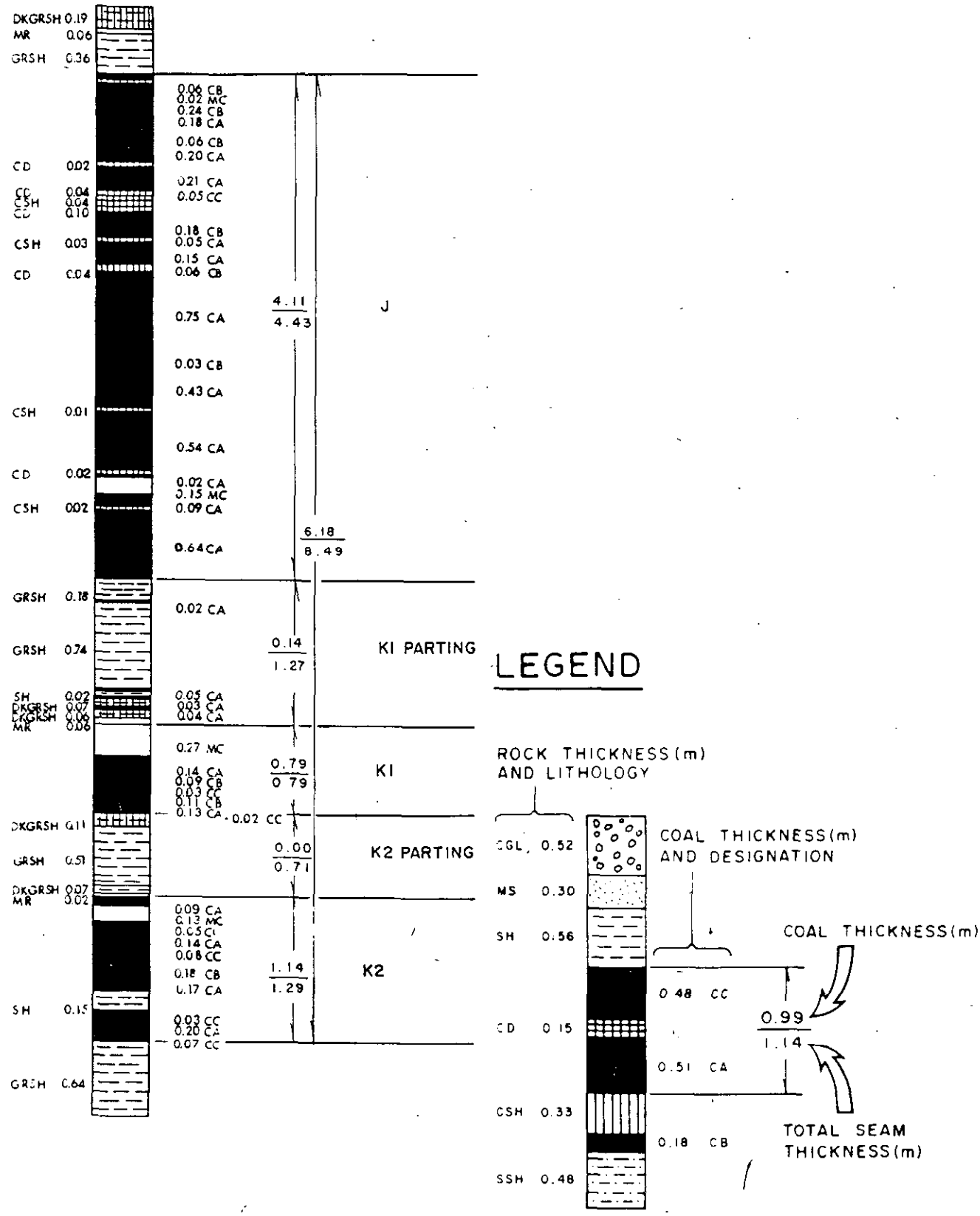
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF F SEAM
DESIGN: NCH	TRANSFER AREA	TAKEN FROM OHA87004 (ADIT · Resampled 1989)
DRAWN: DKL		
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m		Figure 3.5 Rev. 0



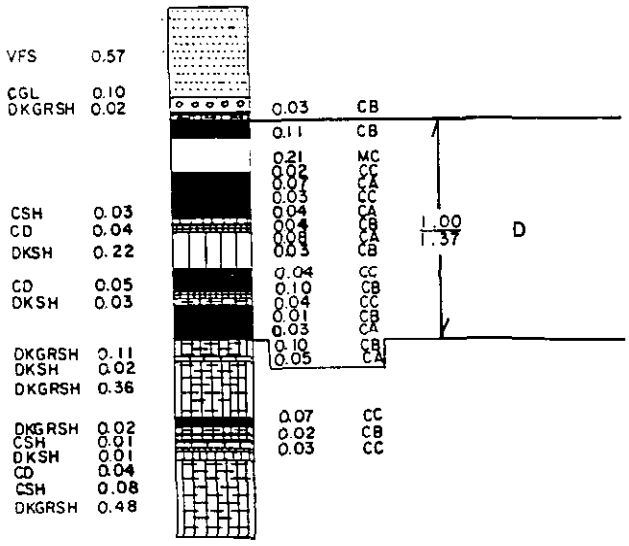
LEGEND



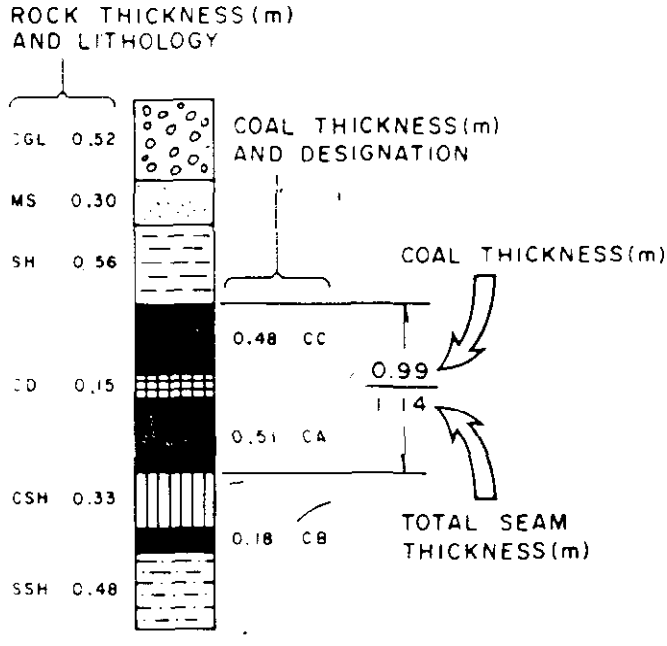
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF G SEAM
DESIGN: NCH	TRANSFER · AREA	TAKEN FROM QHA87006 (ADIT · Resampled 1989)
DRAWN: KJV		
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.6 — Rev. 0



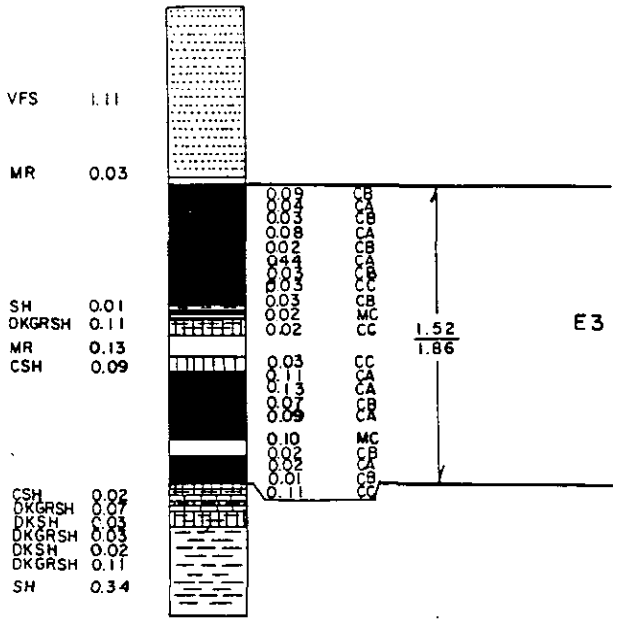
DATE: 90·03·06	Quintette Coal Limited		TYPICAL SECTION OF J, K1 & K2 SEAMS
DESIGN: NCH	TRANSFER AREA		TAKEN FROM QHD 85002
DRAWN: KJV			
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.7	Rev. 0



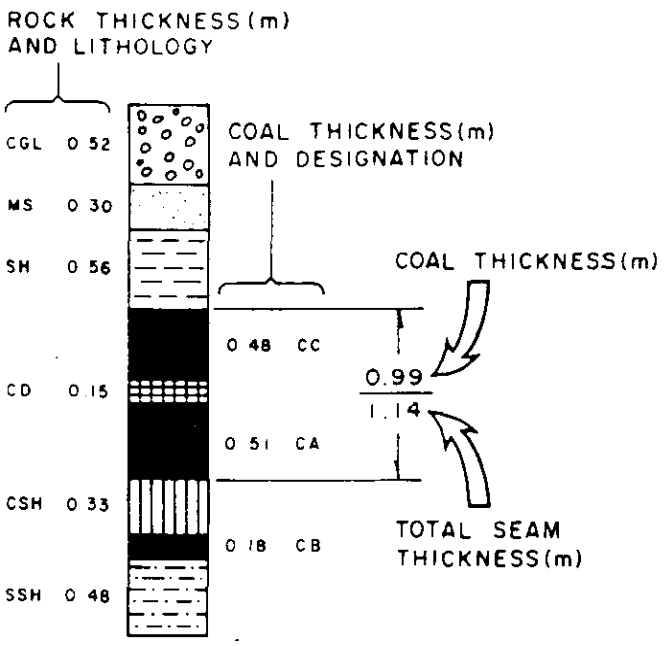
LEGEND



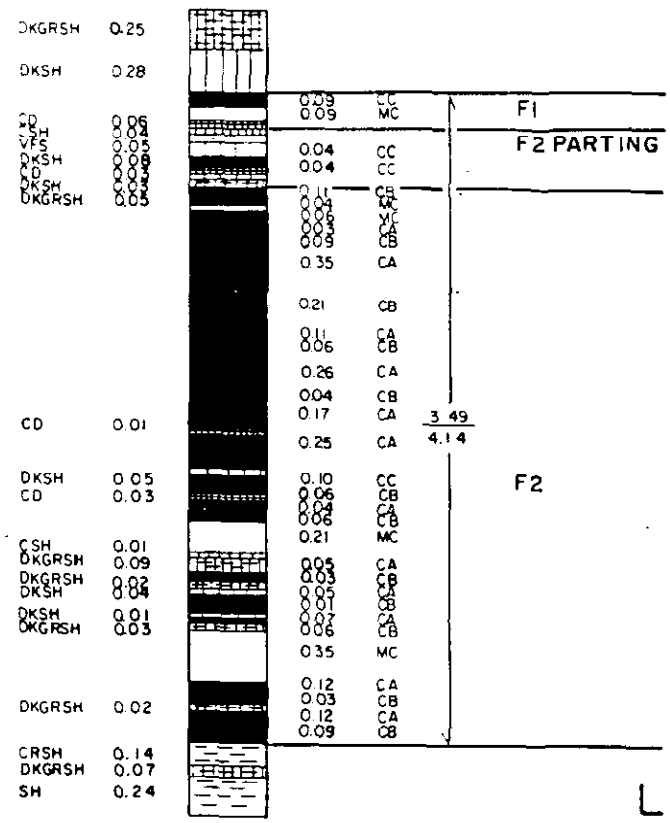
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF D SEAM
DESIGN: NCH	GRIZZLY AREA	TAKEN FROM QHD88008
DRAWN: KJV		
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m	Figure 3.8	Rev. 0



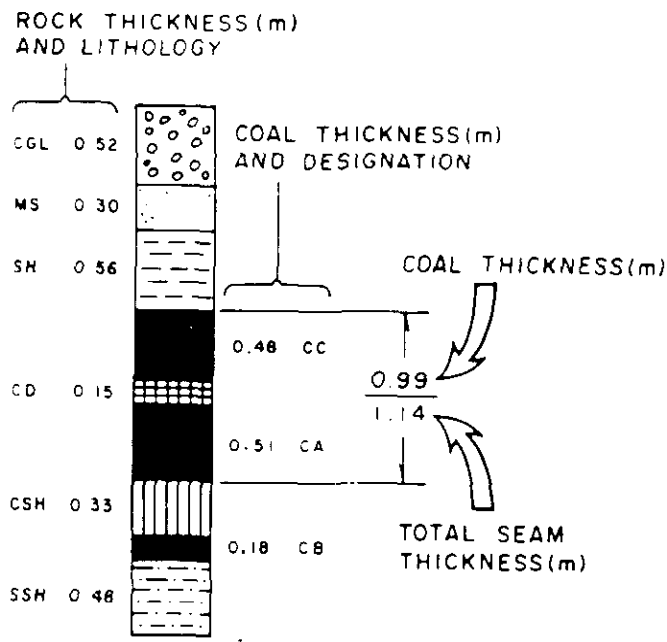
LEGEND



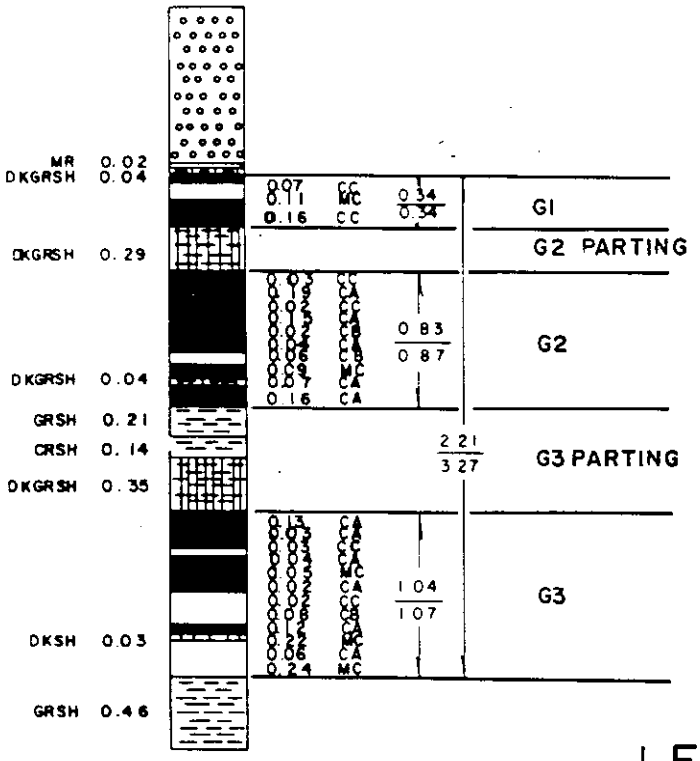
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF E3 SEAM
DESIGN: NCH	GRIZZLY AREA	TAKEN FROM OHD 88008
DRAWN: DKL		
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.9 Rev. 0



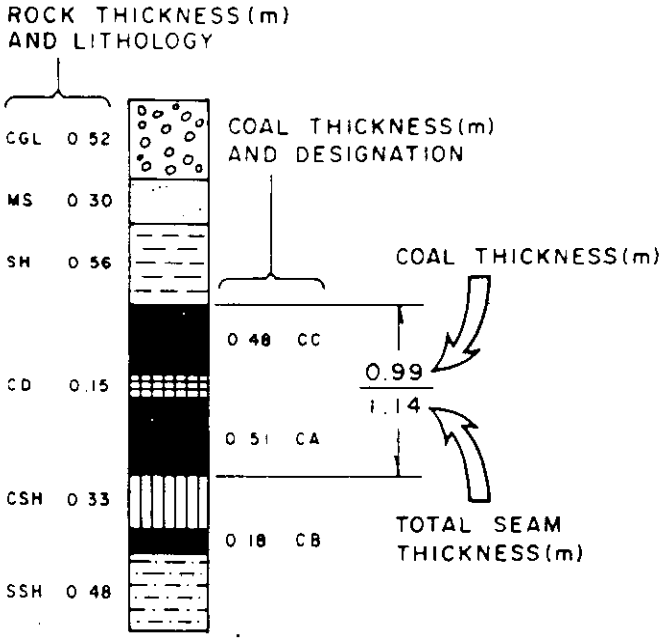
LEGEND



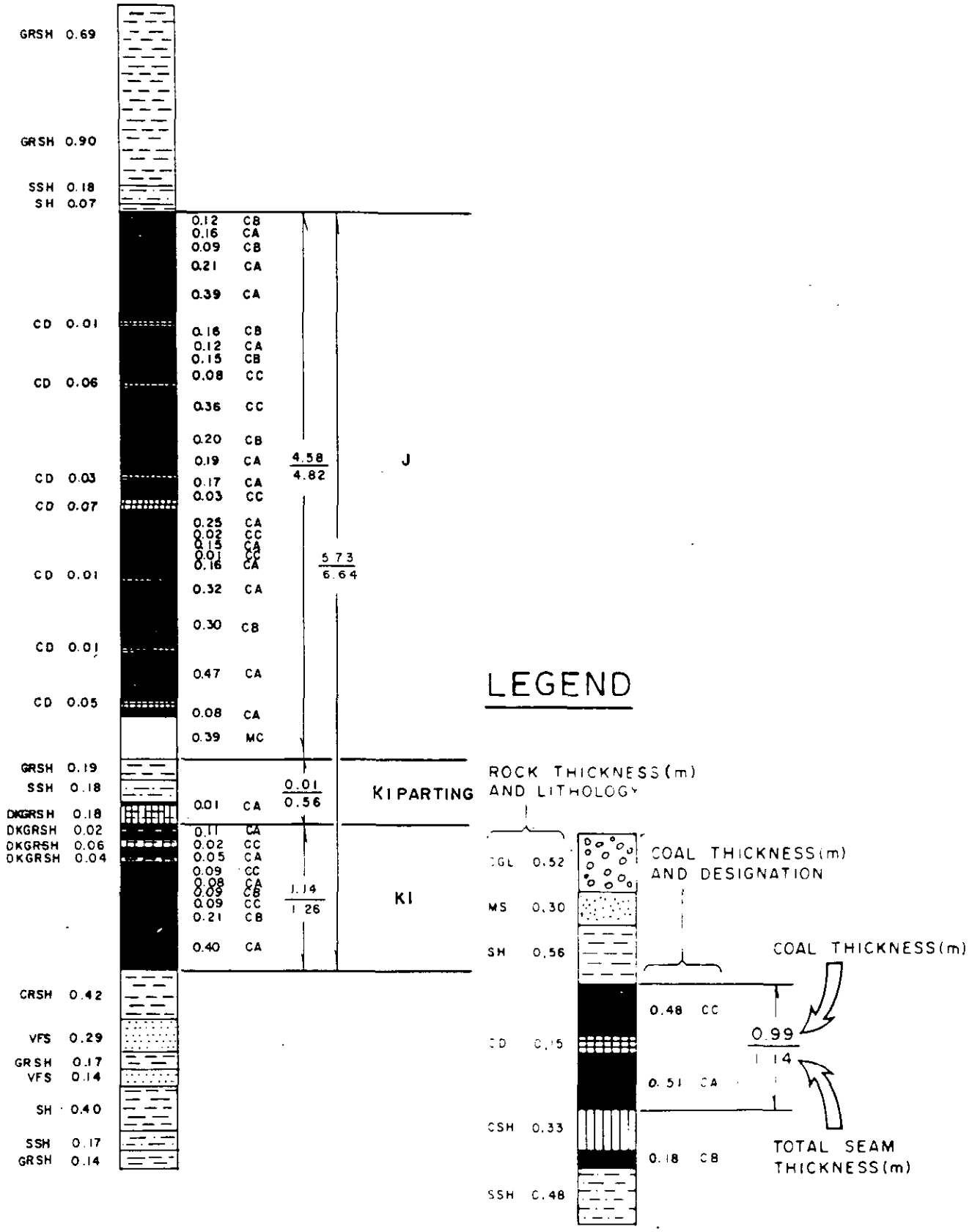
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF F SEAM
DESIGN: NCH	GRIZZLY AREA	TAKEN FROM QHD 88007
DRAWN: DKL		
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m		Figure 3.10 Rev. 0



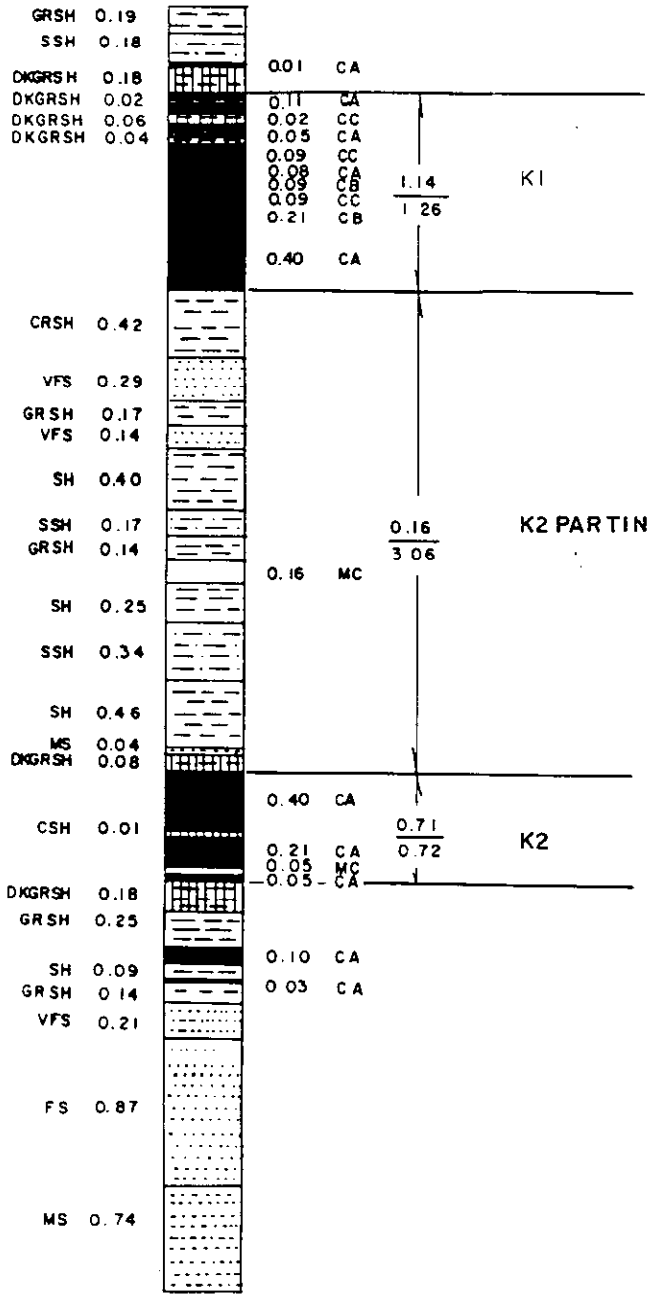
LEGEND



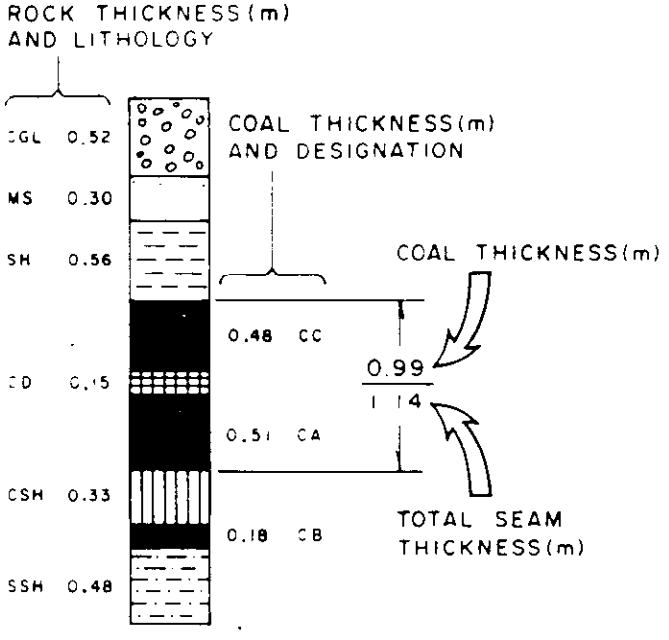
DATE: 90-03-06	Quintette Coal Limited	TYPICAL SECTION OF G SEAM
DESIGN: NCH	GRIZZLY AREA	TAKEN FROM QHD87001
DRAWN: KJV		
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m	Figure 3.11	Rev. 0



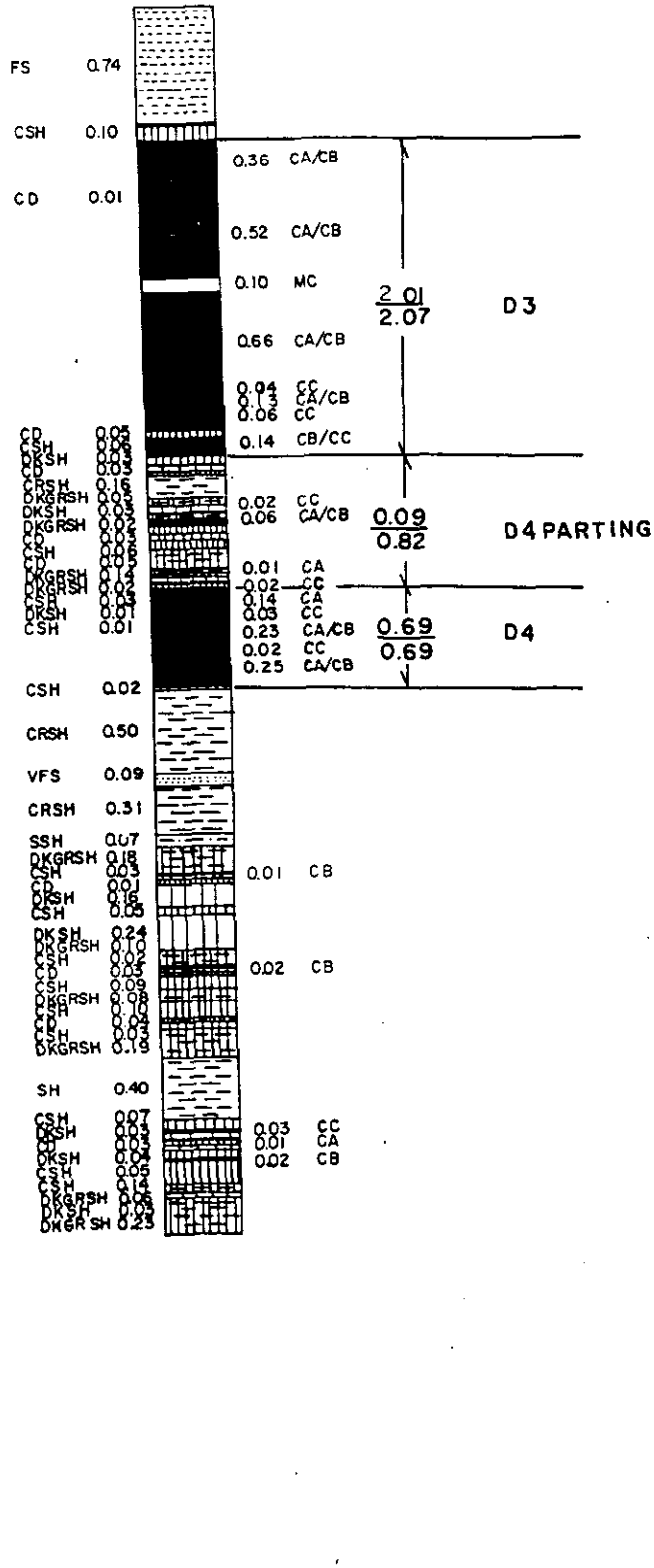
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF J & KI SEAMS	
DESIGN: N C H	GRIZZLY AREA	TAKEN FROM QHD86002	
DRAWN: K J V			
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.12	Rev. 0



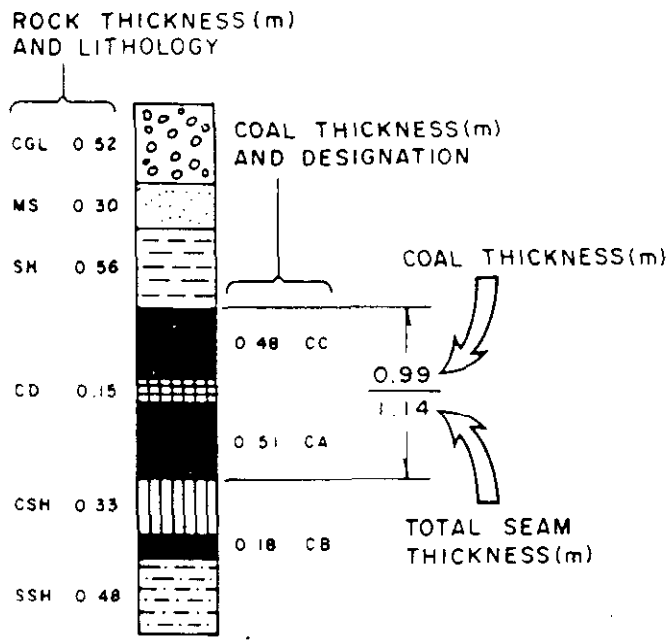
LEGEND



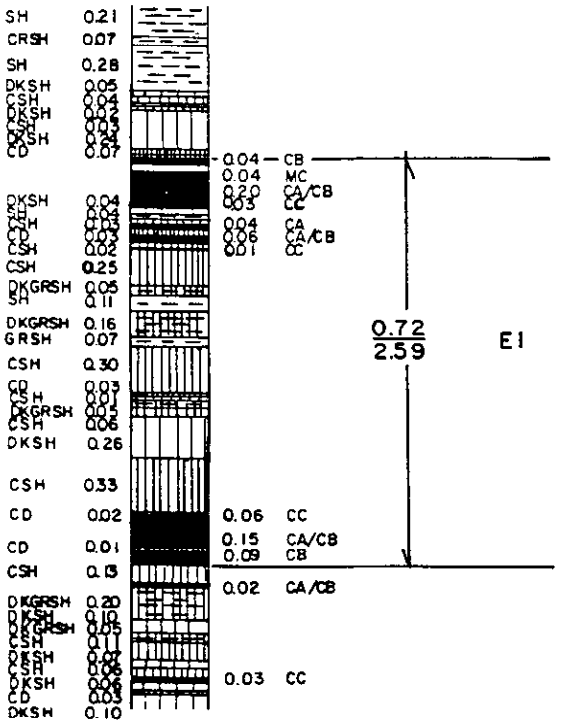
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF K1 & K2 SEAMS
DESIGN: NCH	GRIZZLY AREA	TAKEN FROM QHD86002
DRAWN: KJV		
SCALE: 1:50 (Vertical) Om 1m 2m 3m 4m		Figure 3.13 Rev. 0



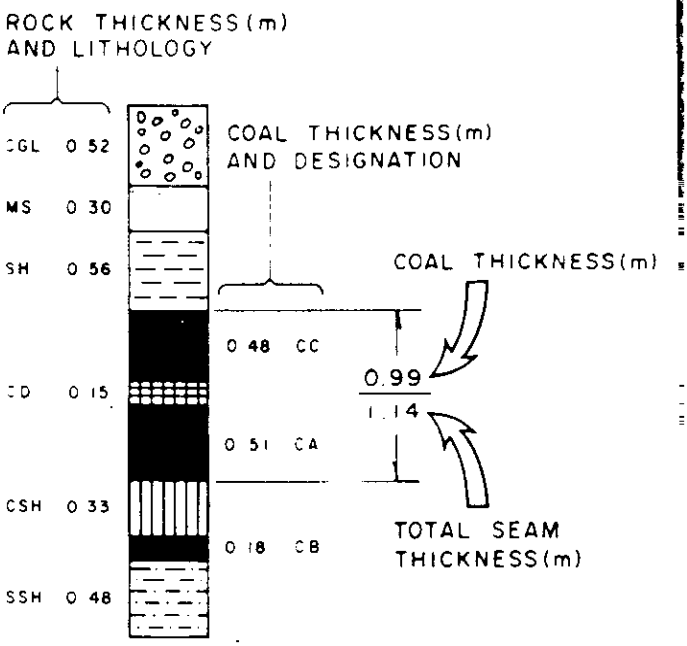
LEGEND



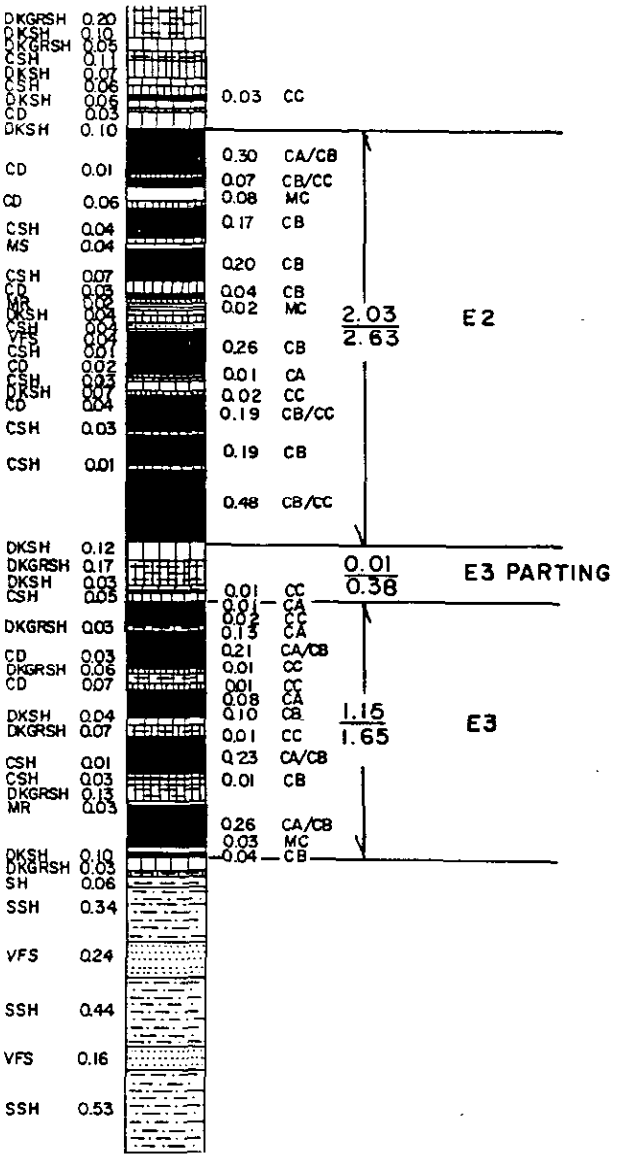
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF D SEAM
DESIGN: NCH	MESA NORTH EXTENSION	TAKEN FROM QMD89501
DRAWN: DKL		
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m	Figure 3.14	Rev. 0



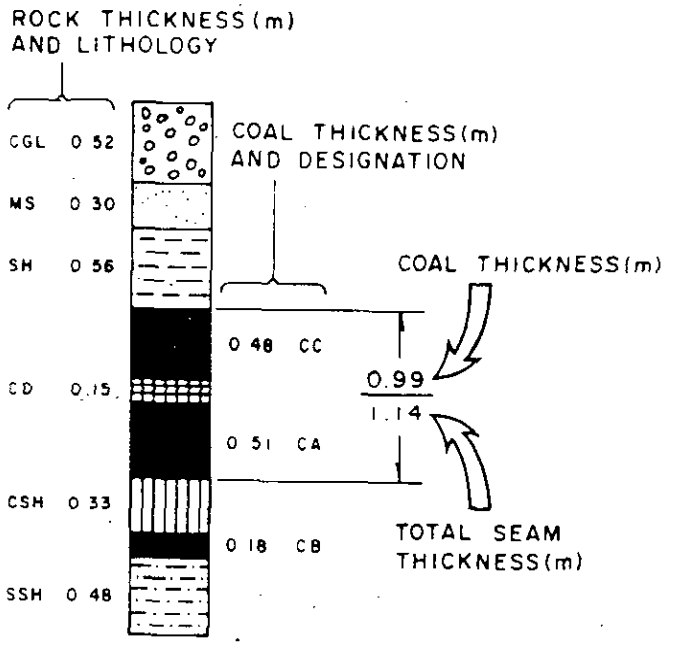
LEGEND



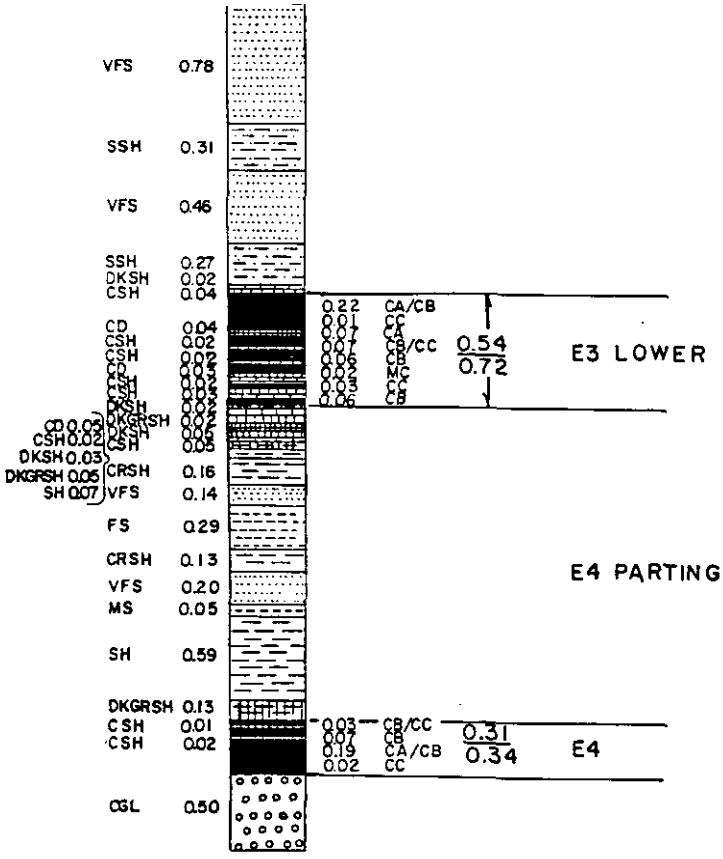
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF E1 SEAM
DESIGN: NCH	MESA NORTH EXTENSION	
DRAWN: DKL		TAKEN FROM QMD89501
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m	Figure 3.15	Rev. 0



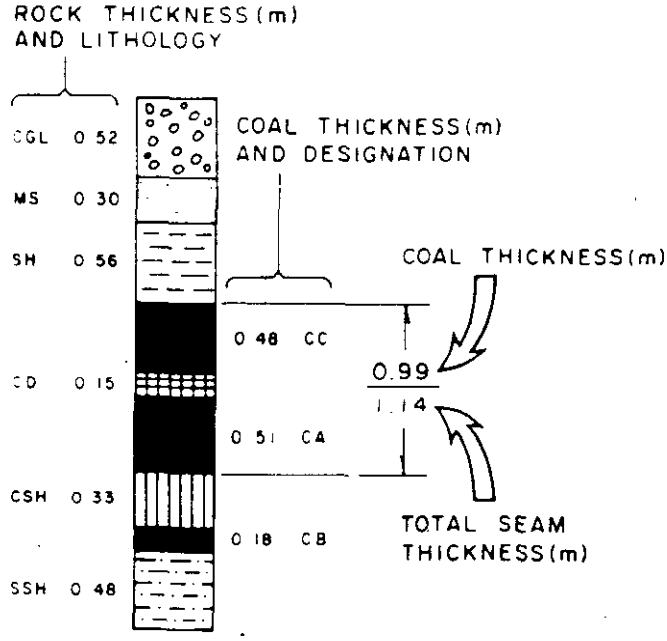
LEGEND



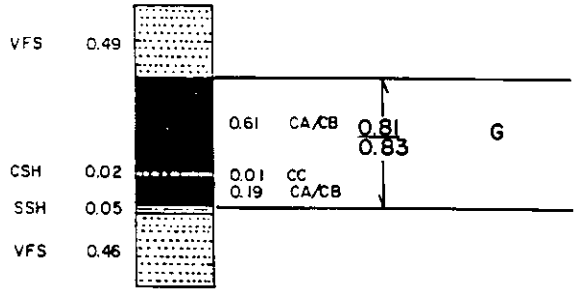
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF E2 and E3upper
DESIGN: NCH	MESA NORTH EXTENSION	
DRAWN: DKL		TAKEN FROM QMD89501
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.16 Rev. 0



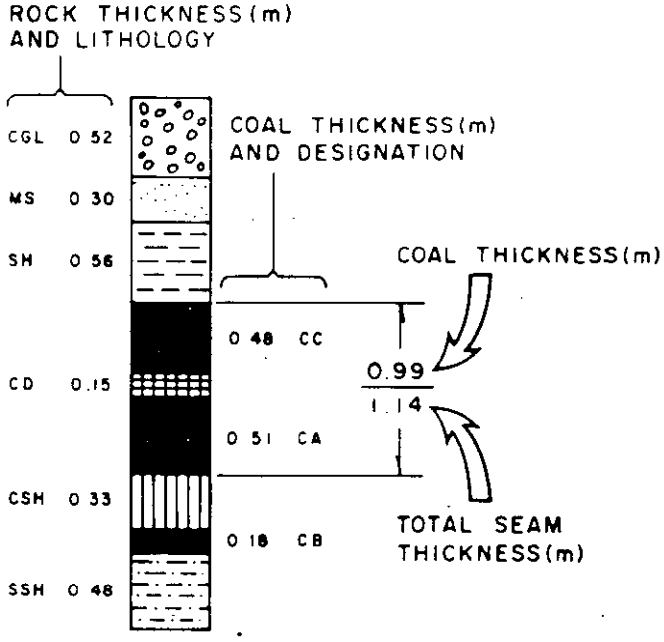
LEGEND



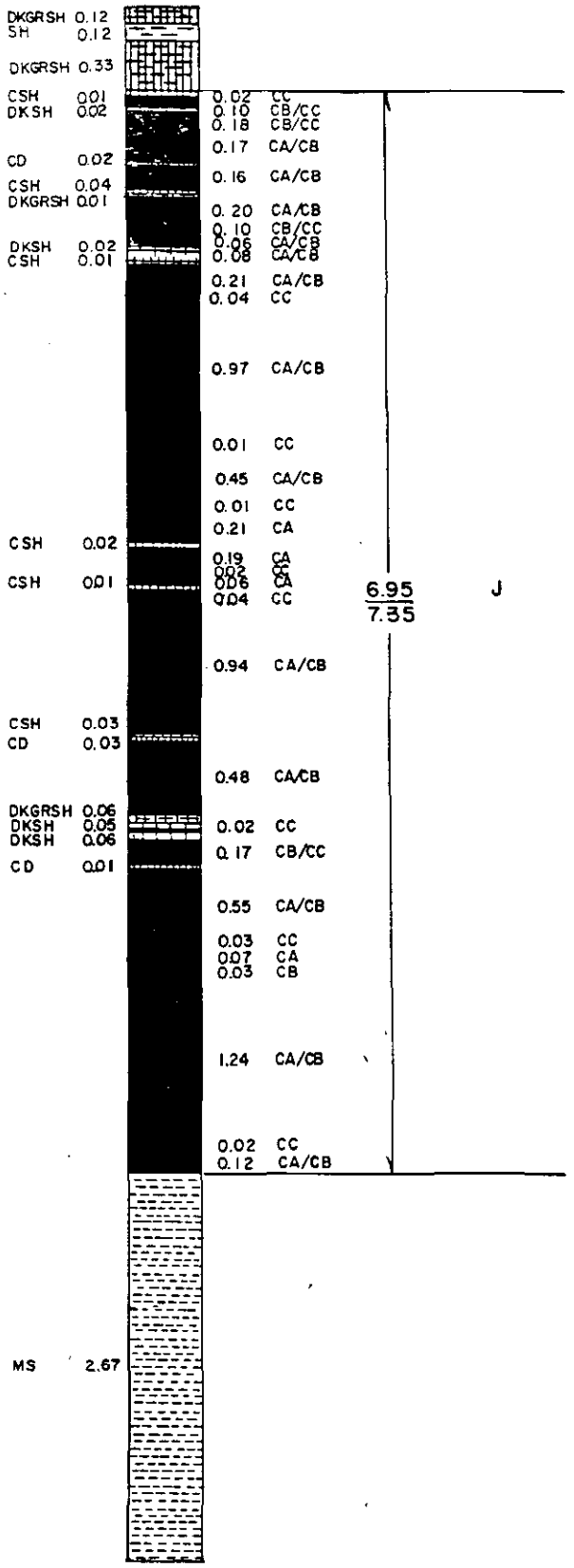
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF E3 lower and E4 SEAMS
DESIGN: NCH	MESA NORTH EXTENSION	
DRAWN: DKL		TAKEN FROM QMD89501
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.17 — Rev. 0



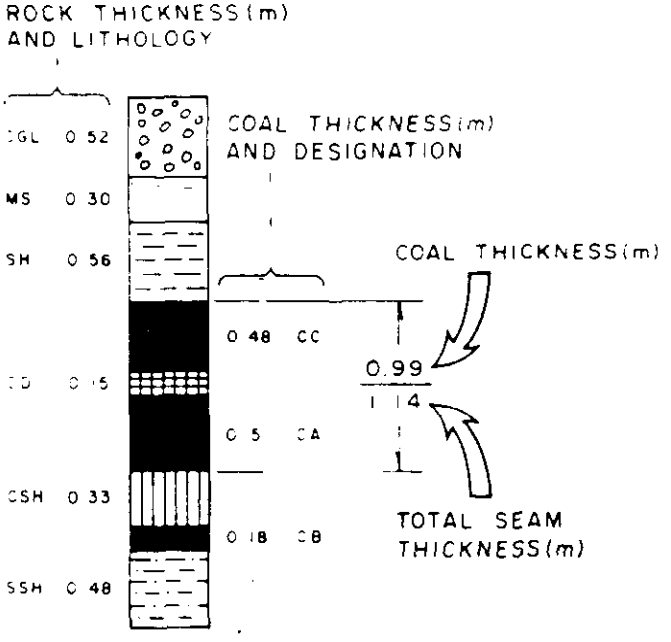
LEGEND



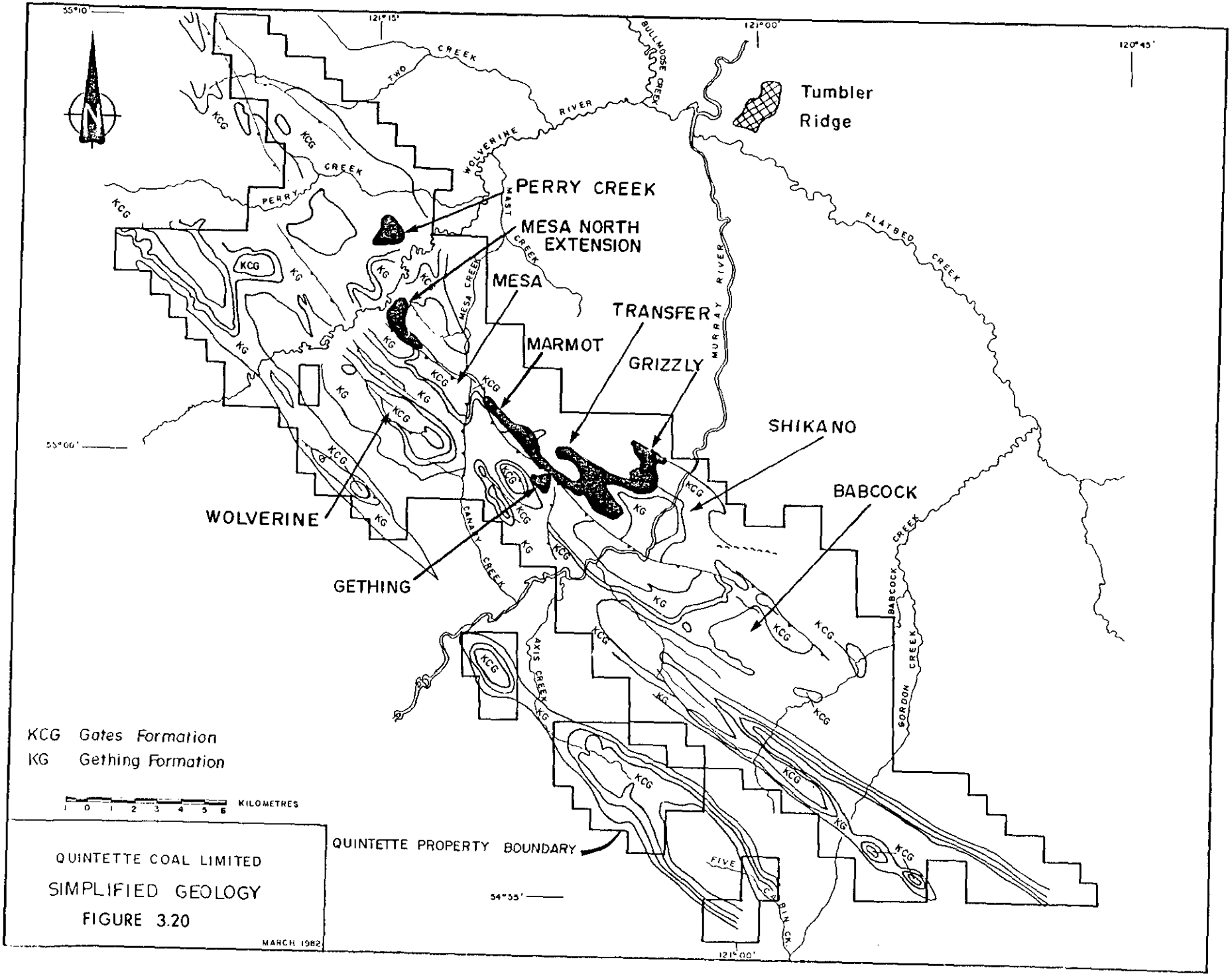
DATE: 90·03·06	Quintette Coal Limited	TYPICAL SECTION OF G SEAM
DESIGN: N C H	MESA NORTH EXTENSION	
DRAWN: D K L		TAKEN FROM QMD89501
SCALE: 1:50 (Vertical) 0m 1m 2m 3m 4m	Figure 3.18	Rev. 0

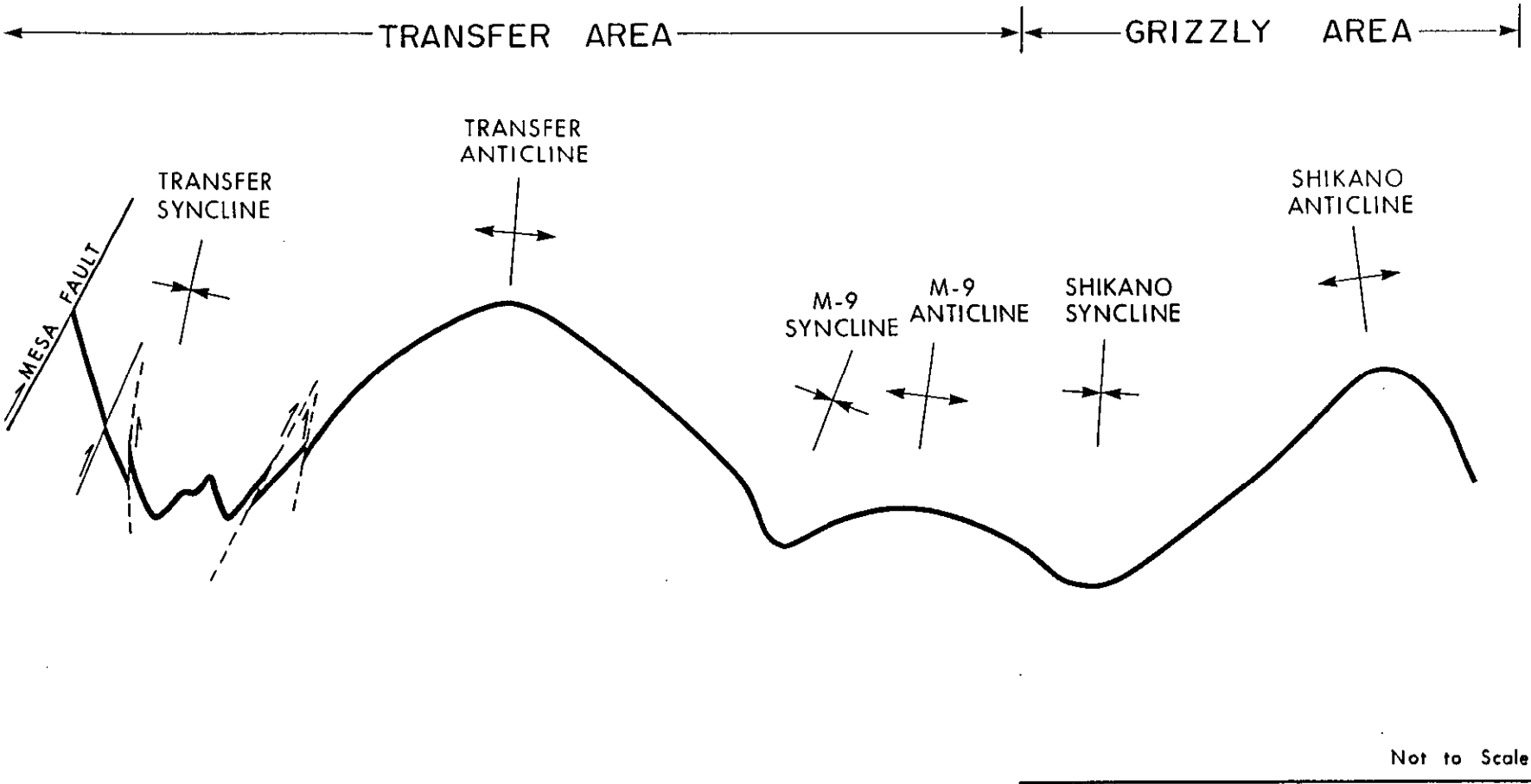


LEGEND



DATE: 90-03-06	Quintette Coal Limited	TYPICAL SECTION OF J SEAM
DESIGN: NCH	MESA NORTH EXTENSION	
DRAWN: DKL		TAKEN FROM QMD89501
SCALE: 1:50 (Vertical)	0m 1m 2m 3m 4m	Figure 3.19 Rev. 0


Tumbler Ridge
PERRY CREEK
MESA NORTH EXTENSION
MESA
TRANSFER
MARMOT
GRIZZLY
SHIKANO
BABCOCK
WOLVERINE
GETHING
KCG Gates Formation
KG Gething Formation
KILOMETRES
QUINTETTE PROPERTY BOUNDARY
QUINTETTE COAL LIMITED
SIMPLIFIED GEOLOGY
FIGURE 3.20
MARCH 1982

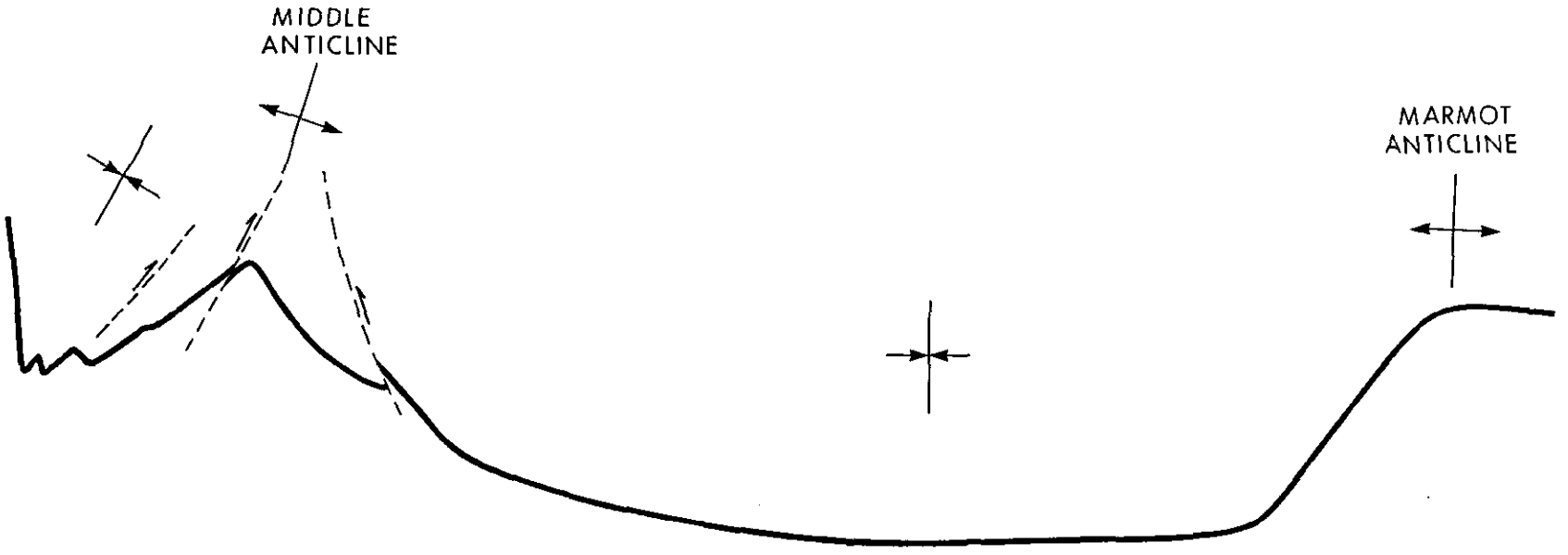


Not to Scale

NOTE: Stylized Line Represents J Seam

TRANSFER AND GRIZZLY STYLIZED SECTION

FIGURE 3.21



Not to Scale

NOTE: Stylized Line Represents J Seam

WOLVERINE VALLEY SOUTH
STYLIZED SECTION

FIGURE 3.22

4.0 QUALITY

Quality assessment for the Transfer, Grizzly, and Mesa North Extension Areas is based on laboratory analysis and washability studies carried out on drill core and adit samples. Analytical data are presented in Appendix 2. The Transfer and Grizzly data is based on core from 35 holes and bulk samples from each mineable seam. The Mesa North Extension data is based on the analysis of core from 6 holes.

Drill core analysis and laboratory scale washabilities were conducted by Cyclone Engineering Sales Limited and Commercial Testing and Engineering. Extensive analytical studies were conducted on all composite samples, usually including the following:

Proximate Analysis	Free Swelling Index (FSI)
Sulphur Content	Dilatation and Gieseler Fluidity
Ash Analysis	Hardgrove Grindability Index
Calorific Value	Petrographic Analysis
Ash Fusibility	Washability Testing

The initial component samples were from 64 mm (HQ) diameter core samples. Analyses were performed on coal from all seams included in the resource areas.

The coal seams within the Transfer, Grizzly, and Mesa North Extension Areas can be ranked according to the ASTM method of coal classification as low to medium volatile bituminous. Using mean maximum reflectance, all seams except K2 in Transfer and Grizzly can be classified as medium volatile bituminous.

Table 4.1 summarizes the current QCL product specifications and compares them to expected product quality from the Areas. All resources would be developed in conjunction with other pits and the raw coal would be fed to the plant as a blend of its seams, along with coal from other pits.

4.1 RAW COAL QUALITY

Mean values of Transfer and Grizzly raw coal quality are summarized in Table 4.2 and for Mesa North Extension in Table 4.8. The analytical data are detailed by seam in Appendix 2. Analyses include residual moisture (RM), ash, volatile matter (VM), free swelling index (FSI), and sulphur (S).

In Transfer and Grizzly, the raw coal has insitu ash values (db) ranging between 12.46 and 33.33%. Mesa North Extension has insitu ash values ranging between 7.57 and 31.28%. Volatiles on a dmmf basis range between 19.44% (K2) to 22.47% (F) in Transfer and Grizzly as compared to a range of 24.28% (J) and 27.80% (D) in Mesa North Extension. As is indicated by the generally higher volatiles in Mesa North Extension, raw FSI's also have a higher range between 3.5 and 7 as compared to 2.5 and 5 for Transfer and Grizzly. Raw sulphur values appear lower in Transfer and Grizzly than Mesa North Extension.

4.2 CLEAN COAL

Analytical data for clean coal were derived from the analysis of the simulated product from drill core washability. Bulk adit samples were washed in a pilot scale plant and the product analyzed. Drill core component samples were combined to produce a composite sample. A clean coal product for each seam composite was prepared by combining float fractions from each sample to create the simulated clean coal (see Drill Core Analysis Flow Diagram, Figure 2.5). Analytical data are detailed in Appendix 2. Table 4.3 summarizes the mean values of the simulated clean coal for Transfer and Grizzly while Table 4.9 summarizes the values for Mesa North Extension.

The clean coal FSI's for Transfer and Grizzly and Mesa North Extension range between 4.5 and 7. Sulphur ranges between 0.27% and 0.71% however, since most of the coal in both areas will come from J seam with a sulphur content of less than 0.30%, it will not present a problem. Fluidity is higher in Mesa North Extension averaging between 87 and 64 ddpm while Transfer and Grizzly averages range between 3 and 64 ddpm.

Mean values for each seam in each area are presented in Table 4.4 to 4.7 and 4.10 to 4.13 for: clean coal thermal rheological quality; clean coal ash analysis; clean coal ash fusion; and mean petrographic characteristics.

Table 4.1

TRANSFER AND GRIZZLY
COMPARISON OF ANALYSIS TO CONTRACT SPECIFICATIONS

	Total Moisture %	Size	Proximate (adb) Ash %	Proximate (adb) V M %	Sulphur (adb)	FSI
CONTRACT-Metallurgical	Max 8	2" x 0	Max 9.5	20-26	Max 0.5	Min 4.5
TRANSFER AND GRIZZLY	Controlled by Plant	Controlled by Plant	Controlled by Plant	18.51 - 20.82	0.27 - 0.53	4.5 - 6.8
MESA NORTH EXTENSION	Controlled by Plant	Controlled by Plant	Controlled by Plant	21.82 - 26.33	0.29 - 0.71	6.0 - 6.6

Note: Values are from Means of individual seams.

Table 4.2

TRANSFER AND GRIZZLY

MEAN VALUES OF ALL SEAMS

RAW COAL

SEAM	RM	ASH (db)	VM (db)	VM (dmmf)	FSI	S (db)
B	1.82	10.97	22.20	23.92	4.8	0.88
D	0.68	25.43	19.29	23.19	4.3	1.47
E	0.88	31.52	18.28	23.99	3.5	0.42
F	0.79	20.45	19.29	22.47	4.9	0.50
G	0.78	33.33	16.01	20.52	3.4	0.47
J	0.76	12.62	19.51	21.33	4.0	0.26
J+K1	0.62	25.88	16.72	20.24	2.4	0.25
K1	0.69	12.46	18.81	20.54	4.8	0.42
K2	0.64	16.75	17.42	19.44	3.6	0.56
WT AVG*	0.70	26.23	17.11	20.74	3.2	0.37

* WT AVG DERIVED FROM RESERVES IN THE MARCH 1987,"TRANSFER AREA GEOLOGICAL REPORT",USING TONNES OF WET CLEAN COAL FOR SEAMS F, G, J+K1 AND K2 ONLY.

Note: Adit data is not included

Table 4.3

TRANSFER AND GRIZZLY

MEAN VALUES OF ALL SEAMS

CLEAN COAL

SEAM	RM	ASH (db)	VM (db)	VM (dmmf)	FSI	S (db)	HGI	CV (c/g,db)	MF (ddpm)	C + D %
B	0.97	4.92	23.12	23.77	5.0	0.79	NA	8135	136	15
D	0.44	6.90	22.36	23.28	6.7	0.96	85	8036	266	34
E	0.62	10.69	21.54	23.22	7.2	0.58	NA	7718	121	35
F	0.68	8.09	20.96	22.10	6.8	0.50	92	7974	19	16
G	0.65	9.14	20.24	21.49	6.2	0.43	87	7857	64	20
J	0.83	7.77	19.51	20.53	4.6	0.27	84	7980	3	0
J+K1	0.35	8.80	19.32	20.48	4.5	0.28	88	7916	3	0
K1	0.73	6.91	19.39	20.24	5.2	0.42	92	8092	3	4
K2	0.53	6.34	18.61	19.27	5.4	0.53	89	8164	8	16
WT AVG*	0.50	8.61	19.86	21.01	5.4	0.37	88	7927	20	8

* WT AVG DERIVED FROM RESERVES IN THE MARCH 1987, "TRANSFER AREA GEOLOGICAL REPORT", USING TONNES OF WET CLEAN COAL FOR SEAMS F, G, J+K1 AND K2 ONLY.

Note: Adit data is not included

Table 4.4

TRANSFER AND GRIZZLY

THERMAL RHEOLOGICAL QUALITY - MEAN VALUES OF ALL SEAMS

CLEAN COAL

SEAM	FSI	GIESELER FLUIDITY					DILATATION				
		MAX FLUIDITY (DDPM)	TEMPERATURE (DEGREE C)				TEMPERATURE (DEGREE C)			MAXIMIUM %	
			INITIAL SOFTENING	MAXIMUM FLUIDITY	SOLID-IFICATION	RANGE	INITIAL SOFTENING	INITIAL DILATION	MAXIMUM DILATION	DILATION	CONTRACTION
B	5.0	136	445	471	488	42	405	476	486	-6	21
D	6.7	245	426	467	497	71	387	454	474	11	26
E	7.2	121	433	471	496	63	399	462	478	4	31
F	6.9	20	437	471	492	55	410	424	482	-7	23
G	6.3	61	436	469	490	54	412	426	481	-5	26
J	4.6	3	443	470	491	48	418	422	463	-21	22
J+K1	4.5	3	461	476	488	27	431		481	-31	31
K1	5.5	4	448	473	493	45	424	381	484	-18	25
K2	5.3	8	449	474	493	41	428	439	489	-13	27

Note: Adit data is not included

Table 4.5

TRANSFER AND GRIZZLY

MEAN VALUES OF ALL SEAMS

CLEAN COAL - ASH ANALYSIS (% OF ASH)

SEAM	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	SrO	BaO
B	61.68	23.08	1.12	4.47	3.83	0.75	0.25	1.32	1.25	1.58	0.16	0.62
D	47.83	22.27	0.98	11.23	8.00	1.18	0.28	0.47	1.82	6.51	0.18	0.79
E	55.64	29.17	1.35	2.81	3.15	0.82	0.43	0.79	1.30	3.06	0.24	0.98
F	50.45	25.68	1.20	3.64	6.63	1.51	0.45	0.84	3.06	3.96	0.41	1.53
G	61.74	26.05	1.30	2.39	2.75	0.80	0.38	0.79	0.81	1.90	0.21	0.68
J	52.18	22.62	1.28	3.69	8.74	1.93	1.14	0.26	1.44	4.75	0.37	1.15
J+K1	55.57	20.30	1.04	3.88	7.48	1.74	0.92	0.61	1.24	3.50		
K1	55.95	24.86	1.31	3.56	5.35	1.64	0.85	0.48	0.57	3.57	0.23	0.80
K2	63.87	20.51	1.50	3.57	3.43	1.14	0.62	0.50	0.41	3.33	0.19	0.60
WT AVG*	56.07	22.75	1.15	3.49	6.11	1.46	0.68	0.70	1.53	3.25	0.14	0.52

* WT AVG DERIVED FROM RESERVES IN THE MARCH 1987, "TRANSFER AREA GEOLOGICAL REPORT", USING TONNES OF WET CLEAN COAL FOR SEAMS F, G, J+K1 AND K2 ONLY.

Note: Adit data is not included

Table 4.6

TRANSFER AND GRIZZLY

MEAN VALUES OF ALL SEAMS

CLEAN COAL - FUSIBILITY OF COAL ASH

SEAM	REDUCING				OXIDIZING			
	INITIAL DEFORM. (deg C)	SOFTEN-ING (deg C)	HEMISPH-ERICAL (deg C)	FLUID (deg C)	INITIAL DEFORM. (deg C)	SOFTEN-ING (deg C)	HEMISPH-ERICAL (deg C)	FLUID (deg C)
B	NO DATA AVAILABLE							
D	1470	1500	1500	1500	1500	1500	1500	1500
E	NO DATA AVAILABLE							
F	1298	1375	1410	1455	1325	1390	1422	1461
G	1395	1483	1494	1495	1456	1483	1486	1495
J	1325	1364	1408	1461	1351	1381	1410	1465
J+K1	1244	1314	1339	1377	1264	1335	1360	1391
K1	1358	1417	1466	1482	1381	1435	1472	1482
K2	1311	1440	1452	1472	1386	1459	1467	1477
WT AVG*	1291	1369	1392	1424	1324	1384	1405	1432

* WT AVG DERIVED FROM RESERVES IN THE MARCH 1987, "TRANSFER AREA GEOLOGICAL REPORT", USING TONNES OF WET CLEAN COAL FOR SEAMS F, G, J+K1 AND K2 ONLY.

Note: Adit data is not included

Table 4.7

TRANSFER AND GRIZZLY

PETROGRAPHIC INDICES - MEAN VALUES OF ALL SEAMS
CLEAN COMPOSITES

SEAM	MEAN MAXIMUM REFLECTANCE	COMPOSITION BALANCE INDEX	CALCULATED STRENGTH INDEX	CALCULATED STABILITY INDEX	ESTIMATED COKE STRENGTH	PREDICTED FSI	TOTAL REACTIVES
B	1.31	1.87	5.32	57	93.7	7.2	66.2
D	1.32	2.42	5.40	53	93.4	6.6	61.2
E	1.40	1.77	6.34	62	93.9	8.3	72.3
F	1.41	2.28	6.30	59	93.8	7.5	67.8
G	1.45	2.83	6.55	56	93.0	7.2	66.5
J	1.45	4.22	6.31	45	91.0	5.2	56.3
J+K1	1.49	4.36	6.54	45	91.5	4.9	58.0
K1	1.51	3.78	6.70	50	92.4	6.0	62.8
K2	1.56	3.78	6.90	49	90.6	6.8	67.7

Note: Adit data is not included

Table 4.8

MESA NORTH EXTENSION

MEAN VALUES OF ALL SEAMS

RAW COAL

SEAM	RM	ASH (db)	VM (db)	VM (dmmf)	FSI	S (db)
B	0.88	18.79	22.42	26.07	4.5	0.55
D	0.86	18.21	24.05	27.80	5.7	0.96
E	0.87	31.28	20.52	27.77	3.8	0.39
G	0.97	7.57	23.92	25.23	6.6	0.66
J	0.74	14.17	21.77	24.28	5.6	0.29
MEAN VAL.	0.86	18.00	22.54	26.23	5.2	0.57

Table 4.9

MESA NORTH EXTENSION

MEAN VALUES OF ALL SEAMS

CLEAN COAL

SEAM	RM	ASH (db)	VM (db)	VM (dmmf)	FSI	S (db)	HGI	CV (c/g,db)	MF (ddpm)	C + D %
B	0.60	10.52	24.45	26.46	5.5	0.61		7728	615	52
D	0.95	7.89	25.15	26.58	6.6	0.71	80	7909	235	57
E	0.91	12.15	23.66	25.99	6.3	0.47	80	7505	142	44
G	1.08	5.17	24.75	25.60	6.4	0.69	78	8162	377	74
J	1.16	8.03	22.08	23.39	6.0	0.29	80	7909	87	9
MEAN VAL.	0.94	8.75	24.02	25.60	6.2	0.55	79	7843	291	47

QUINTETTE

Table 4.10

MESA NORTH EXTENSION

THERMAL RHEOLOGICAL QUALITY - MEAN VALUES OF ALL SEAMS

CLEAN COAL

SEAM	FSI	GIESELER FLUIDITY					DILATATION				
		MAX FLUIDITY (DDPM)	TEMPERATURE (DEGREE C)				TEMPERATURE (DEGREE C)			MAXIMIUM %	
			INITIAL SOFTENING	MAXIMUM FLUIDITY	SOLID-IFICATION	RANGE	INITIAL SOFTENING	INITIAL DILATION	MAXIMUM DILATION	DILATION	CONTRACTION
B	5.5	615	410	454	489	79	369	434	463	25	27
D	6.6	235	417	459	489	72	370	444	475	29	28
E	6.3	142	425	462	487	74	395	457	476	16	28
G	6.4	377	431	465	488	56	392	458	487	49	25
J	6.0	87	438	465	486	48	406	464	466	-19	28
MEAN VAL.	6.2	291	424	461	488	66	386	451	473	20	27

Table 4.11

MESA NORTH EXTENSION

MEAN VALUES OF ALL SEAMS

	CLEAN COAL - ASH ANALYSIS (% OF ASH)											
SEAM	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	SrO	BaO
B	62.72	22.75	1.05	5.76	2.60	1.30	0.55	1.73	1.73	2.08	0.19	0.62
D	51.87	25.14	1.01	7.80	4.90	1.86	0.25	0.82	1.38	4.07	0.20	0.79
E	54.44	24.09	1.25	3.49	7.03	2.45	0.42	1.27	1.02	3.19	0.17	0.72
G	58.23	30.41	1.04	3.17	1.75	1.28	0.47	1.87	0.54	3.20	0.17	0.83
J	51.93	23.27	1.36	3.93	7.79	1.91	1.20	0.40	0.55	5.56	0.23	0.97
MEAN VAL.	55.84	25.13	1.14	4.83	4.81	1.76	0.58	1.22	1.04	3.62	0.19	0.79

Table 4.12

MESA NORTH EXTENSION

MEAN VALUES OF ALL SEAMS

CLEAN COAL - FUSIBILITY OF COAL ASH

SEAM	REDUCING				OXIDIZING			
	INITIAL DEFORM. (deg C)	SOFTEN-ING (deg C)	HEMISPH-ERICAL (deg C)	FLUID (deg C)	INITIAL DEFORM. (deg C)	SOFTEN-ING (deg C)	HEMISPH-ERICAL (deg C)	FLUID (deg C)
B	NO DATA AVAILABLE							
D	1260	1371	1409	1447	1313	1418	1436	1469
E	1305	1391	1409	1438	1331	1404	1424	1450
G	1316	1491	1491	1491	1316	1491	1491	1491
J	1299	1345	1396	1439	1324	1370	1413	1445
MEAN VAL.	1295	1399	1426	1454	1321	1421	1441	1464

Table 4.13

MESA NORTH EXTENSION

PETROGRAPHIC INDICES - MEAN VALUES OF ALL SEAMS
CLEAN COMPOSITES

SEAM	MEAN MAXIMUM REFLECTANCE	COMPOSITION BALANCE INDEX	CALCULATED STRENGTH INDEX	CALCULATED STABILITY INDEX	ESTIMATED COKE STRENGTH	PREDICTED FSI	TOTAL REACTIVES
B	1.16	1.32	4.40	57	93.9	7.0	67.6
D	1.17	1.48	4.31	48	90.2	6.6	65.1
E	1.25	1.97	4.43	50	91.6	6.6	65.7
G	1.45	2.74	6.55	56	93.3	7.3	66.8
J	1.47	3.97	6.51	48	92.3	5.4	59.0
MEAN VAL.	1.30	2.29	5.24	52	92.3	6.6	64.8

Appendix T.1
1989 Geological Report
Legal Description of Coal Licences

APPENDIX T.1
LEGAL DESCRIPTION OF THE QUINTETTE COAL LICENCES

Licence No	Date Issued	Series	Block	Units	Paying Hectares
3633	May 27/75	93-P-3	C	63, 64, 73, 74	297
3632	May 27/75	93-P-3	C	47, 48, 57, 58	297
3631	May 27/75	93-P-3	C	25	75
3630	May 27/75	93-P-3	C	23, 33	149
3629	May 27/75	93-P-3	C	21, 22, 31, 32	298
3628	May 27/75	93-P-3	C	15	75
3627	May 27/75	93-P-3	C	3, 4, 13, 14	298
3626	May 27/75	93-P-3	C	11, 12	149
3618	May 27/75	93-P-3	B	3, 4, 13, 14	298
3606	Apr 29/75	93-P-3	F	25, 35	149
3605	Apr 29/75	93-P-3	F	23, 24, 33, 34	297
3604	Apr 29/75	93-P-3	F	21, 22, 31, 32	297
3603	Apr 29/75	93-P-3	F	5, 6, 15,16	297
3602	Apr 29/75	93-P-3	F	3, 4, 13, 14	297
3601	Apr 29/75	93-P-3	F	1, 2, 11, 12	297
3600	Apr 29/75	93-P-3	G	9, 10, 19, 20	297
3599	Apr 29/75	93-P-3	G	8, 18	149
3598	Apr 29/75	93-P-3	C	83, 84, 93, 94	297
3597	Apr 29/75	93-P-3	C	81, 82, 91, 92	297
3596	Apr 29/75	93-P-3	B	100	75
3595	Apr 29/75	93-P-3	B	87, 88, 97	223
3594	Apr 29/75	93-P-3	B	69, 79	149
3593	Apr 29/75	93-P-3	B	67, 68, 77, 78	297
3592	Apr 29/75	93-P-3	B	66, 76	149
3406	Feb 1/75	93-P-3	F	7, 17	149
3405	Feb 1/75	93-P-3	D	83, 84, 93, 94	297
3404	Feb 1/75	93-P-3	D	81, 82, 91, 92	297
3402	Feb 1/75	93-P-3	D	61, 71, 72	223
3401	Feb 1/75	93-P-3	C	89, 90, 99, 100	297
3400	Feb 1/75	93-P-3	C	87, 88, 97, 98	297
3399	Feb 1/75	93-P-3	C	85, 86, 95, 96	297
3398	Feb 1/75	93-P-3	C	69, 70, 79, 80	297
3397	Feb 1/75	93-P-3	C	67, 68, 77, 78	297
3396	Feb 1/75	93-P-3	C	65, 66, 75, 76	297
3395	Feb 1/75	93-P-3	C	49, 59, 60	223
3394	Nov 25/74	93-P-3	F	89, 99	149
3393	Nov 25/74	93-P-3	F	87, 88, 97, 98	296
3392	Nov 25/74	93-P-3	F	86	75

Licence No	Date Issued	Series	Block	Units	Paying Hectares
3391	Nov 25/74	93-P-3	F	67, 68, 77, 78	297
3390	Nov 25/74	93-P-3	F	65, 66, 75, 76	297
3389	Nov 25/74	93-P-3	F	63, 64, 74	223
3388	Nov 25/74	93-P-3	F	45, 46, 55, 56	297
3387	Nov 25/74	93-P-3	F	43, 44, 53, 54	297
3386	Nov 25/74	93-P-3	F	41, 42, 51, 52	297
3385	Nov 25/74	93-P-3	G	50	75
3384	Nov 25/74	93-P-3	G	29, 30 39, 40	297
3383	Nov 25/74	93-P-3	G	27, 28	149
3382	Nov 25/74	93-P-3	B	86, 95, 96	223
3381	Nov 25/74	93-P-3	C	71, 72	149
3380	Nov 25/74	93-I-14	J	51, 52	149
3374	Nov 25/74	93-I-15	E	85, 86, 95, 96	298
3373	Nov 25/74	93-I-15	E	83, 84, 93, 94	298
3371	Nov 25/74	93-I-15	E	63, 64, 73, 74	298
3369	Nov 25/74	93-I-15	D	90, 100	150
3367	Nov 25/74	93-I-14	G	83, 84, 93, 94	298
3366	Nov 25/74	93-I-14	A	81, 82, 91, 92	299
3364	Oct 16/74	93-I-15	E	9, 10, 19, 20	299
3362	Oct 16/74	93-I-14	J	5, 15	149
3361	Oct 16/74	93-I-14	J	3, 4, 13, 14	298
3360	Oct 16/74	93-I-14	H	69, 70, 79, 80	298
3359	Oct 16/74	93-I-14	H	67, 68, 77, 78	298
3358	Oct 16/74	93-I-14	H	65, 66	149
3357	Oct 16/74	93-I-14	H	49, 59, 60	224
3356	Oct 16/74	93-I-14	H	47, 48, 57,58	298
3355	Oct 16/74	93-I-14	H	45, 46, 55, 56	298
3354	Oct 16/74	93-I-14	H	43, 44, 53, 54	298
3353	Oct 16/74	93-I-14	H	37, 38	149
3352	Oct 16/74	93-I-14	H	25, 26, 35, 36	299
3351	Oct 16/74	93-I-14	K	83, 93, 94	223
3350	Oct 16/74	93-I-14	K	81, 82, 92	223
3349	Oct 16/74	93-I-14	K	71	75
3346	Oct 16/74	93-I-14	J	83, 84, 93, 94	298
3345	Oct 16/74	93-I-14	J	69, 70, 79, 80	298
3344	Oct 16/74	93-I-14	J	63, 73, 74	223
3343	Oct 16/74	93-I-14	J	61, 62, 71, 72	298
3341	Oct 16/74	93-I-14	I	89, 99	149
3340	Oct 16/74	93-I-14	I	87, 88, 98	223
3339	Oct 16/74	93-I-14	I	85, 86, 95	223
3336	Oct 16/74	93-I-14	I	69, 70, 79, 80	298
3335	Oct 16/74	93-I-14	I	67, 68, 77, 78	298
3326	Oct 16/74	93-I-14	I	29, 30, 39, 40	298

Licence No	Date Issued	Series	Block	Units	Paying Hectares
3325	Oct 16/74	93-I-14	I	27, 28, 37, 38	298
3324	Oct 16/74	93-I-14	I	25, 26, 35, 36	298
3320	Oct 16/74	93-I-14	I	7, 8, 17, 18	298
3319	Oct 16/74	93-I-14	I	5, 6, 15, 16	298
3316	Oct 16/74	93-I-14	H	85, 86, 95, 96	298
3315	Oct 16/74	93-I-14	H	83, 84, 93, 94	298
3314	Oct 16/74	93-I-14	H	81, 82, 91, 92	298
3313	Oct 16/74	93-I-14	H	73	75
3312	Oct 16/74	93-I-14	H	61, 62, 71, 72	298
3304	Oct 16/74	93-I-15	E	89, 90, 99, 100	298
3303	Oct 16/74	93-I-15	E	87, 88, 97, 98	298
3302	oct 16/74	93-I-15	E	69, 70, 79, 80	298
3301	Oct 16/74	93-I-15	E	67, 68, 77, 78	298
3300	Oct 16/74	93-I-15	E	65, 66, 75, 76	298
3299	Oct 16/74	93-I-15	E	59, 60	149
3298	Oct 16/74	93-I-15	E	47, 48, 57, 58	298
3297	Oct 16/74	93-I-15	E	45, 46,55, 56	298
3296	Oct 16/74	93-I-15	E	43, 44, 53, 54	298
3295	Oct 16/74	93-I-15	E	41, 42, 51, 52	298
3293	Oct 16/74	93-I-15	E	25, 26, 35, 36	299
3292	Oct 16/74	93-I-15	E	23, 24, 33, 34	299
3291	Oct 16/74	93-I-15	E	21, 22, 31, 32	299
3290	Oct 16/74	93-I-15	E	3, 4, 13, 14	299
3289	Oct 16/74	93-I-15	E	1, 2, 11, 12	299
3288	Oct 16/74	93-I-15	F	49, 50, 59, 60	298
3287	Oct 16/74	93-I-15	F	48	75
3286	Oct 16/74	93-I-15	F	29, 30, 39, 40	299
3285	Oct 16/74	93-I-15	F	27, 28, 37, 38	299
3284	Oct 16/74	93-I-15	F	25, 26	150
3282	Oct 16/74	93-I-15	F	7, 8, 17, 18	299
3281	Oct 16/74	93-I-15	F	5, 6, 15, 16	299
3280	Oct 16/74	93-I-15	F	3, 4, 13, 14	299
3279	Oct 16/74	93-I-15	F	2	75
3662	Sep 27/76	93-I-14	J	81, 82, 91, 92	298
3661	Sep 27/76	93-I-14	I	90, 100	149
3660	Sep 17/76	93-P-3	B	1, 2, 11,12	298
4532	Jan 15/79	93-P-3	B	70, 80	149
4533	Jan 15/79	93-P-3	B	98	75
4534	Jan 15/79	93-P-3	B	89, 90, 99	223
4535	Jan 15/79	93-P-3	C	1, 2	149
4537	Jan 15/79	93-P-3	C	26, 35, 36	223

Licence No	Date Issued	Series	Block	Units	Paying Hectares
4538	Jan 15/79	93-P-3	C	27, 28, 37, 38	297
4540	Jan 15/79	93-P-3	C	43, 44, 53, 54	297
4541	Jan 15/79	93-P-3	C	45, 46, 55, 56	297
4542	Jan 15/79	93-P-3	C	61, 62	149
4544	Jan 15/79	93-I-14	K	91	75
7845	Aug /84	93-I-14	I	96	75
7846	Aug /84	93-I-14	I	97	75
7847	Aug /84	93-P-3	S	5, 6, 15, 16	300
7848	Aug /84	93-P-3	A	7, 8, 17, 18	300
7849	Aug /84	93-P-3	A	9, 10, 19, 20	300
7850	Aug /84	93-P-3	B	21, 22, 31, 32	300
7851	Aug /84	93-P-3	B	43, 44, 53, 54	300
7852	Aug /84	93-P-3	B	65, 75	150
7853	Aug /84	93-P-3	B	85	75
				Total hectares	33,001

Appendix T.2
1989 Geological Report
Drill Hole Summaries

Appendix T.2.1

Rotary Drill Holes

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB4017	877.05	6095367.55	624352.73	128.00	OVER	0.00	4.50	0.00	128.00	51.70	90.00
					F1	44.72	45.16				
					F2P	45.16	45.41				
					F2	45.41	50.02				
					F	44.72	50.02				
					G12	71.99	74.52				
					G3P	74.52	75.14				
					G3	75.14	76.68				
					G	71.99	76.68				
					J	98.49	104.27				
					K1P	104.27	105.48				
					K1	105.48	107.56				
					K2P	107.56	110.75				
					K2	110.75	111.66				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB4018	857.66	6095285.33	623971.80	238.30	OVER	0.00	5.80	0.00	238.30	282.50	85.90
					COAL	19.94	20.87				
					COAL	78.40	79.83				
					COAL	114.50	115.04				
					COAL	115.29	115.64				
					COAL	115.92	116.13				
					F	142.80	145.35				
					FAULT	145.35	145.35				
					F	145.35	149.54				
					G1	187.50	188.43				
					G2P	188.43	188.77				
					G2	188.77	189.61				
					G12	187.50	189.61				
					G3P	189.61	190.00				
					G3	190.00	191.47				
					G	187.50	191.47				
					J	208.60	214.96				
					K1P	214.96	215.85				
					K1	215.85	217.18				
					K2P	217.18	222.80				
					K2	222.80	223.83				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB4027	860.26	6095326.53	623962.42	32.00	OVER	0.00	8.50	0.00	32.00	51.70	90.00
					COAL	29.00	30.50				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR84028	879.24	6095404.36	624054.29	198.00	OVER	0.00	3.00	0.00	150.00	129.70	85.37
					COAL	59.62	61.21	150.00	170.00	149.20	75.52
					COAL	61.60	62.31	170.00	198.00	162.00	72.86
					COAL	93.93	94.69				
					COAL	94.90	95.48				
					COAL	95.66	95.84				
					F1	118.93	119.33				
					F2P	119.33	119.76				
					F2	119.76	123.46				
					F	118.93	123.46				
					G12	144.08	146.12				
					G3P	146.12	146.80				
					G3	146.80	148.18				
					G	144.08	148.18				
					J	164.22	168.35				
					K1P	168.35	170.38				
					K1	170.38	171.72				
					FAULT	171.12	171.12				
					K1	171.89	173.09				
					K2P	173.09	179.44				
					K2	179.44	179.99				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR84029	861.39	6095305.80	623944.90	54.00	OVER	0.00	8.00	0.00	54.00	51.70	90.00
					COAL	21.65	22.50				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR84030	860.26	6095326.53	623960.42	36.00	OVER	0.00	8.00	0.00	36.00	51.70	90.00
					COAL	29.45	30.35				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GHRB7001	848.18	6096302.76	624678.72	189.60	OVER	0.00	6.00	0.00	10.00	260.72	60.28
					FAULT	46.70	46.71	10.00	20.00	261.42	59.24
					D1	72.60	73.60	20.00	30.00	256.80	57.57
					D2P	73.60	74.00	30.00	40.00	255.99	57.48
					D2	74.00	74.90	40.00	50.00	259.99	56.93
					D	72.60	74.90	50.00	60.00	261.60	56.89
					E1	88.70	88.90	60.00	70.00	261.86	55.52
					E2P	88.90	90.30	70.00	80.00	260.69	54.53
					E2	90.30	90.80	80.00	90.00	260.17	54.65
					E3P	90.80	92.80	90.00	100.00	257.68	53.93
					E3	92.80	95.00	100.00	110.00	257.78	53.54
					E	88.70	95.00	110.00	120.00	258.25	52.77
					F1	114.40	115.00	120.00	130.00	258.86	52.44
					F2P	115.00	115.30	130.00	140.00	260.29	52.33
					F2	115.30	118.50	140.00	150.00	261.82	52.04
					F	114.40	118.50	150.00	160.00	266.05	51.39
					FL	118.50	118.50	160.00	170.00	264.52	52.07
					GCGL	131.00	152.50	170.00	180.00	268.44	50.92
					G1	152.50	152.80	180.00	189.60	268.44	50.92
					G2P	152.80	153.00				
					G2	153.00	154.10				
					G3P	154.10	154.90				
					G3	154.90	156.20				
					G	152.50	156.20				
					J	171.80	177.00				
					K1P	177.00	177.70				
					K1	177.70	179.70				
					K2P	179.70	184.30				
					K2	184.30	185.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87002	879.90	6096356.15	624465.26	156.30	OVER	0.00	5.00	0.00	5.00	260.98	63.64
					D1	19.80	22.30	5.00	10.00	261.61	64.03
					D2P	22.30	23.00	10.00	15.00	261.30	63.98
					D2	23.00	23.80	15.00	20.00	262.31	63.52
					D	19.80	23.80	20.00	25.00	265.08	64.32
					E2	45.60	45.90	25.00	30.00	262.92	63.77
					E	45.60	45.90	30.00	35.00	260.21	63.45
					F1	70.50	71.10	35.00	40.00	263.08	62.61
					F2P	71.10	71.60	40.00	45.00	261.88	62.51
					F2	71.60	75.80	45.00	50.00	262.13	62.30
					F	70.50	75.80	50.00	55.00	261.68	62.84
					FL	75.80	75.80	55.00	159.30	261.68	62.84
					GCGL	85.00	112.20				
					G1	112.20	112.50				
					G2P	112.50	112.60				
					G2	112.60	113.60				
					G3P	113.60	114.70				
					G3	114.70	115.90				
					G	112.20	115.90				
					J	134.00	138.90				
					K1P	138.90	140.20				
					K1	140.20	141.10				
					K2P	141.10	145.30				
					K2	145.30	145.70				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87003	895.45	6096422.35	624278.69	140.00	OVER	0.00	5.00	0.00	5.00	261.79	59.87
					E2	12.48	13.28	5.00	10.00	264.53	60.64
					E3P	13.28	14.00	10.00	140.00	264.53	60.64
					E3	14.00	14.55				
					E	12.48	14.55				
					F1	37.78	38.78				
					F2P	38.78	39.17				
					F2	39.17	42.50				
					F	37.78	42.50				
					FL	42.50	42.50				
					GCGL	48.50	82.18				
					G2	82.18	83.10				
					G3P	83.10	84.10				
					G3	84.10	85.36				
					G	82.18	85.36				
					J	102.22	106.92				
					K1P	106.92	107.71				
					K1	107.71	109.26				
					K2P	109.26	113.64				
					K2	113.64	114.34				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87004	931.67	6096486.65	624117.60	121.80	OVER	0.00	3.00	0.00	10.00	270.55	58.89
					D1	13.29	14.16	10.00	20.00	270.84	59.60
					D2P	14.16	14.86	20.00	30.00	269.84	58.76
					D2	14.86	15.44	30.00	40.00	267.33	58.05
					D	13.29	15.44	40.00	50.00	268.68	57.81
					F1	37.39	38.23	50.00	60.00	266.21	56.93
					F2P	38.23	38.50	60.00	70.00	269.25	57.37
					F2	38.50	41.60	70.00	80.00	269.39	57.22
					F	37.39	41.60	80.00	90.00	269.26	56.82
					FL	41.60	42.10	90.00	100.00	269.79	57.01
					GCGL	48.90	78.80	100.00	110.00	271.56	56.66
					G1	78.80	79.10	110.00	120.00	277.31	56.05
					G2P	79.10	79.36	120.00	121.80	277.31	56.05
					G2	79.36	80.44				
					G3P	80.44	80.84				
					G3	80.84	82.43				
					G	78.80	82.43				
					J	102.12	107.04				
					K1P	107.04	107.72				
					K1	107.72	109.10				
					K2P	109.10	113.16				
					K2	113.16	113.83				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87005	985.67	6096582.54	623827.89	117.50	OVER	0.00	5.00	0.00	10.00	260.05	63.33
					F1	28.97	29.78	10.00	20.00	263.46	62.91
					F2P	29.78	29.96	20.00	30.00	265.37	61.03
					F2	29.96	32.98	30.00	40.00	266.85	60.03
					F	28.97	32.98	40.00	50.00	265.33	61.05
					FL	32.98	33.54	50.00	60.00	265.25	61.59
					GCGL	40.70	78.61	60.00	70.00	268.46	61.93
					G2P	78.61	78.77	70.00	80.00	263.33	62.12
					G2	78.77	79.63	80.00	90.00	265.39	61.86
					G3P	79.63	80.51	90.00	100.00	267.87	61.19
					G3	80.51	81.95	100.00	110.00	265.82	60.79
					G	78.77	81.95	110.00	117.50	265.82	60.79
					J	97.51	102.47				
					K1P	102.47	103.36				
					K1	103.36	104.94				
					K2P	104.94	108.77				
					K2	108.77	109.09				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
BHR87006	1057.87	6096741.68	623311.92	182.00	OVER	0.00	5.00				
					D2	2.50	3.30				
					D	2.50	3.30				
					E3	11.80	12.50				
					E	11.80	12.50				
					F1	44.30	45.20				
					F2P	45.20	45.60				
					F2	45.60	50.50				
					F	44.30	50.50				
					FL	50.50	51.50				
					GCGL	61.60	128.10				
					G2P	128.10	128.60				
					G2	128.60	129.80				
					G3P	129.80	130.90				
					G3	130.90	133.10				
					G	128.60	133.10				
					J	157.50	165.20				
					K1P	165.20	166.40				
					K1	166.40	169.00				
					K2P	169.00	174.80				
					K2	174.80	176.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
BHR87007	1117.65	6096526.69	623136.87	170.20	OVER	0.00	2.00	0.00	10.00	272.86	88.96
					D1	7.20	7.70	10.00	20.00	108.67	87.18
					D2P	7.70	8.20	20.00	30.00	133.88	85.55
					D2	8.20	8.70	30.00	40.00	139.52	85.54
					D	7.20	8.70	40.00	50.00	147.81	84.14
					E1	32.00	32.50	50.00	60.00	139.12	82.64
					E2P	32.50	34.80	60.00	70.00	129.66	80.38
					E2	34.80	35.10	70.00	80.00	126.27	79.76
					E3P	35.10	36.00	80.00	90.00	115.78	78.86
					E3	36.00	36.30	90.00	100.00	118.49	77.65
					E4P	36.30	38.70	100.00	110.00	123.51	77.72
					E4	38.70	39.20	110.00	120.00	125.51	77.10
					E	32.00	39.20	120.00	130.00	125.32	76.59
					F1	81.64	82.44	130.00	140.00	129.68	75.90
					F2P	82.44	82.75	140.00	150.00	131.32	75.91
					F2	82.75	85.46	150.00	160.00	135.20	76.30
					F	81.64	85.46	160.00	170.00	150.90	78.50
					FL	85.46	86.37	170.00	170.20	150.90	78.50
					GCGL	94.00	134.44				
					G1	134.44	134.74				
					G2P	134.74	135.00				
					G2	135.00	135.77				
					G3P	135.77	135.91				
					G3	135.91	137.34				
					G	134.44	137.34				
					J	153.91	159.44				
					K1P	159.44	159.93				
					K1	159.93	162.03				
					K2P	162.03	164.13				
					K2	164.13	165.04				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7008	1107.99	6096594.04	623196.40	107.30	OVER	0.00	5.00				
					F1	21.00	21.50				
					F2P	21.50	21.80				
					F2	21.80	24.60				
					F	21.00	24.60				
					FL	24.60	25.50				
					GCGL	31.60	65.10				
					G1	65.60	66.20				
					G2P	66.20	67.00				
					G2	67.00	68.50				
					G3P	68.50	69.10				
					G3	69.10	70.10				
					G	65.60	70.10				
					J	85.10	89.90				
					K1P	89.90	90.80				
					K1	90.80	92.10				
					K2P	92.10	95.20				
					K2	95.20	96.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7009	1108.97	6096471.16	623293.44	132.30	OVER	0.00	3.00	0.00	10.00	140.54	88.83
					F2P	20.76	21.16	10.00	20.00	196.94	89.18
					F2	21.16	24.57	20.00	30.00	144.46	87.78
					F	19.88	24.57	30.00	40.00	119.93	87.33
					FL	24.57	25.48	40.00	50.00	121.17	86.19
					GCGL	33.20	82.00	50.00	60.00	129.87	85.36
					G2P	82.00	82.34	60.00	70.00	127.47	84.70
					G2	82.34	83.49	70.00	80.00	126.45	84.35
					G3P	83.49	84.02	80.00	90.00	127.27	83.63
					G3	84.02	85.60	90.00	100.00	129.39	83.33
					G	82.34	85.60	100.00	110.00	126.40	83.40
					J	103.39	108.83	110.00	120.00	123.28	82.51
					K1P	108.83	109.32	120.00	130.00	122.43	82.15
					K1	109.32	110.99	130.00	132.30	122.43	82.15
					K2P	110.99	114.62				
					K2	114.62	115.61				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87010	1109.67	6096347.63	623296.43	164.40	OVER	0.00	3.00	0.00	10.00	92.75	61.56
					D1	32.00	32.90	10.00	164.40	92.75	61.56
					D2P	32.90	33.40				
					D2	33.40	33.90				
					D	32.00	33.90				
					E3	66.80	67.20				
					E	66.80	67.20				
					F1	87.50	87.90				
					F2P	87.90	88.30				
					F2	88.30	90.50				
					F	87.50	90.50				
					FL	90.50	90.50				
					GCGL	98.40	125.90				
					G1	125.90	126.20				
					G2P	126.20	126.60				
					G2	126.60	127.20				
					G3P	127.20	127.80				
					G3	127.80	128.80				
					G	125.90	128.80				
					J	143.80	149.40				
					K1P	149.40	150.30				
					K1	150.30	151.70				
					K2P	151.70	154.30				
					K2	154.30	155.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87011	1107.81	6096681.67	623132.37	121.50	OVER	0.00	3.00	0.00	5.00	202.69	88.96
					F1	39.30	39.80	5.00	10.00	46.85	88.83
					F2P	39.80	40.10	10.00	15.00	40.96	87.91
					F2	40.10	42.80	15.00	20.00	2.98	88.01
					F	39.30	42.80	20.00	25.00	149.31	89.63
					FL	42.80	42.80	25.00	121.50	149.31	89.63
					GCGL	49.60	81.50				
					G1	81.50	81.70				
					G2P	81.70	81.90				
					G2	81.90	82.70				
					G3P	82.70	84.10				
					G3	84.10	84.10				
					G	81.50	84.10				
					J	100.70	106.10				
					K1P	106.10	106.80				
					K1	106.80	108.40				
					K2P	108.40	110.90				
					K2	110.90	111.40				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87012	1116.81	6096590.37	623063.54	183.30	OVER	0.00	2.00	0.00	10.00	310.00	88.15
					D1	22.30	23.06	10.00	20.00	250.02	89.48
					D2P	23.06	23.17	20.00	30.00	43.55	88.67
					D2	23.17	23.96	30.00	40.00	115.34	88.83
					D	22.30	23.96	40.00	50.00	130.98	88.12
					F1	97.09	97.80	50.00	60.00	158.55	88.83
					F2P	97.80	97.99	60.00	70.00	151.17	88.12
					F2	97.99	101.73	70.00	80.00	144.50	85.91
					F	97.09	101.73	80.00	90.00	135.53	84.81
					FL	101.73	102.87	90.00	100.00	129.55	83.54
					GCGL	109.20	147.58	100.00	110.00	127.89	82.96
					G1	147.58	147.69	110.00	120.00	126.57	81.11
					G2P	147.69	147.97	120.00	130.00	127.26	80.01
					G2	147.97	148.88	130.00	140.00	126.60	79.24
					G3P	148.88	149.08	140.00	150.00	128.81	78.87
					G3	149.08	150.81	150.00	160.00	129.37	77.73
					G	147.58	150.81	160.00	170.00	132.49	77.04
					J	166.44	170.82	170.00	180.00	132.25	76.30
					K1P	170.82	171.24	180.00	183.30	132.25	76.30
					K1	171.24	172.28				
					K2P	172.28	174.44				
					K2	174.44	175.25				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87013	1041.15	6096728.48	623477.31	143.70	OVER	0.00	3.00	0.00	10.00	262.91	59.64
					F1	56.30	57.08	10.00	20.00	262.68	60.10
					F2P	57.08	57.34	20.00	30.00	262.34	59.73
					F2	57.34	60.33	30.00	40.00	263.98	60.09
					F	56.30	60.33	40.00	50.00	262.60	60.25
					FL	60.33	61.04	50.00	60.00	261.65	59.56
					GCGL	68.10	103.68	60.00	70.00	263.14	58.32
					G1	103.68	103.99	70.00	80.00	262.76	58.81
					G2P	103.99	104.22	80.00	90.00	260.87	59.11
					G2	104.22	105.11	90.00	100.00	260.08	59.20
					G3P	105.11	105.64	100.00	110.00	261.54	59.42
					G3	105.64	107.07	110.00	120.00	260.77	58.97
					G	103.68	107.07	120.00	130.00	258.00	58.19
					J	123.84	128.74	130.00	140.00	260.79	57.64
					K1P	128.74	129.23	140.00	143.70	260.79	57.64
					K1	129.23	131.01				
					K2P	131.01	134.25				
					K2	134.25	134.98				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87014	1076.90	6096773.65	623194.30	207.40	OVER	0.00	3.00				
					E4	34.90	35.20				
					E	34.90	35.20				
					F1	67.50	68.50				
					F2P	68.50	69.10				
					F2	69.10	74.00				
					F	67.50	74.00				
					FL	74.00	74.80				
					GCGL	85.00	148.70				
					G1	148.70	149.20				
					G2P	149.20	149.60				
					G2	149.60	150.90				
					G3P	150.90	152.60				
					G3	152.60	154.60				
					G	148.70	154.60				
					J	181.60	190.10				
					K1P	190.10	191.00				
					K1	191.00	193.70				
					K2P	193.70	198.30				
					K2	198.30	199.50				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87015	1079.99	6096508.62	623456.49	56.70	GCGL	0.00	7.70	0.00	5.00	180.40	88.83
					G2	7.70	9.70	5.00	10.00	87.40	88.48
					G3P	9.70	10.80	10.00	15.00	43.24	89.18
					G3	10.80	12.10	15.00	20.00	129.33	89.18
					G	7.70	12.10	20.00	25.00	135.13	88.96
					J	26.10	31.14	25.00	30.00	71.30	88.96
					K1P	31.14	32.19	30.00	35.00	182.46	89.63
					K1	32.19	33.44	35.00	40.00	126.11	88.52
					K2P	33.44	36.47	40.00	45.00	249.21	86.65
					K2	36.47	37.20	45.00	56.70	249.21	86.65

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87016	1071.99	6096078.36	623627.55	146.60	OVER	0.00	4.00	0.00	10.00	87.38	63.29
					D1	9.39	10.83	10.00	20.00	85.95	62.22
					D	9.39	10.83	20.00	30.00	86.83	60.74
					F1	69.83	70.57	30.00	40.00	87.64	59.61
					F2P	70.57	70.75	40.00	50.00	87.05	59.17
					F2	70.75	73.86	50.00	60.00	87.21	59.60
					F	69.83	73.86	60.00	70.00	87.28	59.20
					FL	73.86	74.50	70.00	80.00	88.06	58.78
					GCGL	83.30	108.07	80.00	90.00	90.55	58.75
					G1	108.07	108.23	90.00	100.00	94.74	58.75
					G2P	108.23	108.68	100.00	110.00	92.74	57.56
					G2	108.68	109.44	110.00	120.00	94.20	56.38
					G3P	109.44	110.94	120.00	130.00	97.43	55.22
					G3	110.94	111.00	130.00	140.00	95.40	54.20
					G	108.07	111.00	140.00	146.60	95.40	54.20
					J	126.15	130.59				
					K1P	130.59	131.30				
					K1	131.30	132.58				
					K2P	132.58	136.24				
					K2	136.24	136.97				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87017	1014.93	6095936.65	623801.66	164.80	OVER	0.00	3.00	0.00	10.00	78.98	89.63
					E3	44.09	46.63	10.00	20.00	219.65	89.18
					E4P	46.63	49.51	20.00	30.00	83.41	89.18
					E4	49.51	50.11	30.00	40.00	181.19	89.18
					E	44.09	50.11	40.00	50.00	139.74	89.18
					F1	73.34	74.31	50.00	60.00	150.77	88.96
					F2P	74.31	74.66	60.00	70.00	155.06	87.02
					F2	74.66	78.50	70.00	80.00	152.47	87.18
					F	73.34	78.50	80.00	90.00	145.69	86.84
					FL	78.50	78.50	90.00	100.00	146.48	86.23
					GCGL	94.70	110.30	100.00	110.00	139.87	85.91
					G1	116.43	116.54	110.00	120.00	138.44	84.15
					G2P	116.54	116.73	120.00	130.00	138.84	82.54
					G2	116.73	117.85	130.00	140.00	139.61	82.50
					G3P	117.85	118.51	140.00	150.00	152.47	80.98
					G3	118.51	120.06	150.00	160.00	153.67	80.38
					G	116.43	120.06	160.00	164.80	153.67	80.38
					J	137.65	142.72				
					K1P	142.72	144.24				
					K1	144.24	145.44				
					K2P	145.44	150.01				
					K2	150.01	150.84				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87018	978.03	6095705.40	624093.48	123.00	OVER	0.00	2.00	0.00	10.00	95.02	63.99
					E3	21.80	23.10	10.00	20.00	100.27	64.66
					E	21.80	23.10	20.00	30.00	101.91	64.32
					F101	47.08	47.99	30.00	40.00	104.14	64.54
					F2F01	47.99	48.21	40.00	50.00	102.16	64.52
					F201	48.21	50.20	50.00	60.00	106.01	62.72
					F1	47.08	50.20	60.00	70.00	105.97	60.64
					FAULT	50.20	50.21	70.00	80.00	106.28	58.71
					F1	50.43	51.09	80.00	90.00	108.91	58.92
					F2P	51.09	51.41	90.00	100.00	108.01	58.92
					F2	51.41	55.04	100.00	110.00	107.05	58.82
					F	50.43	55.04	110.00	120.00	108.57	57.10
					FL	55.04	55.78	120.00	123.00	108.57	57.10
					GCGL	74.25	74.25				
					G1	74.25	74.86				
					G2P	74.86	74.99				
					G2	74.99	76.31				
					G3P	76.31	77.04				
					G3	77.04	78.25				
					G	74.25	78.25				
					J	93.61	97.83				
					K1P	97.83	98.46				
					K1	98.46	99.80				
					K2P	99.80	104.42				
					K2	104.42	105.17				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87019	916.10	6095531.26	624218.70	110.70	OVER	0.00	4.00	0.00	10.00	96.16	61.93
					E3	17.10	18.30	10.00	20.00	101.03	62.30
					E	17.10	18.30	20.00	30.00	102.28	63.16
					F1	40.73	41.10	30.00	40.00	102.62	62.34
					F2P	41.10	41.41	40.00	50.00	102.15	62.34
					F2	41.41	44.87	50.00	60.00	102.64	61.90
					F	40.73	44.87	60.00	70.00	101.50	60.99
					FL	44.87	45.63	70.00	80.00	102.38	60.74
					GCGL	63.68	63.68	80.00	90.00	102.38	60.74
					G1	63.68	64.64	90.00	100.00	103.00	60.42
					G2P	64.64	64.86	100.00	110.70	92.80	57.26
					G2	64.86	65.72				
					G3P	65.72	66.34				
					G3	66.34	67.60				
					G	63.68	67.60				
					J	85.09	89.32				
					K1P	89.32	89.87				
					K1	89.87	91.57				
					K2P	91.57	96.34				
					K2	96.34	96.94				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87020	797.81	6096256.36	624879.72	244.00	OVER	0.00	12.00	0.00	10.00	266.54	63.39
					C	53.52	54.92	10.00	20.00	263.26	61.73
					B	74.40	75.20	20.00	30.00	258.67	58.60
					D1	123.88	124.67	30.00	40.00	258.72	56.73
					D2P	124.67	124.83	40.00	50.00	260.61	56.17
					D2	124.83	126.91	50.00	60.00	261.58	55.44
					D	123.88	126.91	60.00	70.00	262.05	54.88
					E1	140.77	141.08	70.00	80.00	262.46	54.41
					E2P	141.08	142.06	80.00	90.00	263.23	53.86
					E2	142.06	143.14	90.00	100.00	264.21	53.77
					E3P	143.14	143.44	100.00	110.00	264.55	53.53
					E3	143.44	145.46	110.00	120.00	264.37	53.28
					E	142.06	145.46	120.00	130.00	264.05	52.96
					F1	163.03	163.66	130.00	140.00	263.83	52.45
					F2P	163.66	163.90	140.00	150.00	265.45	51.31
					F2	163.90	167.08	150.00	160.00	266.33	50.37
					F	163.03	167.08	160.00	170.00	264.65	50.19
					GCGL	180.00	204.00	170.00	180.00	264.80	49.25
					G1	204.00	204.00	180.00	190.00	265.84	48.18
					G2P	204.00	204.00	190.00	200.00	264.64	47.59
					G2	204.00	204.71	200.00	210.00	263.92	47.13
					G3P	204.71	205.50	210.00	220.00	264.30	46.80
					G3	205.50	206.74	220.00	230.00	264.48	46.95
					G	204.00	206.74	230.00	244.00	265.65	47.09
					J	221.28	226.10				
					K1P	226.10	226.59				
					K1	226.59	228.29				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87021	1572.82	6096160.32	620569.25	168.80	OVER	0.00	5.00	0.00	5.00	237.85	88.82
					D1	46.65	47.42	5.00	10.00	255.02	88.73
					D	46.65	47.42	10.00	20.00	288.26	88.36
					E1	67.40	67.92	20.00	30.00	316.82	88.10
					E2P	67.92	68.61	30.00	40.00	333.35	88.39
					E2	68.61	69.04	40.00	50.00	317.52	88.32
					E3P	69.04	69.99	50.00	60.00	288.46	87.53
					E3	69.99	70.18	60.00	70.00	272.63	86.50
					E4P	70.18	71.94	70.00	168.80	272.63	86.50
					E4	71.94	72.47				
					F1	95.91	96.27				
					F2P	96.27	96.74				
					F2	96.74	100.11				
					F	95.91	100.11				
					G1	126.20	127.10				
					G2P	127.10	127.62				
					G2	127.62	128.30				
					G3P	128.30	128.85				
					G3	128.85	129.92				
					G	126.20	129.92				
					J	146.20	150.86				
					K1P	150.86	152.12				
					K1	152.12	152.99				
					K2P	152.99	154.06				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
BHR87022	1580.60	6096087.30	620508.12	144.60	OVER	0.00	2.50	0.00	10.00	199.42	88.23
					E1	19.80	20.20	10.00	20.00	237.34	87.47
					E2P	20.20	20.80	20.00	30.00	259.21	87.76
					E2	20.80	21.30	30.00	40.00	245.95	88.88
					E3P	21.30	22.20	40.00	50.00	239.69	88.74
					E3	22.20	24.10	50.00	60.00	226.95	88.04
					E4P	24.40	26.80	60.00	70.00	235.04	87.52
					E4	26.80	28.20	70.00	80.00	232.73	86.87
					F1	50.06	50.78	80.00	90.00	225.30	86.43
					F2P	50.78	51.01	90.00	100.00	224.17	85.48
					F2	51.01	54.83	100.00	110.00	218.61	84.81
					F	50.06	54.83	110.00	120.00	220.00	85.13
					G1	84.10	85.20	120.00	130.00	219.35	85.00
					G2P	85.20	85.32	130.00	144.60	219.63	84.83
					G2	85.32	87.22				
					G3P	87.22	87.55				
					G3	87.55	89.07				
					G	84.10	89.07				
					J	105.87	110.73				
					K1P	110.73	111.93				
					K1	111.93	112.79				
					K2P	112.79	113.73				
					K2	113.73	115.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
BHR87023	1601.62	6095983.11	620432.72	171.00	OVER	0.00	5.00	0.00	5.00	258.41	88.33
					D1	54.94	56.10	5.00	10.00	242.88	88.28
					D2P	56.10	57.08	10.00	20.00	177.06	87.73
					D2	57.08	57.32	20.00	30.00	111.15	86.85
					D3P	57.32	57.89	30.00	40.00	104.67	86.30
					D3	57.89	58.50	40.00	50.00	95.88	86.23
					E1	73.05	73.51	50.00	60.00	98.38	85.92
					E2P	73.51	73.98	60.00	70.00	143.13	85.15
					E2	73.98	74.88	70.00	80.00	185.12	84.05
					E3P	74.88	75.32	80.00	90.00	151.69	83.26
					E3	75.32	75.50	90.00	100.00	102.39	83.00
					E4P	75.50	77.94	100.00	110.00	107.59	82.20
					E4	77.94	79.84	110.00	120.00	111.37	81.43
					F1	97.76	98.40	120.00	130.00	115.53	80.33
					F2P	98.40	98.67	130.00	140.00	119.05	78.95
					F2	98.67	102.79	140.00	150.00	119.00	77.08
					F	97.76	102.79	150.00	160.00	118.93	76.49
					G1	128.92	129.98	160.00	171.00	119.14	75.66
					G2P	129.98	130.10				
					G2	130.10	130.91				
					G3P	130.91	131.36				
					G3	131.36	132.51				
					G	128.92	132.51				
					J	148.04	152.68				
					K1P	152.68	153.85				
					K1	153.85	154.55				
					K2P	155.66	156.68				
					COAL	155.40	155.66				
					K2	156.68	157.84				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87024	1564.25	6096026.86	620712.89	128.50	OVER	0.00	5.00	0.00	5.00	216.61	88.65
					E1	19.30	19.60	5.00	10.00	223.26	88.49
					E2P	19.60	20.40	10.00	20.00	227.19	88.63
					E2	20.40	21.90	20.00	30.00	234.09	88.53
					E3P	21.90	22.30	30.00	40.00	244.87	88.11
					E3	22.30	22.50	40.00	50.00	244.08	87.63
					E4P	22.50	25.57	50.00	60.00	246.62	86.89
					E4	25.57	26.41	60.00	70.00	253.01	86.45
					F1	49.29	49.70	70.00	80.00	252.25	85.89
					F2P	49.70	50.14	80.00	90.00	252.87	84.90
					F2	50.14	53.30	90.00	100.00	256.77	83.97
					F	49.29	53.30	100.00	110.00	259.15	82.80
					G1	87.55	88.64	110.00	120.50	258.77	81.95
					G2P	88.64	88.80				
					G2	88.80	89.80				
					G3P	89.80	90.37				
					G3	90.37	91.54				
					G	87.55	91.54				
					J	107.12	112.00				
					K1P	112.00	112.43				
					K1	112.43	113.56				
					K2P	113.56	114.16				
					K2	114.16	115.66				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87025	1585.04	6095957.56	620647.17	110.00	OVER	0.00	4.50	0.00	3.00	335.13	88.12
					F1	31.49	32.14	3.00	10.00	345.46	88.22
					F2P	32.14	32.29	10.00	20.00	335.32	88.49
					F2	32.29	36.20	20.00	30.00	314.35	88.65
					F	31.49	36.20	30.00	40.00	325.69	88.55
					G1	64.99	66.04	40.00	50.00	337.11	88.47
					G2P	66.04	66.41	50.00	60.00	319.50	88.65
					G2	66.41	67.50	60.00	70.00	283.09	88.57
					G3P	67.50	67.92	70.00	80.00	248.62	88.10
					G3	67.92	69.23	80.00	90.00	237.72	87.74
					G	64.99	69.23	90.00	100.00	239.68	87.68
					J	89.60	95.62	100.00	110.00	185.41	87.19
					K1P	95.62	96.93				
					K1	96.93	97.92				
					K2P	97.92	98.69				
					K2	98.69	100.11				
					COAL	99.87	100.11				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87026	1573.08	6095680.63	620701.80	140.00	OVER	0.00	6.50	0.00	3.00	101.97	89.47
					D1	13.16	14.34	3.00	10.00	109.36	89.47
					D2P	14.34	15.06	10.00	20.00	128.75	88.61
					D2	15.06	15.35	20.00	30.00	138.57	87.26
					D3P	15.35	15.57	30.00	40.00	136.03	86.61
					D3	15.57	16.24	40.00	50.00	131.51	86.18
					E4	43.95	45.42	50.00	60.00	127.89	86.02
					F1	64.55	65.36	60.00	70.00	128.34	85.79
					F2P	65.36	65.81	70.00	80.00	124.22	85.13
					F2	65.81	68.98	80.00	90.00	123.98	85.21
					F	64.55	68.98	90.00	100.00	122.68	84.89
					G1	104.26	105.58	100.00	110.00	119.20	84.21
					G2P	105.58	105.77	110.00	120.00	118.19	83.74
					G2	105.77	106.85	120.00	130.00	113.18	83.14
					G3P	106.85	107.14	130.00	140.00	110.00	82.68
					G3	107.14	108.45				
					G	104.26	108.45				
					J	123.32	128.83				
					K1P	128.83	130.10				
					K1	130.10	131.13				
					K2P	131.13	132.68				
					K2	132.68	134.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87027	1549.64	6095842.94	620804.17	80.00	OVER	0.00	6.00	0.00	3.00	155.06	89.25
					G1	16.69	17.71	3.00	10.00	95.77	89.36
					G2P	17.71	17.83	10.00	20.00	333.45	89.32
					G2	17.83	19.19	20.00	30.00	249.52	88.81
					G3P	19.19	19.84	30.00	40.00	213.95	88.27
					G3	19.84	21.66	40.00	50.00	218.29	88.27
					G	16.69	21.66	50.00	60.00	238.27	88.16
					J	42.05	46.94	60.00	70.00	242.68	88.00
					K1P	46.94	47.92	70.00	80.00	241.77	87.97
					K1	47.92	49.00				
					K2P	49.00	49.99				
					K2	49.99	51.36				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87028	1542.16	6096294.42	620421.70	172.00	OVER	0.00	4.00	0.00	5.00	345.69	90.00
					D1	58.59	59.60	5.00	10.00	65.07	89.47
					D2P	59.60	61.12	10.00	20.00	165.74	89.29
					D2	61.12	61.41	20.00	30.00	260.86	89.40
					D3P	61.41	61.74	30.00	40.00	283.21	89.16
					D3	61.74	62.30	40.00	50.00	247.12	89.40
					E1	78.72	79.22	50.00	60.00	279.42	89.40
					E2P	79.22	79.75	60.00	70.00	287.82	88.81
					E2	79.75	80.90	70.00	80.00	279.46	88.03
					E3P	80.90	81.16	80.00	90.00	269.04	87.20
					E3	81.16	81.48	90.00	100.00	252.33	86.71
					E4P	81.48	82.53	100.00	110.00	249.37	86.28
					E4	82.53	83.72	110.00	120.00	251.59	85.70
					F1	107.54	108.19	120.00	130.00	251.15	85.21
					F2P	108.19	108.65	130.00	140.00	246.74	84.46
					F2	108.65	112.18	140.00	150.00	243.35	83.76
					F	107.54	112.18	150.00	160.00	244.29	83.38
					G1	134.88	136.09	160.00	172.00	243.00	82.83
					G2P	136.09	136.22				
					G2	136.22	137.10				
					G3P	137.10	137.80				
					G3	137.80	139.08				
					G	134.88	139.08				
					J	156.37	161.58				
					K1P	161.58	162.66				
					K1	162.66	163.77				
					K2P	163.77	164.67				
					K2	164.67	165.97				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87029	1545.46	6095579.20	620866.58	110.00	OVER	0.00	4.00	0.00	3.00	6.14	88.51
					F1	15.59	16.47	3.00	10.00	32.45	88.69
					F2P	16.47	16.71	10.00	20.00	51.57	88.24
					F2	16.71	19.34	20.00	30.00	73.68	87.34
					F	15.59	19.34	30.00	40.00	112.35	85.25
					G1	48.39	49.42	40.00	50.00	122.92	83.25
					G2P	49.42	49.54	50.00	60.00	122.55	81.70
					G2	49.54	50.63	60.00	70.00	121.37	79.81
					G3P	50.63	50.97	70.00	80.00	122.34	78.91
					G3	50.97	52.25	80.00	90.00	122.28	78.48
					G	48.39	52.25	90.00	100.00	121.83	78.48
					J	66.86	71.31	100.00	110.00	126.66	78.60
					K1P	71.31	72.35				
					K1	72.35	73.39				
					K2P	73.39	74.54				
					K2	74.54	75.80				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87030	1489.50	6095302.31	621163.26	86.80	OVER	0.00	6.00	0.00	3.00	227.25	89.63
					F	1.90	4.90	3.00	10.00	51.70	89.55
					G1	33.08	34.52	10.00	20.00	194.67	89.32
					G2P	34.52	34.79	20.00	30.00	114.65	89.32
					G2	34.79	36.30	30.00	40.00	126.89	89.32
					G3P	36.30	36.70	40.00	50.00	175.98	89.05
					G3	36.70	38.91	50.00	60.00	196.53	89.10
					G	33.08	38.91	60.00	70.00	188.75	89.36
					J	58.86	65.35	70.00	86.80	155.19	89.14
					K1P	65.35	66.44				
					K1	66.44	67.74				
					K2P	67.74	67.74				
					K2	67.74	67.74				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87031	1425.42	6095747.64	621267.20	50.00	OVER	0.00	6.00	0.00	3.00	160.40	89.16
					J	23.33	28.72	3.00	10.00	209.08	89.16
					K1P	28.72	30.23	10.00	20.00	232.34	88.91
					K1	30.23	31.30	20.00	30.00	224.24	88.55
					K2P	31.30	32.56	30.00	40.00	249.51	88.64
					K2	32.56	34.11	40.00	50.00	259.30	88.32

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87032	1451.87	6095887.35	621106.04	92.70	OVER	0.00	2.00	0.00	3.00	168.44	88.45
					F1	10.03	10.79	3.00	10.00	161.13	88.16
					F2P	10.79	11.15	10.00	20.00	151.01	87.74
					F2	11.15	14.23	20.00	30.00	156.50	87.60
					F	10.03	14.23	30.00	40.00	169.22	87.14
					G1	50.56	51.67	40.00	50.00	163.91	87.36
					G2P	51.67	51.78	50.00	60.00	176.71	87.71
					G2	51.78	52.85	60.00	70.00	203.65	87.66
					G3P	52.85	53.20	70.00	80.00	208.17	88.04
					G3	53.20	54.43	80.00	92.70	205.90	87.87
					G	50.56	54.43				
					J	71.09	76.65				
					K1P	76.65	78.30				
					K1	78.30	79.38				
					K2P	79.38	80.40				
					K2	80.40	82.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7033	1437.70	6095148.03	621293.37	98.70	OVER	0.00	2.95	0.00	3.00	120.90	87.48
					F1	2.95	4.10	3.00	10.00	97.13	87.68
					F2P	4.10	4.51	10.00	20.00	87.92	88.35
					F2	4.51	8.56	20.00	30.00	110.84	89.22
					F	2.95	8.56	30.00	40.00	123.75	88.63
					G1	31.35	32.64	40.00	50.00	127.10	87.67
					G2P	32.64	32.92	50.00	60.00	137.01	87.84
					G2	32.92	34.26	60.00	70.00	149.35	87.90
					G3P	34.26	34.66	70.00	80.00	148.99	87.39
					G3	34.66	36.86	80.00	98.70	141.55	86.78
					G	31.35	36.86				
					J	60.73	66.27				
					K1P	66.27	67.19				
					K1	67.19	68.17				
					K2P	68.17	70.18				
					K2	70.18	72.03				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7034	1319.00	6095778.16	621750.45	108.00	OVER	0.00	20.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7035	1558.01	6096125.30	620293.66	129.00	OVER	0.00	6.00	0.00	1.00	122.29	86.17
					D1	16.40	17.00	1.00	10.00	102.13	86.58
					D2P	17.00	19.40	10.00	20.00	80.26	86.42
					D2	19.40	20.30	20.00	30.00	67.12	87.10
					E1	33.10	34.00	30.00	40.00	60.12	88.43
					E2P	34.00	35.10	40.00	50.00	86.05	88.17
					E2	35.10	37.05	50.00	60.00	109.21	87.58
					E3P	37.05	37.75	60.00	70.00	113.73	86.86
					E3	37.75	39.15	70.00	80.00	117.86	85.98
					E4P	39.15	40.62	80.00	90.00	118.56	83.64
					E4	40.62	41.38	90.00	100.00	114.80	82.56
					F1	61.26	61.96	100.00	110.00	108.93	82.36
					F2P	61.96	62.28	110.00	129.00	105.66	81.08
					F2	62.28	65.65				
					F	61.26	65.65				
					G1	91.01	92.09				
					G2P	92.09	92.21				
					G2	92.21	93.02				
					G3P	93.02	93.61				
					G3	93.61	94.61				
					G	91.01	94.61				
					J	111.47	116.92				
					K1P	116.92	117.69				
					K1	117.69	118.83				
					K2P	118.83	120.00				
					K2	120.00	120.88				
					COAL	121.55	121.78				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
DHRB7036	1544.31	6096202.09	620351.14	117.60	OVER	0.00	4.00	0.00	10.00	188.70	88.10
					D	2.40	3.20	10.00	20.00	212.70	87.20
					E1	21.40	21.80	20.00	30.00	224.70	85.60
					E2P	21.80	22.40	30.00	40.00	227.70	86.00
					E2	22.40	22.80	40.00	50.00	228.70	85.60
					E3P	22.80	23.70	50.00	60.00	224.70	84.90
					E3	23.70	24.24	60.00	70.00	227.70	84.90
					E4P	24.24	25.27	70.00	80.00	220.70	84.80
					E4	25.27	26.05	80.00	90.00	219.70	84.00
					F1	50.18	50.70	90.00	100.00	214.70	83.20
					F2P	50.70	51.14	100.00	110.00	219.70	82.40
					F2	51.14	54.25	110.00	117.60	213.70	82.90
					F	50.18	54.25				
					G1	77.99	79.23				
					G2P	79.23	79.40				
					G2	79.40	80.34				
					G3P	80.34	80.97				
					G3	80.97	82.12				
					G	77.99	82.12				
					J	97.80	103.48				
					K1P	103.48	104.56				
					K1	104.56	105.63				
					K2P	105.74	106.70				
					K2	106.70	107.98				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
DHRB7037	1562.42	6095758.98	620771.32	91.80	OVER	0.00	4.00	0.00	5.00	148.70	89.50
					F1	7.70	8.10	5.00	10.00	145.70	88.80
					F2P	8.10	8.40	10.00	20.00	159.70	88.10
					F2	8.40	12.20	20.00	30.00	157.70	86.90
					F	7.70	12.20	30.00	40.00	164.70	85.50
					G1	41.47	42.70	40.00	50.00	170.70	86.10
					G2P	42.70	42.85	50.00	60.00	157.70	85.00
					G2	42.85	43.74	60.00	70.00	148.70	84.60
					G3P	43.74	44.22	70.00	80.00	146.70	84.10
					G3	44.22	45.60	80.00	91.80	144.70	84.00
					G	41.47	45.60				
					J	59.64	64.26				
					K1P	64.26	65.27				
					K1	65.27	66.22				
					K2P	66.22	67.01				
					K2	67.01	68.13				

(1)

Hole	Elevation m	Northing UTM	Eastins UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87038	1490.85	6096017.01	620942.67	129.00	OVER	0.00	10.00	0.00	5.00	1.70	88.70
					D1	10.30	11.38	5.00	10.00	341.70	88.20
					D2P	11.38	11.78	10.00	20.00	315.70	87.80
					D2	11.78	11.98	20.00	30.00	297.70	86.70
					D3P	11.98	12.27	30.00	40.00	289.70	85.90
					D3	12.27	12.90	40.00	50.00	284.70	84.90
					D	10.30	12.90	50.00	60.00	284.70	84.00
					E1	33.32	34.00	60.00	70.00	288.70	83.00
					E2P	34.00	34.83	70.00	80.00	285.70	82.60
					E2	34.83	35.04	80.00	90.00	279.70	81.60
					E3P	35.04	35.84	90.00	100.00	279.70	80.30
					E3	35.84	36.03	100.00	110.00	274.70	79.80
					E4P	36.03	38.26	110.00	120.00	266.70	78.40
					E4	38.26	39.85	120.00	129.00	271.70	77.90
					F1	58.26	58.97				
					F2P	58.97	59.24				
					F2	59.24	62.50				
					F	58.26	62.50				
					G1	97.42	98.45				
					G2P	98.45	98.62				
					G2	98.62	99.58				
					G3P	99.58	100.15				
					G3	100.15	101.25				
					G	97.42	101.25				
					J	115.70	120.59				
					K1P	120.59	121.72				
					K1	121.72	122.76				
					K2P	122.76	123.53				
					K2	123.53	125.01				

Hole	Elevation m	Northing UTM	Eastins UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87039	1522.50	6095418.96	621016.01	99.00	OVER	0.00	2.00	0.00	5.00	32.70	89.90
					F1	13.93	15.30	5.00	10.00	151.70	89.70
					F2P	15.30	15.63	10.00	20.00	139.70	88.80
					F2	15.63	20.81	20.00	30.00	149.70	87.40
					F	13.93	20.81	30.00	40.00	155.70	86.30
					G1	53.75	55.06	40.00	50.00	144.70	85.50
					G2P	55.06	55.27	50.00	60.00	140.70	85.30
					G2	55.27	56.74	60.00	70.00	138.70	83.50
					G3P	56.74	57.38	70.00	80.00	132.70	81.70
					G3	57.38	58.93	80.00	90.00	132.70	81.30
					G	53.75	58.93	90.00	99.00	130.70	80.80
					J	79.48	83.02				
					K1P	83.02	84.20				
					K1	84.20	85.54				
					K2P	85.54	87.10				
					K2	87.10	88.80				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87040	1361.19	6095283.74	622166.77	98.20	OVER	0.00	1.00	0.00	5.00	288.70	89.70
					F1	14.18	15.33	5.00	10.00	307.70	89.90
					F2P	15.33	15.60	10.00	20.00	350.70	89.50
					F2	15.60	20.29	20.00	30.00	284.70	88.10
					F	14.18	20.29	30.00	40.00	275.70	87.80
					FAULT	25.50	25.51	40.00	50.00	268.70	87.30
					F2	25.51	27.20	50.00	60.00	273.70	87.00
					G1	43.99	45.05	60.00	70.00	271.70	86.40
					G2P	45.05	45.22	70.00	80.00	263.70	86.20
					G2	45.22	46.49	80.00	90.00	266.70	86.20
					G3P	46.49	47.05	90.00	98.20	267.70	84.30
					G3	47.05	48.61				
					G	43.99	48.61				
					J	72.04	77.82				
					K1P	77.82	79.00				
					K1	79.00	80.67				
					K2P	80.67	83.59				
					K2	83.59	85.06				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87041	891.53	6095150.74	623801.94	187.80	OVER	0.00	5.00	0.00	5.00	139.70	89.50
					D1	24.62	25.17	5.00	10.00	86.70	88.50
					D2P	25.17	25.53	10.00	20.00	238.70	89.50
					D2	25.53	26.40	20.00	30.00	250.70	87.30
					E3	59.82	61.06	30.00	40.00	268.70	86.10
					F1	79.40	79.76	40.00	50.00	276.70	85.60
					F2P	79.76	80.10	50.00	60.00	269.70	84.20
					F2	80.10	83.47	60.00	70.00	264.70	83.50
					F	79.40	83.47	70.00	80.00	269.70	83.50
					G1	104.04	104.92	80.00	90.00	272.70	83.00
					G2P	104.92	105.01	90.00	100.00	263.70	83.00
					G2	105.01	106.05	100.00	110.00	266.70	82.30
					G3P	106.05	108.18	110.00	120.00	265.70	82.00
					G	104.04	107.90	120.00	130.00	266.70	82.30
					J	126.40	131.12	130.00	140.00	269.70	82.00
					K1P	131.12	131.61	140.00	150.00	272.70	81.80
					K1	131.61	133.18	150.00	160.00	272.70	81.20
					K2P	133.18	138.37	160.00	170.00	268.70	80.80
					K2	138.37	139.20	170.00	180.00	270.70	80.60
								180.00	187.80	274.70	80.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87042	891.10	6095081.35	623748.75	129.70	OVER	0.00	7.00	0.00	5.00	143.93	89.17
					E3	38.64	40.15	5.00	10.00	116.42	88.91
					F1	57.89	58.38	10.00	20.00	98.74	88.77
					F2P	58.38	58.72	20.00	30.00	125.06	88.85
					F2	58.72	62.68	30.00	40.00	135.78	88.85
					F	57.89	62.68	40.00	50.00	144.26	88.85
					G1	84.59	85.62	50.00	60.00	157.54	88.64
					G2P	85.62	85.79	60.00	70.00	160.76	88.28
					G2	85.79	86.36	70.00	80.00	166.38	88.12
					G3P	86.36	86.76	80.00	90.00	167.22	87.86
					G3	86.76	87.93	90.00	100.00	160.89	87.45
					G	84.59	87.93	100.00	110.00	155.71	87.28
					J	106.80	111.88	110.00	129.70	151.14	87.02
					K1P	111.88	112.36				
					K1	112.36	114.18				
					K2P	114.18	120.33				
					K2	120.33	121.06				
					FAULT	121.60	121.61				
					K2	121.98	123.01				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87043	902.11	6094827.36	623622.99	116.40	OVER	0.00	2.00	0.00	5.00	299.70	89.20
					G1	36.40	37.63	5.00	10.00	310.70	88.60
					G2P	37.63	37.80	10.00	20.00	316.70	89.50
					G2	37.80	39.39	20.00	30.00	301.70	88.60
					G3P	39.39	40.35	30.00	40.00	290.70	88.40
					G3	40.35	42.32	40.00	50.00	290.70	87.70
					G	36.40	42.32	50.00	60.00	280.70	85.50
					J	71.76	79.63	60.00	70.00	274.70	82.60
					K1P	79.63	80.81	70.00	80.00	274.70	82.80
					K1	80.81	81.25	80.00	90.00	272.70	80.60
					K2P	81.25	90.37	90.00	100.00	274.70	76.90
					K2	90.37	91.48	100.00	110.00	270.70	75.60
					COALZ	91.60	92.47	110.00	116.40	268.70	75.10

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87044	880.04	6094992.35	623705.19	135.70	OVER	0.00	3.00	0.00	5.00	179.70	89.30
					D1	10.68	11.69	5.00	10.00	150.70	89.80
					D2P	11.69	12.04	10.00	20.00	97.70	89.10
					D2	12.04	12.87	20.00	30.00	113.70	88.20
					D	10.68	12.87	30.00	40.00	123.70	88.20
					E3	47.27	48.86	40.00	50.00	130.70	87.90
					F1	65.53	65.91	50.00	60.00	131.70	87.70
					F2P	65.91	66.09	60.00	70.00	130.70	87.30
					F2	66.09	69.50	70.00	80.00	128.70	86.40
					F	65.53	69.50	80.00	90.00	125.70	85.60
					G1	92.10	92.80	90.00	100.00	119.70	85.10
					G2P	92.80	92.98	100.00	110.00	124.70	84.70
					G2	92.98	93.85	110.00	120.00	122.70	83.50
					G3P	93.85	94.23	120.00	130.00	113.70	81.50
					G3	94.23	95.55	130.00	135.70	110.70	80.70
					G	92.10	95.55				
					J	112.72	117.12				
					K1P	117.12	117.61				
					K1	117.61	119.07				
					K2P	119.07	125.06				
					K2	125.06	125.80				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87045	838.09	6094837.80	623932.45	99.00	OVER	0.00	12.00	0.00	5.00	99.08	87.96
					G1	24.76	25.64	5.00	10.00	46.33	87.84
					G2P	25.64	25.90	10.00	20.00	69.26	87.75
					G2	25.90	26.64	20.00	30.00	147.89	87.60
					G3P	26.64	26.85	30.00	40.00	149.86	86.97
					G3	26.85	28.14	40.00	50.00	153.39	86.35
					G	24.76	28.14	50.00	60.00	157.02	85.39
					J	48.25	53.28	60.00	70.00	150.90	83.50
					K1P	53.28	53.90	70.00	80.00	149.05	82.46
					K1	53.90	55.62	80.00	99.00	145.49	81.29
					K2P	55.62	61.62				
					K2	61.62	62.15				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7047	838.73	6094922.28	623977.78	79.00	OVER	0.00	5.00	0.00	5.00	333.67	88.13
					F1	13.78	14.16	5.00	10.00	285.55	88.32
					F2P	14.16	14.46	10.00	20.00	256.13	87.81
					F2	14.46	17.91	20.00	30.00	268.33	86.75
					F	13.78	17.91	30.00	40.00	283.66	86.29
					G1	39.64	40.68	40.00	50.00	307.12	86.36
					G2P	40.68	41.05	50.00	60.00	308.53	86.39
					G2	41.05	41.80	60.00	70.00	301.64	86.03
					G3P	41.80	42.10	70.00	79.00	292.54	85.12
					G3	42.10	43.23				
					G	39.64	43.23				
					J	59.72	66.28				
					K1P	66.28	67.44				
					K1	67.44	68.98				
					K2P	68.98	75.54				
					K2	75.54	76.19				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7048	836.82	6095005.91	624037.45	111.30	OVER	0.00	2.00	0.00	5.00	349.27	88.10
					E3	27.32	28.90	5.00	10.00	300.62	87.65
					F1	47.49	47.93	10.00	20.00	254.59	86.86
					F2P	47.93	48.17	20.00	30.00	267.59	85.19
					F2	48.17	51.80	30.00	40.00	280.17	83.19
					F	47.49	51.80	40.00	50.00	291.24	82.73
					G1	72.33	73.29	50.00	60.00	298.31	82.38
					G2P	73.29	73.53	60.00	70.00	296.27	81.69
					G2	73.53	74.27	70.00	80.00	294.56	81.41
					G3P	74.27	74.46	80.00	90.00	292.03	80.99
					G3	74.46	75.74	90.00	100.00	291.89	80.44
					G	72.33	75.74	100.00	111.30	294.03	80.10
					J	94.07	98.57				
					K1P	98.57	99.34				
					K1	99.34	100.68				
					K2P	100.68	105.87				
					K2	105.87	106.58				
					K3	107.65	107.96				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7049	841.24	6094780.33	623876.65	90.80	OVER	0.00	14.00				
					F1	25.76	26.24				
					G1	49.71	50.43				
					G2P	50.43	50.77				
					G2	50.77	51.37				
					G3P	51.37	52.00				
					G3	52.00	53.24				
					G	49.71	53.24				
					J	70.69	75.21				
					K1P	75.21	75.90				
					K1	75.90	77.94				
					K2P	77.94	83.74				
					K2	83.74	84.20				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87050	844.50	6095263.27	624327.41	91.80	OVER	0.00	6.00				
					D1	16.32	17.71				
					D2P	17.71	18.34				
					D2	18.34	19.58				
					D	16.32	19.58				
					E3	49.18	51.04				
					F1	75.43	75.72				
					F2P	75.72	76.09				
					F2	76.09	79.53				
					F	75.43	79.53				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87051	857.50	6093986.57	622728.37	147.70	OVER	0.00	6.00	0.00	5.00	203.50	89.30
					COAL	114.98	115.50	5.00	10.00	19.70	89.50
					COAL	115.75	115.92	10.00	15.00	69.00	88.50
					COAL	116.22	117.65	15.00	20.00	81.30	88.10
					COAL	130.34	130.97	20.00	25.00	87.00	87.60
					COAL	131.25	136.86	25.00	30.00	86.50	86.60
					COAL	138.55	139.43	30.00	35.00	74.50	86.60
					COAL	139.84	141.92	35.00	40.00	83.10	86.80
					COAL	142.74	142.87	40.00	45.00	75.40	86.30
								45.00	50.00	80.40	86.00
								50.00	55.00	77.10	85.70
								55.00	60.00	80.00	85.20
								60.00	65.00	82.90	84.70
								65.00	70.00	86.60	84.20
								70.00	75.00	87.50	83.70
								75.00	80.00	82.70	83.10
								80.00	85.00	84.20	83.20
								85.00	90.00	82.70	82.50
								90.00	95.00	84.20	82.00
								95.00	100.00	82.50	81.50
								100.00	105.00	82.30	81.30
								105.00	110.00	84.20	80.50
								110.00	115.00	84.90	80.00
								115.00	120.00	84.10	80.30
								120.00	125.00	83.70	80.60
								125.00	130.00	83.40	80.20
								130.00	135.00	82.70	79.80
								135.00	140.00	82.70	79.70
								140.00	145.00	84.60	80.00
								145.00	147.70	85.60	80.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87052	951.88	6093829.31	622093.22	127.90	OVER	0.00	7.00				
					MB/GTCON	58.10	58.11				
					GT1	67.00	69.30				
					GT2	74.60	78.40				
					GT3U	84.80	85.50				
					GT3L	86.60	88.40				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87053	1034.79	6094070.22	622065.95	86.00	OVER	0.00	3.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87054	1049.43	6094207.21	622091.59	99.00	OVER	0.00	3.00	0.00	10.00	308.40	89.10
					K2	3.75	5.28	10.00	20.00	284.80	88.60
					HIG	54.15	54.94	20.00	30.00	274.60	88.50
								30.00	40.00	283.50	87.30
								40.00	50.00	275.50	86.50
								50.00	99.00	262.80	86.30

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87055	890.45	6093811.20	622506.62	55.60	OVER	0.00	6.00				
					COAL	12.80	13.57				
					COAL	13.95	15.35				
					COAL	23.04	26.69				
					COAL	33.63	34.13				
					COAL	34.71	36.28				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87056	857.51	6093869.50	623134.02	91.30	OVER	0.00	9.00	0.00	91.30	98.90	62.83
					COAL	5.27	5.81				
					COAL	10.23	10.93				
					COAL	18.02	18.81				
					COAL	22.33	25.54				
					COAL	26.60	29.72				
					COAL	30.28	30.57				
					CGL	75.20	82.30				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87057	876.83	6094089.28	623303.90	91.30	OVER	0.00	5.00				
					CGL	5.00	8.50				
					LGI	8.50	62.80				
					CARBMIN	62.80	91.30				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87058	881.64	6094282.63	623438.87	79.20	OVER	0.00	6.00				
					MR/GT	41.20	41.21				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87059	1368.63	6095942.59	621392.13	190.60	OVER	0.00	2.00	0.00	10.00	259.70	89.20
					D1	48.80	49.60	10.00	20.00	240.60	89.30
					D2P	49.60	49.80	20.00	30.00	170.70	88.60
					D2	49.80	50.90	30.00	40.00	56.20	89.60
					D3P	50.90	51.40	40.00	50.00	246.20	88.70
					D3	51.40	52.10	50.00	60.00	177.70	88.00
					D	48.80	52.10	60.00	70.00	96.20	89.10
					E2	73.00	74.10	70.00	80.00	276.50	89.40
					E4	101.90	104.80	80.00	90.00	251.90	88.10
					F1	140.40	142.15	90.00	100.00	218.40	87.90
					F2P	142.15	142.85	100.00	110.00	153.10	88.20
					F2	142.85	149.85	110.00	120.00	160.70	88.50
					F	140.40	149.85	120.00	130.00	245.20	88.50
								130.00	140.00	269.90	87.70
								140.00	150.00	258.40	88.00
								150.00	160.00	251.10	87.80
								160.00	170.00	262.10	87.70
								170.00	190.60	253.40	87.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87060	1346.09	6095749.25	621503.17	80.30	OVER	0.00	3.00	0.00	10.00	280.30	89.50
					G1	32.00	33.40	10.00	20.00	55.00	87.00
					G2P	33.40	33.55	20.00	30.00	254.20	88.70
					G2	33.55	34.90	30.00	40.00	126.20	89.40
					G3P	34.90	35.40	40.00	50.00	350.60	88.80
					G3	35.40	37.80	50.00	60.00	318.10	86.50
					G	32.00	37.80	60.00	70.00	314.00	85.20
					J	50.70	64.10	70.00	80.30	308.80	83.90
					K1P	64.10	65.30				
					K1	65.30	67.40				
					K2P	67.40	69.50				
					K2	69.50	71.70				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87061	1527.81	6095928.12	620875.61	99.20	OVER	0.00	4.00	0.00	10.00	87.20	88.80
					F1	17.90	18.40	10.00	20.00	92.40	88.50
					F2P	18.40	18.70	20.00	30.00	176.70	89.10
					F2	18.70	23.15	30.00	40.00	194.70	88.60
					F	17.90	23.15	40.00	50.00	194.90	88.40
					GCGL	33.30	56.15	50.00	60.00	208.30	88.00
					G1	56.15	57.20	60.00	70.00	233.50	86.70
					G2P	57.20	57.50	70.00	80.00	248.80	84.70
					G2	57.50	58.50	80.00	90.00	249.10	84.70
					G3P	58.50	59.20	90.00	99.20	251.60	83.90
					G3	59.20	60.60				
					G	56.15	60.60				
					J	75.50	80.40				
					K1P	80.40	81.30				
					K1	81.30	82.60				
					K2P	82.60	83.25				
					K2	83.25	84.95				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87062	1544.99	6096057.41	620103.84	178.90	OVER	0.00	6.00				
					B	25.10	26.20				
					C	45.20	47.50				
					HG	69.30	69.31				
					D	67.40	69.20				
					E3	107.70	109.95				
					E4P	109.95	111.25				
					E4	111.25	112.00				
					F1	129.20	129.80				
					F2P	129.80	130.20				
					F2	130.20	133.60				
					F	129.20	133.60				
					GCGL	157.80	160.10				
					G1	160.60	161.75				
					G2P	161.75	161.95				
					G2	161.95	162.80				
					G3P	162.80	163.20				
					G3	163.20	164.50				
					G	160.60	164.50				
					J	178.10	178.90				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7063	1508.25	6096279.54	620168.56	109.90	OVER	0.00	3.00				
					E3	14.50	16.80				
					E4P	16.80	17.80				
					E4	17.80	19.10				
					F1	44.20	44.80				
					F2P	44.80	45.30				
					F2	45.30	48.80				
					F	44.20	48.80				
					G1	69.30	70.20				
					G2P	70.20	70.60				
					G2	70.60	71.50				
					G3P	71.50	72.00				
					G3	72.00	73.40				
					G	69.30	73.40				
					J	90.00	95.20				
					K1P	95.20	95.90				
					K1	95.90	97.00				
					K2P	97.00	98.30				
					K2	98.30	99.50				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7064	1499.61	6096360.01	620222.27	103.60	OVER	0.00	5.00				
					D	21.20	22.60				
					E3	42.70	45.00				
					E4P	45.00	45.80				
					E4	45.80	46.90				
					F1	68.00	68.40				
					F2P	68.40	68.80				
					F2	68.80	73.20				
					F	68.00	73.20				
					G1	91.90	92.80				
					G2P	92.80	93.20				
					G2	93.20	94.20				
					G3P	94.20	94.60				
					G3	94.60	95.90				
					G	91.90	95.90				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB7065	1519.31	6096311.43	619929.82	146.70	OVER	0.00	7.00				
					HG	19.60	19.61				
					D	50.80	52.00				
					E3	80.20	82.40				
					E4P	82.40	83.20				
					E4	83.20	84.50				
					F1	105.80	106.20				
					F2P	106.20	106.70				
					F2	106.70	110.75				
					F	106.70	110.75				
					GCGL	129.20	130.50				
					G1	131.40	132.10				
					G2P	132.10	132.30				
					G2	132.30	133.50				
					G3P	133.50	134.00				
					G3	134.00	135.70				
					G	130.40	135.70				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87066	1505.69	6096322.92	620077.60	85.20	OVER	0.00	6.00				
					E3	27.20	29.60				
					E4P	29.60	30.90				
					E4	30.90	32.00				
					F1	62.10	62.80				
					F2P	62.80	63.30				
					F2	63.30	67.10				
					F	62.10	67.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87067	1499.61	6096417.41	619995.34	42.00	COAL	41.00	42.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR87068	1484.15	6096527.44	620065.10	79.30	OVER	0.00	8.00				
					C	19.60	22.80				
					HG	46.80	46.81				
					D	65.70	67.60				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88003	1332.38	6094622.98	620565.27	58.88	OVER	0.00	2.00	0.00	5.00	210.20	89.20
					L	8.30	8.80	5.00	10.00	269.90	88.80
								10.00	15.00	124.80	88.70
								15.00	20.00	68.10	88.50
								20.00	25.00	74.20	88.00
								25.00	30.00	81.60	87.90
								30.00	35.00	86.70	87.60
								35.00	40.00	86.30	87.30
								40.00	45.00	85.60	87.20
								45.00	50.00	89.90	87.10
								50.00	58.88	92.70	86.80

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
BHR88004	1354.74	6094949.71	620890.49	167.36	OVER	0.00	0.50	0.00	5.00	278.30	44.00
					R	2.90	3.70	5.00	10.00	273.90	44.00
					C1	14.50	15.00	10.00	15.00	265.90	43.90
					C2	35.30	35.60	15.00	20.00	267.90	43.70
					D1	87.84	88.35	20.00	25.00	266.30	44.40
					D2P	88.35	89.06	25.00	30.00	262.90	44.20
					D2	89.06	89.47	30.00	35.00	263.50	43.00
					D	87.84	89.47	35.00	40.00	263.20	42.50
					E1	102.54	102.90	40.00	45.00	261.30	41.90
					E2P	102.90	103.05	45.00	50.00	263.70	41.00
					E2	103.05	103.30	50.00	55.00	265.60	39.20
					E3P	103.30	104.10	55.00	60.00	263.10	37.40
					E3	104.10	105.35	60.00	65.00	262.70	36.80
					E4P	105.35	108.35	65.00	70.00	263.90	36.70
					E4	108.35	108.83	70.00	75.00	258.80	36.60
					E	102.54	108.83	75.00	80.00	261.30	36.80
					F1	111.75	112.86	80.00	85.00	261.80	36.90
					F2P	112.86	113.30	85.00	90.00	261.60	36.60
					F2U	113.30	114.30	90.00	95.00	267.10	35.30
					F2PTG	114.30	114.49	95.00	100.00	267.30	34.60
					F2L	114.49	116.89	100.00	105.00	266.20	34.30
					F	111.75	116.89	105.00	110.00	267.00	34.20
					FT	119.00	119.01	110.00	115.00	266.00	34.30
					F2L	119.06	121.10	115.00	120.00	266.50	34.50
					G1	124.18	125.15	120.00	125.00	266.70	34.40
					G2P	125.15	125.31	125.00	130.00	264.70	34.60
					G2	125.31	126.25	130.00	135.00	261.50	36.10
					G3P	126.25	126.56	135.00	140.00	260.30	35.90
					G3	126.56	128.05	140.00	145.00	260.00	34.30
					G	124.18	128.05	145.00	150.00	261.20	34.60
					J	140.80	145.27	150.00	155.00	266.40	34.30
					K1P	145.27	146.00	155.00	160.00	266.40	34.70
					K1	146.00	147.14	160.00	167.36	264.50	35.60
					K2P	147.14	148.28				
					K2	148.28	149.48				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRS8005	1444.25	6094980.67	620710.03	147.72	OVER	0.00	1.00	0.00	147.72	268.70	60.00
					D2	59.00	59.70				
					D3P	59.70	60.30				
					D3	60.30	60.60				
					D4P	60.60	61.20				
					D4	61.20	62.00				
					D	59.00	62.00				
					E1	77.10	77.50				
					E2P	77.50	78.00				
					E2	78.00	79.10				
					E3P	79.10	82.20				
					E3	82.20	83.80				
					E	77.10	83.80				
					F1	95.10	96.20				
					F2P	96.20	96.80				
					F2	96.80	101.30				
					F	95.10	101.30				
					G1	108.30	108.90				
					G2P	108.90	109.30				
					G2	109.30	110.20				
					G3P	110.20	111.20				
					G3	111.20	111.90				
					G	108.30	111.90				
					J	128.10	134.30				
					K1P	134.30	135.30				
					K1	135.30	137.10				
					K2P	137.10	137.90				
					K2	137.90	138.20				
					K3P	138.20	139.60				
					K3	139.60	140.10				
					K	135.30	140.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB8006	1540.25	6095268.37	620089.98	166.62	OVER	0.00	4.00	0.00	105.00	268.70	60.00
					E1	13.10	13.70	105.00	110.00	271.40	58.10
					E2P	13.70	14.20	110.00	115.00	275.10	57.80
					E2	14.20	16.60	115.00	120.00	269.10	58.40
					E3P	16.60	19.50	120.00	125.00	270.80	59.10
					E3	19.50	21.10	125.00	130.00	271.80	60.10
					E4P	21.10	21.80	130.00	135.00	268.70	61.00
					E4	21.80	22.00	135.00	140.00	271.30	62.00
					E	13.10	21.10	140.00	145.00	269.20	62.30
					F1U	34.88	35.80	145.00	155.00	269.30	63.50
					F1PTG	35.80	36.14	155.00	160.00	269.90	64.50
					F1L	36.14	36.80	160.00	166.62	270.40	65.50
					F2P	36.80	37.49				
					F2U	37.49	39.45				
					FLT	39.50	39.60				
					F2PTG	39.45	39.84				
					F2U	39.84	41.28				
					F2PTG	41.28	41.88				
					F2L	41.88	46.57				
					F	34.88	46.57				
					FLT	56.00	56.10				
					G1	67.95	69.46				
					G2P	69.46	69.65				
					G2	69.65	69.95				
					G3P	69.95	70.28				
					G3	70.28	72.60				
					G	67.95	72.60				
					FLT	73.15	73.78				
					FLT	96.00	96.10				
					G1	107.88	109.15				
					G2P	109.15	109.36				
					G2	109.36	110.50				
					G3P	110.50	110.90				
					G3	110.90	112.42				
					G	107.88	112.42				
					J	134.75	140.20				
					K1P	140.20	141.37				
					K1	141.37	142.02				
					K2P	142.02	142.84				
					K2	142.84	143.35				
					K3P	143.35	151.61				
					K3	151.61	152.17				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB8007	1586.88	6095440.61	619910.34	78.20	OVER	0.00	2.40	0.00	78.20	268.70	60.00
					J	30.10	37.30				
					K	45.40	55.20				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88011	1586.98	6095441.10	619907.63	198.20	OVER	0.00	5.00	0.00	20.00	268.50	60.50
					J	29.20	36.39	20.00	25.00	268.90	60.60
					FLT	36.85	37.67	25.00	35.00	271.60	61.40
					K1	46.20	48.98	35.00	40.00	273.50	61.30
					K2P	48.98	51.90	40.00	45.00	271.70	61.80
					K2U	51.90	52.21	45.00	60.00	272.50	61.80
					K2PTG	52.21	52.46	60.00	65.00	273.70	62.70
					K2L	52.46	55.08	65.00	75.00	270.40	63.00
					K3P	55.08	56.15	75.00	80.00	269.70	63.20
					K3	56.15	56.78	80.00	85.00	272.50	62.40
					K	46.20	56.78	85.00	90.00	271.10	62.70
					COAL	71.42	71.73	90.00	95.00	273.40	63.00
					PTG	71.73	72.25	95.00	100.00	274.60	63.20
					COAL	72.25	72.46	100.00	105.00	272.90	63.30
					PTG	72.46	73.87	105.00	115.00	272.60	63.20
					COAL	73.87	74.84	115.00	125.00	274.20	63.40
					PTG	74.84	77.92	125.00	130.00	271.30	63.50
					COAL	77.92	79.84	130.00	135.00	273.40	63.60
					PTG	79.84	80.03	135.00	145.00	271.10	63.50
					COAL	80.03	80.63	145.00	150.00	271.10	64.40
					G1	130.00	130.74	150.00	160.00	273.40	64.10
					G1PTG	130.74	130.94	160.00	165.00	276.10	63.50
					G1	130.94	141.85	165.00	170.00	274.20	63.60
					G2P	141.85	142.23	170.00	175.00	273.20	63.70
					G2	142.23	144.49	175.00	180.00	276.90	63.40
					G3P	144.49	145.77	180.00	185.00	272.20	63.20
					G3	145.77	150.26	185.00	190.00	276.10	63.40
					G	130.00	150.26	190.00	197.80	272.90	63.80
					J	168.94	172.58				
					K1	174.48	176.18				
					PTG	176.18	178.26				
					COAL	178.26	178.36				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88012	1587.17	6095444.76	619916.14	47.58	OVER	0.00	6.00	0.00	10.00	88.70	45.00
					COAL	12.17	12.36	10.00	15.00	93.70	45.20
								15.00	20.00	96.70	44.70
								20.00	30.00	95.30	44.70
								30.00	35.00	100.50	44.60
								35.00	45.00	99.60	46.40
								45.00	47.58	95.90	43.90

Hole	Elevation m	Northing UTM	Eastins UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QHR88013	1610.59	6095500.84	619756.99	138.72	OVER	0.00	1.70	0.00	10.00	88.70	50.00
					L	27.10	27.32	10.00	30.00	86.50	50.20
					FLT	54.00	54.10	30.00	40.00	85.70	50.70
					B	60.79	62.62	40.00	45.00	83.80	51.30
					COAL	72.68	73.01	45.00	50.00	85.00	51.70
					KCH	92.00	92.01	50.00	55.00	88.20	51.80
								55.00	60.00	89.50	52.00
								60.00	65.00	89.40	51.90
								65.00	70.00	87.30	52.20
								70.00	75.00	88.90	52.10
								75.00	80.00	86.70	52.30
								80.00	85.00	90.00	52.40
								85.00	90.00	88.30	51.50
								90.00	95.00	89.10	50.70
								95.00	100.00	91.50	50.10
								100.00	105.00	87.00	49.00
								105.00	110.00	91.90	47.80
								110.00	115.00	92.00	46.00
								120.00	138.72	85.60	42.20

Hole	Elevation m	Northing UTM	Eastins UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QHR88014	1324.72	6095534.88	621839.87	95.30	OVER	0.00	5.00	0.00	5.00	268.70	60.00
					G1	25.61	26.48	5.00	15.00	274.10	57.40
					G2P	26.48	26.68	15.00	20.00	284.40	57.30
					G2	26.68	27.69	20.00	25.00	294.00	55.80
					G3P	27.69	28.27	25.00	30.00	286.10	57.10
					G3	28.27	29.80	30.00	35.00	283.60	57.70
					G	25.61	29.80	35.00	40.00	289.20	57.50
					J	46.72	52.49	40.00	45.00	291.20	56.60
					K1	52.49	53.53	45.00	50.00	284.70	57.80
					K2P	53.53	55.40	50.00	55.00	285.30	58.20
					K2	55.40	56.60	55.00	60.00	291.40	58.20
								60.00	65.00	286.70	58.50
								65.00	70.00	287.80	58.40
								70.00	75.00	279.20	59.10
								75.00	80.00	286.60	60.20
								80.00	85.00	280.30	61.20
								85.00	90.00	285.10	60.00
								90.00	95.00	289.30	60.30
								95.00	95.20	285.90	58.30

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88015	1068.53	6095021.67	623106.08	111.88	OVER	0.00	0.10	0.00	5.00	268.70	60.00
					F1	19.82	20.57	5.00	10.00	262.20	60.30
					F2P	20.57	20.85	10.00	15.00	262.70	61.70
					F2U	20.85	22.78	15.00	20.00	266.90	62.40
					F2PTG	22.78	23.05	25.00	30.00	277.20	61.30
					F2L	23.05	24.16	30.00	35.00	274.00	62.40
					F	19.82	24.16	35.00	40.00	268.30	62.60
					G1	57.79	58.48	40.00	45.00	274.10	63.00
					G2P	58.48	58.64	45.00	50.00	271.80	63.60
					G2	58.64	59.72	50.00	55.00	272.40	63.90
					G3P	59.72	60.24	55.00	60.00	280.60	64.10
					G3	60.24	61.48	60.00	65.00	272.90	64.60
					G	57.79	61.48	65.00	70.00	276.10	64.50
					J	83.31	88.40	70.00	75.00	272.00	63.70
					K1P	88.40	89.46	75.00	80.00	264.40	62.70
					K1	89.46	90.65	80.00	85.00	273.40	61.50
					K2P	90.65	94.60	85.00	90.00	278.40	60.80
					K2	94.60	95.56	90.00	95.00	270.70	60.20
								95.00	100.00	272.60	59.50
								100.00	105.00	276.30	58.50
								105.00	111.90	268.80	58.60

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88016	1112.54	6094992.16	622876.22	74.76	OVER	0.00	6.10	0.00	8.00	51.70	90.00
					L	55.16	55.56	8.00	10.00	273.80	88.00
								10.00	15.00	252.40	89.10
								15.00	20.00	285.50	88.60
								20.00	25.00	266.70	88.90
								25.00	30.00	281.60	88.50
								30.00	35.00	226.40	89.10
								35.00	40.00	233.00	88.40
								40.00	45.00	268.60	87.70
								45.00	50.00	272.30	87.30
								50.00	55.00	277.10	87.60
								55.00	60.00	278.60	87.60
								60.00	65.00	280.50	88.40
								65.00	70.00	277.80	88.50
								70.00	74.76	280.10	88.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88017	1117.09	6095037.25	622921.52	84.08	OVER	0.00	1.50	0.00	5.00	228.10	87.90
					G1	6.78	8.19	5.00	10.00	245.30	87.80
					G2P	8.19	8.37	10.00	15.00	339.60	88.10
					G2	8.37	10.03	15.00	20.00	93.70	88.40
					G3P	10.03	11.06	20.00	25.00	61.60	88.30
					G3	11.06	13.20	25.00	30.00	8.20	88.40
					G	6.78	13.20	30.00	35.00	34.80	88.80
					J	46.96	55.25	35.00	40.00	292.10	88.00
					K1P	55.25	56.98	40.00	45.00	307.30	87.60
					K1	56.98	58.29	45.00	50.00	297.60	87.40
					K2P	58.29	63.94	50.00	55.00	298.80	87.10
					K2	63.94	65.75	55.00	60.00	296.00	86.70
								60.00	65.00	294.00	87.00
								65.00	70.00	320.60	87.90
								70.00	75.00	305.30	87.80
								75.00	84.08	303.20	87.30

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88018	1522.53	6096199.02	620128.28	125.02	OVER	0.00	4.00	0.00	4.00	51.70	90.00
					COAL	19.10	19.50	4.00	9.00	13.60	89.70
					E1	34.13	34.70	9.00	14.00	31.80	89.80
					E2P	34.70	34.80	14.00	19.00	6.90	89.30
					E2	34.80	36.21	19.00	24.00	26.40	89.20
					E3P	36.21	37.24	24.00	29.00	20.30	89.50
					E3	37.24	38.70	29.00	34.00	10.90	89.40
					E	34.13	38.70	34.00	39.00	32.40	89.10
					F1	58.38	58.83	39.00	44.00	88.50	88.40
					F2P	58.83	59.24	44.00	49.00	100.00	87.30
					F2U	59.24	60.41	49.00	54.00	111.40	86.50
					F2PTG	60.41	60.55	54.00	59.00	109.60	85.90
					F2L	60.55	62.57	59.00	64.00	108.40	84.50
					F	58.38	62.57	64.00	69.00	107.20	83.70
					G1	86.34	87.55	69.00	74.00	108.40	83.10
					G2P	87.55	87.73	74.00	79.00	110.50	82.30
					G2	87.73	88.59	79.00	84.00	112.10	82.20
					G3P	88.59	88.96	84.00	89.00	114.70	81.10
					G3	88.96	89.93	89.00	94.00	118.40	80.20
					G	86.34	89.93	94.00	99.00	119.70	79.60
					J	107.89	112.95	99.00	104.00	124.80	78.90
					K1P	112.95	113.95	104.00	109.00	124.40	78.60
					K1	113.95	115.18	109.00	114.00	124.10	77.90
					K2P	115.18	116.34	114.00	119.00	125.40	77.20
					K2	116.34	117.30	119.00	125.02	126.70	76.00
					COAL	118.43	118.63				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88019	1349.43	6094998.48	621360.92	102.04	OVER	0.00	2.00	0.00	20.00	96.90	61.50
					F1	7.64	8.60	20.00	25.00	98.60	61.30
					F2P	8.60	8.76	25.00	30.00	99.10	61.30
					F2U	8.76	10.30	30.00	35.00	98.00	61.30
					F2PTG	10.30	10.94	35.00	40.00	99.50	60.50
					F2L	10.94	12.47	40.00	45.00	99.90	60.90
					F	7.64	12.47	45.00	50.00	99.10	60.70
					G1	25.84	26.62	50.00	55.00	100.30	60.40
					G2P	26.62	26.79	55.00	60.00	99.90	60.90
					G2	26.79	27.80	60.00	65.00	98.10	60.60
					G3P	27.80	28.14	65.00	70.00	99.10	60.90
					G3	28.14	29.47	70.00	75.00	99.10	61.70
					G	25.84	29.47	75.00	80.00	102.40	61.70
					J	45.49	49.64	80.00	85.00	100.10	61.30
					K1P	49.64	50.47	85.00	90.00	101.40	61.20
					K1	50.47	51.56	90.00	95.00	101.70	61.20
					K2P	51.56	52.09	95.00	102.04	94.30	60.00
					K2	52.09	53.53				
					K	50.47	53.53				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB8020	1283.06	6094894.41	621303.45	126.70	OVER	0.00	1.00	0.00	15.00	88.70	60.00
					C2	14.47	15.82	15.00	20.00	88.70	54.90
					C3P	15.82	16.24	20.00	25.00	90.50	59.80
					C3	16.24	16.64	25.00	30.00	91.20	60.90
					C	14.47	16.64	30.00	35.00	92.10	59.50
					F1	40.07	41.22	35.00	40.00	93.00	59.60
					F2P	41.22	41.38	40.00	45.00	92.60	59.80
					FLT	41.38	41.90	45.00	50.00	92.20	59.70
					F1	41.38	42.92	50.00	55.00	95.80	60.70
					F2P	42.92	43.78	55.00	60.00	94.90	61.20
					F2U	43.78	45.74	60.00	65.00	87.20	60.10
					F2PTG	45.74	45.82	65.00	70.00	94.80	60.40
					F2L	45.82	47.95	70.00	75.00	94.20	60.00
					F	40.07	47.95	75.00	80.00	95.10	61.10
					G1	61.52	62.47	80.00	85.00	95.50	61.40
					G2P	62.47	63.18	85.00	90.00	91.80	61.50
					G2	63.18	64.95	90.00	95.00	93.40	61.40
					G3P	64.95	65.46	95.00	100.00	95.90	62.50
					G3	65.46	66.73	100.00	105.00	94.40	61.90
					FLT	66.85	67.96	105.00	110.00	94.70	62.20
					PTG	66.73	66.93	110.00	115.00	91.40	62.30
					COAL	66.93	67.47	115.00	120.00	95.00	62.90
					PTG	67.47	67.73	120.00	126.70	96.90	63.40
					COAL	67.73	67.96				
					G	61.52	67.96				
					G1	69.06	70.04				
					G2P	70.04	70.83				
					G2	70.83	71.82				
					G3P	71.82	72.05				
					G3	72.05	73.42				
					G	69.06	73.42				
					J	90.79	95.34				
					K1P	95.34	96.10				
					K1	96.10	97.91				
					K2P	97.91	99.15				
					K2	99.15	100.28				
					K3P	100.28	100.49				
					K3	100.49	100.81				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88021	1282.11	6094893.54	621302.67	163.12	OVER	0.00	1.00	0.00	2.00	51.70	90.00
					E2	10.70	11.10	2.00	5.00	1.80	87.80
					E3P	11.10	11.70	5.00	10.00	253.10	87.70
					E3	11.70	12.30	10.00	15.00	66.70	88.10
					F1	44.90	45.50	15.00	20.00	56.30	87.60
					F2P	45.50	46.20	20.00	25.00	57.50	87.80
					F2U	46.20	51.50	25.00	30.00	46.10	87.80
					F2PTG	51.50	53.50	30.00	35.00	48.40	87.80
					F2L	53.50	54.20	35.00	40.00	47.50	87.80
					F	44.90	51.50	40.00	45.00	42.50	87.70
					G1	78.00	79.00	45.00	50.00	41.60	87.70
					G2P	79.00	80.00	50.00	55.00	36.10	87.70
					G2	80.00	81.50	55.00	60.00	17.80	88.70
					G3P	81.50	82.90	60.00	65.00	31.10	88.00
					G3	82.90	85.40	65.00	70.00	46.30	88.30
					G	78.00	85.40	70.00	75.00	35.40	87.90
					J	108.00	121.90	75.00	80.00	30.50	87.70
					K1P	121.90	125.90	80.00	85.00	12.90	87.30
					K1	125.90	127.30	85.00	90.00	37.60	87.70
					K2P	127.30	129.20	90.00	95.00	49.20	87.50
					K2	129.20	131.10	95.00	100.00	32.00	87.50
					FLT	131.90	132.00	100.00	105.00	36.80	87.80
					K1	132.00	133.40	105.00	110.00	29.80	87.40
					K2P	133.40	135.60	110.00	115.00	47.00	88.00
					K2	135.60	137.60	115.00	163.12	53.90	88.10

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88022	1282.73	6094890.02	621286.02	95.92	OVER	0.00	1.00	0.00	15.00	268.70	60.00
					COAL	4.80	5.30	15.00	25.00	278.60	59.10
					COAL	13.99	15.68	25.00	30.00	279.40	59.20
					COAL	25.00	25.44	30.00	40.00	286.50	60.20
								40.00	55.00	285.90	60.30
								55.00	65.00	280.30	60.90
								65.00	70.00	284.40	61.30
								70.00	80.00	289.60	62.10
								80.00	90.00	284.90	62.50
								90.00	95.92	282.50	62.00

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88023	1166.96	6094536.19	621724.33	173.78	OVER	0.00	2.00	0.00	6.00	51.70	90.00
					E	7.19	8.58	6.00	11.00	286.00	88.70
					PTG	8.58	9.90	11.00	16.00	238.70	89.00
					E	9.90	10.23	16.00	21.00	273.20	89.00
					PTG	10.23	10.97	21.00	26.00	261.40	88.90
					E	10.97	11.57	26.00	31.00	245.90	89.40
					F1	55.74	56.71	31.00	36.00	234.80	88.90
					F2P	56.71	57.12	36.00	41.00	280.50	89.00
					F2U	57.12	60.72	41.00	46.00	284.50	89.10
					F2PTG	60.72	60.87	46.00	51.00	280.00	89.50
					F2L	60.87	64.50	51.00	56.00	260.10	89.20
					FLT	64.50	64.60	56.00	61.00	228.70	89.20
					PTG	64.50	64.68	61.00	66.00	230.40	89.10
					F2L	64.68	65.48	66.00	71.00	250.70	89.10
					PTG	65.48	65.74	71.00	76.00	248.60	89.20
					COAL	65.74	65.99	76.00	81.00	303.30	89.00
					FLT	65.99	66.24	81.00	86.00	321.50	89.20
					F2U	66.24	69.86	86.00	91.00	329.20	89.40
					F2PTG	69.86	69.99	91.00	96.00	257.50	89.70
					F2L	69.99	72.84	96.00	101.00	234.10	89.60
					F	55.74	72.84	101.00	106.00	252.60	89.10
					G1U	97.48	98.05	106.00	111.00	260.90	89.30
					G1PTG	98.05	98.63	111.00	116.00	279.70	89.10
					G1L	98.63	99.89	116.00	121.00	313.50	89.30
					G2P	99.89	100.20	121.00	126.00	195.60	89.90
					G2U	100.20	101.77	126.00	131.00	172.20	89.00
					G2PTG	101.77	102.13	131.00	136.00	147.90	88.80
					G2L	102.13	102.76	136.00	141.00	153.50	88.60
					G3P	102.76	103.14	141.00	146.00	148.50	88.00
					G3	103.14	104.16	146.00	151.00	158.20	88.40
					G	97.48	104.16	151.00	156.00	171.40	88.30
					J	134.45	145.85	156.00	161.00	155.50	88.10
					COAL	146.57	146.77	161.00	166.00	164.30	88.40
					K1P	145.85	147.95	166.00	173.78	156.20	88.20
					K1	147.95	153.03				
					K2P	153.03	161.82				
					K2	161.82	163.90				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88024	1167.16	6094535.45	621723.86	132.22	OVER	0.00	2.00	0.00	7.00	268.70	60.00
					E	3.80	4.80	7.00	12.00	268.90	61.80
					F1	35.94	37.00	12.00	17.00	263.50	62.30
					F2P	37.00	37.32	17.00	37.00	264.70	63.10
					F2	37.32	40.68	37.00	42.00	268.10	63.10
					F	35.94	40.68	42.00	47.00	267.30	63.20
					COAL	46.55	46.90	47.00	52.00	263.90	63.50
					COAL	46.98	47.26	52.00	57.00	264.20	63.30
					COAL	48.72	48.99	57.00	62.00	272.30	64.40
					COAL	49.40	49.72	62.00	67.00	269.40	64.40
					G1	52.34	53.74	67.00	77.00	270.30	64.70
					G2P	53.74	54.09	77.00	82.00	268.40	65.00
					G2	54.09	55.32	82.00	87.00	269.30	65.40
					G3P	55.32	56.28	87.00	102.00	269.10	65.90
					G3	56.28	57.92	102.00	107.00	268.40	65.40
					FLT	60.00	62.00	107.00	112.00	264.30	66.20
					G1	69.75	72.31	112.00	117.00	275.80	66.30
					G2P	72.31	73.14	117.00	122.00	269.80	67.10
					G2	73.14	74.46	122.00	132.22	269.50	67.50
					G3P	74.46	74.84				
					G3	74.84	76.65				
					G	69.75	76.65				
					J	97.80	104.40				
					K1P	104.40	105.84				
					K1	105.84	107.30				
					K2P	107.30	109.84				
					K2	109.84	112.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88025	1170.74	6094661.31	621312.63	30.00	OVER	0.00	3.00	0.00	30.00	88.70	60.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88026	1171.61	6094653.58	621305.39	107.84	OVER	0.00	2.00	0.00	20.00	268.70	45.00
					G1	23.30	24.47	20.00	25.00	260.10	51.80
					G2P	24.47	24.78	25.00	30.00	264.30	52.10
					G2	24.78	25.88	30.00	35.00	263.80	52.50
					G3P	25.88	26.29	35.00	45.00	263.40	51.90
					G3	26.29	28.00	45.00	50.00	258.90	52.60
					G	23.30	28.00	50.00	70.00	260.60	53.90
					J	48.33	55.78	70.00	75.00	260.10	55.00
					FLT	55.78	61.80	75.00	80.00	257.30	54.30
					K1P	55.87	61.80	80.00	90.00	261.50	53.90
					K1	61.80	65.02	90.00	95.00	265.10	53.90
					K2P	65.02	66.80	95.00	100.00	263.10	54.30
					K2	66.80	68.75	100.00	107.84	261.10	54.50
					FLT	69.60	69.70				
					J	70.53	75.76				
					K1	77.50	79.40				
					K2P	79.40	80.42				
					K2	80.42	81.62				
					COAL	81.78	82.09				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88027	1081.14	6094396.50	621638.88	53.44	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					J	7.33	11.65	3.00	6.00	233.20	89.10
					K1P	11.65	12.73	6.00	11.00	270.10	88.80
					K1	12.73	14.20	11.00	16.00	238.80	89.50
					K2P	14.20	15.57	16.00	21.00	357.90	89.20
					K2	15.57	17.06	21.00	26.00	325.90	88.60
								26.00	31.00	321.90	88.90
								31.00	36.00	340.60	88.90
								36.00	41.00	330.00	88.90
								41.00	46.00	319.50	88.10
								46.00	53.44	267.00	89.50

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88028	1087.83	6094395.20	621732.08	54.32	OVER	0.00	3.00	0.00	3.00	51.70	90.00
								3.00	6.00	336.70	87.60
								6.00	11.00	346.70	87.10
								11.00	16.00	323.00	87.10
								16.00	21.00	334.20	88.10
								21.00	26.00	329.00	87.80
								26.00	31.00	320.90	88.20
								31.00	36.00	317.20	88.30
								36.00	41.00	342.80	88.70
								41.00	46.00	334.90	88.00
								46.00	54.32	346.00	88.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88029	1072.37	6094304.15	622181.67	53.32	OVER	0.00	2.00	0.00	7.00	51.70	90.00
								7.00	12.00	319.20	88.30
								12.00	17.00	310.10	88.70
								17.00	22.00	243.50	89.00
								22.00	27.00	303.70	88.20
								27.00	32.00	286.10	87.90
								32.00	37.00	305.40	88.10
								37.00	42.00	286.00	88.20
								42.00	47.00	294.70	89.30
								47.00	53.32	205.70	89.70

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88030	1059.79	6094264.46	622137.27	53.32	OVER	0.00	0.50	0.00	3.00	51.70	90.00
					K2	0.50	2.00	3.00	6.00	44.10	87.10
					COAL	2.50	2.80	6.00	11.00	46.80	86.50
								11.00	16.00	40.80	87.10
								16.00	21.00	40.00	88.30
								21.00	26.00	39.30	87.90
								26.00	31.00	37.30	87.80
								31.00	36.00	25.10	89.60
								36.00	41.00	61.60	88.40
								41.00	46.00	38.80	88.80
								46.00	53.32	55.70	87.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88031	797.34	6094991.79	624610.97	114.36	OVER	0.00	5.00	0.00	6.00	51.70	90.00
					F1	26.79	27.21	6.00	10.00	359.10	88.90
					F2P	27.21	27.36	10.00	15.00	4.70	88.60
					F2	27.36	32.71	15.00	20.00	6.00	88.50
					F	26.79	32.71	20.00	25.00	13.40	88.70
					G1	52.39	53.63	25.00	30.00	33.90	88.20
					G2P	53.63	53.74	30.00	35.00	6.60	88.10
					G2	53.74	54.66	35.00	40.00	28.70	88.20
					G3P	54.66	55.03	40.00	45.00	47.70	88.30
					G3	55.03	56.49	45.00	50.00	48.50	88.10
					G	52.39	56.49	50.00	55.00	60.90	88.00
					J	80.55	85.81	55.00	60.00	68.60	87.80
					K1P	85.81	87.00	60.00	65.00	50.90	87.60
					K1	87.00	88.18	65.00	70.00	47.80	87.60
					K2P	88.18	92.99	70.00	75.00	64.60	88.00
					K2	92.99	93.65	75.00	80.00	66.00	86.80
								80.00	85.00	47.00	87.60
								85.00	90.00	60.30	87.60
								90.00	95.00	70.10	87.60
								95.00	100.00	67.60	86.90
								100.00	105.00	88.80	87.40
								105.00	114.36	70.10	87.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88032	816.85	6095105.97	624423.01	24.00	OVER	0.00	24.00	0.00	24.00	51.70	90.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88033	822.08	6095149.05	624447.34	119.62	OVER	0.00	1.00	0.00	10.00	51.70	90.00
					COAL	9.80	10.10	10.00	15.00	105.40	89.00
					E1	25.59	26.15	15.00	20.00	88.20	88.60
					E2P	26.15	26.64	20.00	25.00	80.90	88.30
					E2	26.64	26.90	25.00	30.00	54.40	88.40
					E3P	26.90	27.43	30.00	35.00	62.90	89.10
					E3U	27.43	28.92	35.00	40.00	89.60	88.40
					E3PTG	28.92	29.29	40.00	45.00	83.20	88.30
					E3L	29.29	29.64	45.00	50.00	74.30	87.50
					E3	27.43	29.64	50.00	55.00	89.50	87.90
					E	25.59	29.64	55.00	60.00	82.40	87.40
					F1	53.98	54.60	60.00	65.00	74.10	88.20
					F2P	54.60	54.70	65.00	70.00	101.40	88.10
					F2	54.70	58.60	70.00	75.00	86.20	87.50
					F	53.98	58.60	75.00	80.00	81.00	87.90
					G1	78.10	79.00	80.00	85.00	93.30	87.50
					G2P	79.00	79.15	85.00	90.00	83.20	87.50
					G2	79.15	80.06	90.00	95.00	90.00	87.50
					G3P	80.06	80.45	95.00	100.00	104.90	86.40
					G3	80.45	81.70	100.00	105.00	96.90	84.20
					G	78.10	81.70	105.00	110.00	100.10	84.50
					J	106.05	110.62	110.00	119.62	100.80	83.30
					K1P	110.62	111.42				
					K1	111.42	112.95				
					K2P	112.95	116.60				
					K2	116.60	117.48				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88034	779.80	6094883.33	624479.33	30.10	OVER	0.00	30.00	0.00	30.00	51.70	90.00
					ABANDONE	30.00	30.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88035	830.42	6094732.38	624054.12	35.10	OVER	0.00	35.00	0.00	35.00	51.70	90.00
					ABANDONE	35.00	35.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR88036	827.92	6094627.58	623986.40	52.10	OVER	0.00	52.00	0.00	52.00	51.70	90.00
					ABANDONE	52.00	52.10				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GHR89001	851.50	6094814.00	623779.50	120.00	OVER	0.00	8.00	0.00	120.00	51.70	90.00
					E	23.80	24.60				
					F1	43.28	43.52				
					F2P	43.52	43.93				
					F2	43.93	47.28				
					F	43.28	47.28				
					G1	70.40	71.10				
					G2P	71.10	71.46				
					G2	71.46	72.05				
					G3P	72.05	72.75				
					G3	72.75	73.61				
					G	70.40	73.61				
					J	91.83	96.20				
					K1P	96.20	97.27				
					K1	97.27	98.28				
					K2P	98.28	104.45				
					K2	104.45	105.08				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GHR89002	851.55	6094814.20	623778.94	130.46	OVER	0.00	6.50	0.00	130.46	268.70	66.00
					CPRK	10.00	21.00				
					E	24.10	25.90				
					F1	44.37	44.94				
					F2P	44.94	45.15				
					F2	45.15	49.16				
					F	44.37	49.16				
					G1	75.45	76.21				
					G2P	76.21	76.48				
					G2	76.48	77.34				
					G3P	77.34	77.47				
					G3	77.47	78.79				
					G	75.45	78.79				
					J	98.03	102.58				
					K1P	102.58	103.57				
					K1	103.57	105.09				
					J&K1	98.03	105.09				
					K2P	105.09	118.61				
					FAULT	113.90	114.10				
					K2	118.61	119.36				
					COAL	119.89	120.22				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB9003	850.90	6094787.61	623764.35	103.02	OVER	0.00	6.00	0.00	5.00	281.70	45.00
					F1	17.29	17.69	5.00	10.00	241.00	42.90
					F2P	17.69	17.79	10.00	15.00	303.30	44.60
					F2	17.79	21.70	15.00	20.00	283.90	46.30
					F	17.29	21.70	20.00	25.00	286.40	44.70
					G1	50.05	50.93	25.00	30.00	281.50	44.40
					G2P	50.93	51.08	30.00	35.00	286.80	44.50
					G2	51.08	51.97	35.00	40.00	284.60	45.80
					G3P	51.97	52.43	40.00	45.00	279.50	44.60
					G3	52.43	53.68	45.00	50.00	277.60	44.00
					G	50.05	53.68	50.00	55.00	280.70	44.50
					J	71.41	71.41	55.00	60.00	284.40	42.70
					K1	71.41	72.67	60.00	65.00	280.90	43.20
					K2P	72.67	79.30	65.00	70.00	286.20	43.90
					K2	79.30	79.70	70.00	75.00	286.10	42.70
								75.00	80.00	284.60	41.20
								80.00	85.00	269.30	41.00
								85.00	90.00	277.90	40.30
								90.00	95.00	276.40	40.30
								95.00	103.02	277.20	41.60

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB9004	876.44	6094816.65	623689.39	84.90	OVER	0.00	2.00	0.00	5.00	268.70	45.00
					F1	2.80	3.10	5.00	10.00	272.60	45.60
					F2P	3.10	3.30	10.00	15.00	276.00	45.60
					F2	3.30	9.80	15.00	20.00	276.10	46.00
					F	2.80	9.80	20.00	25.00	273.80	45.90
					G1	37.08	37.92	25.00	30.00	280.40	45.70
					G2P	37.92	38.10	30.00	35.00	280.10	46.80
					G2	38.10	38.96	35.00	40.00	275.60	46.30
					G3P	38.96	39.56	40.00	45.00	271.40	46.00
					G3	39.56	40.75	45.00	50.00	283.40	49.70
					G	37.08	40.75	50.00	55.00	274.20	45.60
					J	60.33	64.25	55.00	60.00	255.90	45.60
					K1P	64.25	64.62	60.00	65.00	274.00	45.60
					K1	64.62	65.19	65.00	70.00	279.60	45.60
					J&K1	60.33	65.19	70.00	75.00	273.80	44.80
					K2P	65.19	72.00	75.00	84.90	273.50	44.20
					K2	72.00	72.79				
					COAL	73.27	73.43				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89005	1126.23	6094410.04	621916.89	108.16	OVER	0.00	1.50	0.00	108.16	88.70	45.00
					COAL	4.00	4.80				
					COAL	7.60	9.80				
					G1	19.49	20.30				
					G2P	20.30	20.80				
					G2	20.80	21.87				
					G3P	21.87	22.28				
					G3	22.28	23.80				
					G	19.49	23.80				
					J	46.66	52.29				
					FAULT	52.30	52.60				
					J	69.50	73.56				
					K1P	73.56	79.45				
					K1	79.45	80.66				
					K2P	80.66	83.38				
					K2	83.38	83.58				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89006	1126.25	6094409.52	621916.55	119.50	OVER	0.00	2.00	0.00	119.50	51.70	90.00
					G1	6.10	7.30				
					G2P	7.30	7.70				
					G2	7.70	9.60				
					G3P	9.60	9.80				
					G3	9.80	10.70				
					G	6.10	10.70				
					FAULT	10.75	10.85				
					G1	11.00	11.40				
					G2P	11.40	12.40				
					G2	12.40	12.80				
					G3P	12.80	13.30				
					G3	13.30	14.30				
					G	11.00	14.30				
					COAL	45.10	46.10				
					COAL	47.00	48.10				
					FAULT	50.20	50.30				
					J	81.10	89.90				
					K1	92.30	94.80				
					K2	96.70	99.30				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89007	1121.83	6094397.47	621840.95	48.32	OVER	0.00	2.00	0.00	5.00	268.70	60.00
					J	20.15	26.47	5.00	10.00	270.00	59.00
					K1P	26.47	26.47	10.00	15.00	265.40	59.40
					K1	26.47	27.80	15.00	20.00	275.40	59.80
					K2P	27.80	31.94	20.00	25.00	273.50	60.10
					K2	31.94	32.28	25.00	30.00	272.20	60.10
								30.00	35.00	255.00	60.10
								35.00	40.00	274.80	60.90
								40.00	48.32	279.00	60.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89008	1123.31	6094403.80	622007.66	99.54	OVER	0.00	2.00	0.00	5.00	88.70	50.00
					G	7.00	8.10	5.00	10.00	86.10	49.90
					FAULT	10.50	11.30	10.00	15.00	96.50	50.90
					G1	15.97	18.11	15.00	20.00	86.00	51.10
					G2P	18.11	18.47	20.00	25.00	86.90	50.80
					G2	18.47	19.45	25.00	30.00	95.60	51.40
					G3P	19.45	19.90	30.00	35.00	90.10	51.70
					G3	19.90	21.23	35.00	40.00	90.60	52.40
					G	15.97	21.23	40.00	45.00	90.30	50.90
					J	41.11	43.16	45.00	50.00	87.90	52.20
					K1P	43.16	44.22	50.00	55.00	96.80	51.60
					K1	44.22	45.23	55.00	60.00	88.10	52.20
					K2P	45.23	48.56	60.00	65.00	84.80	52.30
					K2	48.56	50.41	65.00	70.00	91.00	52.40
					J&K1	41.11	45.23	70.00	75.00	75.50	51.20
					COAL	57.38	57.97	75.00	80.00	89.90	52.60
					FAULT	59.70	60.00	80.00	85.00	90.60	51.00
					J	63.24	67.35	85.00	90.00	88.40	51.70
					K1P	67.35	68.60	90.00	99.54	88.00	51.90
					K1	68.60	69.56				
					K2P	69.56	72.85				
					K2	72.85	74.10				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89009	1123.34	6094402.56	622000.16	130.88	OVER	0.00	2.00	0.00	5.00	15.20	85.90
					J	27.72	30.52	5.00	10.00	30.90	85.80
					FAULT	30.60	31.30	10.00	15.00	32.90	85.90
					J	52.98	58.10	15.00	20.00	19.70	85.70
					K1P	58.10	59.00	20.00	25.00	18.20	85.40
					K1	59.00	60.62	25.00	30.00	15.50	85.70
					J&K1	52.98	60.62	30.00	35.00	17.70	85.80
					K2P	60.62	66.32	35.00	40.00	6.60	86.50
					K2	66.32	68.11	40.00	45.00	12.00	86.40
								45.00	50.00	357.30	86.60
								50.00	55.00	7.70	86.40
								55.00	60.00	21.90	86.50
								60.00	65.00	15.40	86.50
								65.00	70.00	27.60	86.40
								70.00	75.00	28.70	86.60
								75.00	80.00	34.50	86.30
								80.00	85.00	33.80	86.20
								85.00	90.00	34.00	86.10
								90.00	95.00	35.30	86.00
								95.00	100.00	44.00	86.40
								100.00	105.00	45.90	86.30
								105.00	110.00	38.40	86.00
								110.00	115.00	48.10	86.10
								115.00	120.00	47.30	86.20
								120.00	125.00	40.70	85.80
								125.00	130.88	49.10	86.10

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB9010	1175.30	6094680.17	621419.82	115.06	OVER	0.00	2.00	0.00	20.00	279.40	57.50
					G1	23.50	24.50	20.00	25.00	272.90	60.10
					G2P	24.50	25.00	25.00	35.00	272.80	60.60
					G2	25.00	26.00	35.00	40.00	282.20	58.70
					G3P	26.00	27.40	40.00	45.00	279.00	58.90
					G3	27.40	29.30	45.00	50.00	279.20	58.90
					G	23.50	29.30	50.00	65.00	281.20	58.60
					J	51.89	66.64	65.00	70.00	276.10	59.10
					FAULT	58.50	58.60	70.00	85.00	280.70	58.50
					J	68.22	95.44	85.00	95.00	272.60	59.30
					FAULT	76.50	76.60	95.00	100.00	279.00	58.90
					FAULT	81.60	81.70	100.00	110.00	271.90	59.60
					FAULT	87.40	87.50	110.00	115.06	273.60	61.20
					K1P	95.44	96.84				
					K1	96.84	98.19				
					K2P	98.19	100.68				
					K2	100.68	101.41				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB9011	1175.37	6094682.04	621421.40	133.46	OVER	0.00	2.00	0.00	15.00	352.60	88.80
					F1	18.25	19.95	15.00	20.00	340.00	88.40
					F2P	19.95	20.76	20.00	25.00	329.20	88.40
					F2	20.76	27.50	25.00	30.00	318.30	88.50
					F	18.25	27.50	30.00	35.00	314.90	88.30
					G1	75.46	76.46	35.00	40.00	275.40	88.90
					G2P	76.46	76.88	40.00	45.00	299.00	88.90
					G2	76.88	78.13	45.00	50.00	291.30	89.00
					G3P	78.13	78.62	50.00	55.00	252.90	89.20
					G3	78.62	80.35	55.00	60.00	220.10	89.60
					G	75.46	80.35	60.00	65.00	216.50	89.10
					J	99.80	110.79	65.00	70.00	220.30	88.40
					K1P	110.79	114.33	70.00	75.00	220.60	88.30
					K1	114.33	116.86	75.00	80.00	211.30	88.10
					COAL	118.80	118.90	80.00	85.00	215.00	88.40
					K2	121.06	124.24	85.00	90.00	236.80	88.50
								90.00	95.00	229.80	88.80
								95.00	100.00	254.50	89.30
								100.00	105.00	104.60	89.30
								105.00	110.00	131.20	89.40
								110.00	115.00	98.80	89.20
								115.00	120.00	125.00	89.10
								120.00	125.00	104.40	88.80
								125.00	133.46	89.80	88.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89012	1175.44	6094683.96	621422.05	129.42	OVER	0.00	2.00	0.00	15.00	65.20	50.40
					F	39.22	45.67	15.00	20.00	63.60	51.30
					G1	56.30	57.18	20.00	25.00	69.60	51.70
					G2P	57.18	57.50	25.00	30.00	76.60	53.20
					G2	57.50	58.50	30.00	35.00	63.20	51.60
					G3P	58.50	58.94	35.00	40.00	58.10	53.00
					G3	58.94	60.15	40.00	45.00	60.20	53.50
					G	56.30	60.15	45.00	50.00	65.00	53.30
					J	77.10	80.68	50.00	55.00	64.20	53.60
					K1P	80.68	81.68	55.00	60.00	67.20	53.00
					K1	81.68	82.36	60.00	65.00	63.70	53.90
					K2P	82.36	83.88	65.00	70.00	64.70	54.20
					K2	83.88	84.40	70.00	75.00	69.40	54.40
					FAULT	87.40	87.60	75.00	80.00	64.50	54.30
					J	88.44	91.74	80.00	85.00	61.20	54.90
					K1P	91.74	93.20	85.00	90.00	62.80	55.30
					K1	93.20	93.96	90.00	95.00	67.90	55.70
					K2P	93.96	95.32	95.00	100.00	68.80	56.30
					K2	95.32	96.76	100.00	105.00	67.70	57.10
								105.00	110.00	64.20	57.90
								110.00	115.00	64.30	58.30
								115.00	120.00	65.40	58.80
								125.00	129.42	51.70	76.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89013	1160.79	6094586.06	621493.24	125.00	OVER	0.00	6.00	0.00	15.00	231.70	62.40
					J	62.78	69.48	15.00	20.00	233.30	61.70
					K1P	69.48	71.40	20.00	25.00	237.20	62.10
					K1	71.40	72.78	25.00	40.00	228.50	62.00
					K2P	72.78	73.18	40.00	45.00	236.00	61.70
					K2	73.18	73.69	45.00	55.00	234.40	61.60
								55.00	65.00	229.50	62.30
								65.00	70.00	234.00	64.10
								70.00	90.00	236.30	63.30
								90.00	125.00	238.40	65.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89014	1160.83	6094586.78	621493.67	85.00	OVER	0.00	6.00	0.00	10.00	203.30	89.50
					J	39.20	44.45	10.00	15.00	80.10	88.90
					K1P	44.45	45.89	15.00	20.00	72.70	88.90
					K1	45.89	47.80	20.00	25.00	78.60	88.60
					J&K1	39.20	47.80	25.00	30.00	53.80	88.80
					K2P	47.80	51.45	30.00	35.00	68.60	89.00
					K2	51.45	53.00	35.00	40.00	45.90	88.60
					FAULT	56.19	56.20	40.00	45.00	60.30	89.00
					J	56.20	59.90	45.00	50.00	47.90	88.20
					FAULT	63.17	63.18	50.00	55.00	52.50	88.30
					J	63.18	67.77	55.00	60.00	51.00	88.30
								60.00	65.00	37.40	88.60
								65.00	70.00	62.80	88.70
								70.00	75.00	75.50	89.10
								75.00	85.00	94.70	89.80

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89015	1134.85	6094524.53	621565.86	85.00	OVER	0.00	8.00	0.00	15.00	239.60	88.10
					J	18.30	22.33	15.00	20.00	270.10	88.80
					K1P	22.33	23.23	20.00	25.00	260.80	88.60
					K1	23.23	24.73	25.00	30.00	262.70	88.50
					K2P	24.73	25.18	30.00	35.00	256.60	88.30
					K2	25.18	26.05	35.00	40.00	240.70	88.40
								40.00	45.00	234.90	88.50
								45.00	50.00	220.90	88.60
								50.00	55.00	193.50	87.70
								55.00	60.00	195.00	87.80
								60.00	85.00	205.50	88.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89016	1078.01	6094095.54	621626.35	192.00	OVER	0.00	8.00	0.00	15.00	245.20	49.50
					COAL	33.10	34.00	15.00	25.00	247.30	50.80
					COAL	42.17	45.90	25.00	30.00	247.20	50.20
					COAL	49.27	52.36	30.00	35.00	249.40	50.40
					COAL	59.05	59.50	35.00	45.00	246.80	50.40
					COAL	61.48	62.09	45.00	50.00	248.60	51.50
					COAL	62.45	63.90	50.00	55.00	246.40	50.80
					COAL	146.85	148.85	55.00	60.00	248.80	51.00
					COAL	163.12	164.99	60.00	70.00	249.60	51.60
					COAL	172.68	173.93	70.00	80.00	247.30	51.50
								80.00	85.00	253.30	52.80
								85.00	95.00	254.50	52.70
								95.00	110.00	255.90	55.00
								110.00	120.00	254.20	49.40
								120.00	125.00	247.80	49.30
								125.00	135.00	250.20	49.00
								135.00	145.00	251.10	48.80
								145.00	150.00	249.20	47.70
								150.00	155.00	254.10	47.30
								155.00	165.00	262.40	47.10
								165.00	175.00	267.60	45.60
								175.00	180.00	257.40	44.80
								180.00	192.00	264.40	43.60

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89017	1245.80	6094759.50	621506.67	125.00	OVER	0.00	8.00	0.00	125.00	88.70	45.00
					F	28.50	31.20				
					COAL	36.80	38.10				
					G1	56.00	56.60				
					G2P	56.60	57.10				
					G2	57.10	57.90				
					G3P	57.90	58.30				
					G3	58.30	60.00				
					G	56.00	60.00				
					J	75.40	80.10				
					K1P	80.10	81.20				
					K1	81.20	82.05				
					J&K1	75.40	82.05				
					K2P	82.05	83.70				
					K2	83.70	85.15				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB9018	1245.71	6094758.30	621505.43	150.00	OVER	0.00	8.00	0.00	10.00	7.00	88.40
					F	32.48	41.73	10.00	15.00	347.80	87.20
					G1	56.71	57.93	15.00	20.00	342.00	87.20
					G2P	57.93	58.35	20.00	25.00	349.30	87.50
					G2	58.35	59.51	25.00	30.00	350.10	87.70
					G3P	59.51	59.80	30.00	35.00	346.20	87.70
					G3	59.80	61.43	35.00	40.00	359.70	87.40
					G	56.71	61.43	40.00	45.00	358.90	87.50
					FAULT	76.64	76.65	45.00	50.00	355.30	87.10
					G	76.65	81.25	50.00	55.00	0.30	87.30
					J	102.87	115.91	55.00	60.00	352.90	87.60
					K1P	115.91	116.95	60.00	65.00	351.80	87.40
					K1	116.95	118.67	65.00	70.00	344.30	87.30
					J&K1	102.87	118.67	70.00	75.00	352.30	88.00
					K2P	118.67	120.85	75.00	80.00	359.30	87.90
					K2	120.85	122.72	80.00	85.00	341.70	87.00
								85.00	90.00	347.60	87.00
								90.00	95.00	353.30	86.90
								95.00	100.00	348.60	87.10
								100.00	105.00	346.60	87.10
								105.00	110.00	350.40	87.10
								110.00	115.00	345.30	87.10
								115.00	120.00	346.80	87.60
								120.00	125.00	344.40	87.90
								125.00	130.00	4.90	87.40
								130.00	135.00	356.50	87.10
								135.00	140.00	359.20	87.20
								140.00	145.00	356.30	87.30
								145.00	150.00	359.10	87.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHRB9019	1271.00	6094854.80	621332.10	234.36	OVER	0.00	6.00	0.00	15.00	246.60	62.10
					F	129.50	139.70	15.00	25.00	248.60	61.80
					G1	162.30	164.10	25.00	30.00	246.80	61.90
					G2P	164.10	164.90	30.00	35.00	249.30	61.10
					G2	164.90	166.20	35.00	40.00	249.30	61.60
					G3P	166.20	167.00	40.00	50.00	251.70	61.20
					G3	167.00	169.00	50.00	234.36	251.70	60.00
					G	162.30	169.00				
					J	202.80	208.20				
					K1P	208.20	209.00				
					K1	209.00	209.90				
					J&K1	202.80	209.90				
					K2P	209.90	212.70				
					K2	212.70	213.80				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GHR89020	1247.01	6094848.75	621193.66	167.02	OVER	0.00	22.00	0.00	167.02	88.70	75.00
					COAL	22.20	24.00				
					COAL	29.20	31.20				
					COAL	32.00	32.40				
					COAL	33.70	35.20				
					COAL	37.40	39.80				
					COAL	40.60	41.50				
					COAL	42.80	43.30				
					F	92.20	97.00				
					G	105.70	109.65				
					J	127.85	130.05				
					K1P	130.05	132.74				
					K1	132.74	134.38				
					J&K1	127.85	132.74				
					K2P	134.38	136.20				
					K2	136.20	137.50				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GHR89021	1238.05	6094857.59	621101.61	218.82	OVER	0.00	18.00	0.00	20.00	51.70	90.00
					D	38.18	43.10	20.00	25.00	45.30	87.50
					EU	56.20	59.10	25.00	30.00	48.30	87.10
					EPTG	59.10	65.80	30.00	35.00	52.50	87.40
					EL	65.80	69.00	35.00	40.00	49.50	87.70
					FAULT	80.05	80.06	40.00	45.00	53.20	87.20
					EL	88.00	91.10	45.00	50.00	64.90	86.70
					F	112.70	131.60	50.00	55.00	87.20	86.50
					G1	143.39	144.33	55.00	60.00	74.30	86.40
					G2P	144.33	144.74	60.00	65.00	90.10	87.00
					G2	144.74	145.85	65.00	70.00	86.20	86.30
					G3P	145.85	146.16	70.00	75.00	91.10	86.10
					G3	146.16	147.67	75.00	80.00	93.10	86.10
					G	143.39	147.67	80.00	85.00	93.20	85.90
					J	164.94	178.78	85.00	90.00	98.40	86.20
					K1P	178.78	180.31	90.00	95.00	103.30	86.40
					K1	180.31	181.83	95.00	100.00	112.90	86.10
					K2P	181.83	184.18	100.00	105.00	111.10	86.50
					K2	184.18	186.74	105.00	110.00	107.60	85.90
					FAULT	187.84	187.85	110.00	115.00	117.20	86.30
					K2	189.89	192.50	115.00	120.00	108.70	86.00
								120.00	125.00	115.50	86.20
								125.00	130.00	114.60	86.00
								130.00	135.00	114.70	85.50
								135.00	140.00	112.60	84.70
								140.00	145.00	111.90	84.20
								145.00	150.00	103.10	83.50
								150.00	155.00	108.00	82.90
								155.00	160.00	113.40	82.30
								160.00	165.00	99.00	80.20
								165.00	170.00	97.80	79.40
								170.00	175.00	97.40	80.00
								175.00	180.00	90.20	79.60
								180.00	185.00	96.70	80.30
								185.00	190.00	101.60	80.60
								190.00	195.00	108.80	80.40
								195.00	200.00	104.90	80.60
								200.00	205.00	106.10	80.60
								205.00	210.00	105.60	80.70
								210.00	218.82	111.80	80.60

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89022	1237.81	6094857.17	621103.13	215.68	OVER	0.00	15.00	0.00	25.00	233.80	46.50
					D	48.45	53.20	25.00	30.00	237.80	47.50
					EU	66.60	69.25	30.00	45.00	238.90	47.80
					EPIG	69.25	75.00	45.00	60.00	230.60	50.10
					EL	75.00	77.65	60.00	70.00	235.40	51.70
					COAL	90.00	90.50	70.00	75.00	229.20	52.50
					F	109.05	114.55	75.00	85.00	233.20	53.70
					G1	132.18	133.65	85.00	90.00	231.60	54.30
					G2P	133.65	134.05	90.00	95.00	229.50	55.20
					G2	134.05	135.55	95.00	100.00	225.70	56.00
					G3P	135.55	136.18	100.00	115.00	233.00	56.30
					G3	136.18	138.83	115.00	120.00	234.30	58.30
					G	132.18	138.83	120.00	130.00	227.60	58.00
					J	177.68	193.15	130.00	135.00	244.30	58.00
					K1P	193.15	193.96	135.00	140.00	245.30	58.80
					K1	193.96	195.87	140.00	145.00	235.00	59.00
					K2P	195.87	197.35	145.00	150.00	240.80	59.50
					K2	197.35	199.17	150.00	155.00	234.00	59.80
					FAULT	200.60	200.97	155.00	160.00	234.00	59.70
					K2	200.97	202.22	160.00	165.00	234.40	59.30
					COAL	202.94	203.12	165.00	170.00	253.00	59.80
								170.00	175.00	235.00	60.00
								175.00	180.00	242.00	60.90
								180.00	185.00	238.10	60.90
								185.00	190.00	239.70	50.60
								190.00	195.00	245.60	60.20
								195.00	200.00	238.10	61.00
								200.00	205.00	240.00	61.20
								205.00	210.00	233.70	61.60
								210.00	215.68	229.70	61.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89023	1324.23	6095016.64	621219.36	109.10	OVER	0.00	3.00	0.00	10.60	65.60	44.80
					E	9.06	11.18	10.60	15.60	67.60	46.00
					F	32.37	38.78	15.60	20.60	65.80	46.20
					G1	52.53	53.40	20.60	25.60	66.60	47.10
					G2P	53.40	53.64	25.60	30.60	64.70	48.30
					G2	53.64	54.59	30.60	35.60	67.40	47.70
					G3P	54.59	54.98	35.60	40.60	63.90	47.80
					G3	54.98	56.47	40.60	45.60	67.50	48.30
					G	52.53	56.47	45.60	50.60	66.60	48.60
					J	71.61	76.50	50.60	55.60	64.30	48.90
					K1P	76.50	77.32	55.60	60.60	75.70	49.20
					K1	77.32	78.40	60.60	65.60	57.10	49.20
					J&K1	71.61	78.40	65.60	70.60	60.10	49.00
					K2P	78.40	79.95	70.60	75.60	67.10	49.50
					K2	79.95	81.27	75.60	80.60	67.00	49.40
								80.60	85.60	66.20	49.60
								85.60	90.60	66.10	50.00
								90.60	95.60	67.10	50.50
								95.60	100.60	68.50	51.10
								100.60	109.10	72.70	51.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHR89024	1350.45	6095024.16	620944.00	275.92	OVER	0.00	3.00	0.00	3.00	51.70	90.00
					COAL	67.12	67.53	3.00	8.00	267.90	89.70
					COAL	68.00	70.41	8.00	13.00	244.80	89.80
					COAL	71.21	72.32	13.00	18.00	98.70	89.20
					COAL	74.60	75.20	18.00	23.00	177.60	89.70
					COAL	139.26	139.90	23.00	28.00	274.90	89.90
					COAL	141.20	142.37	28.00	33.00	134.60	89.60
					COAL	143.52	143.87	33.00	38.00	279.50	89.90
					COAL	160.54	161.21	38.00	43.00	96.20	89.70
					COAL	162.38	162.89	43.00	48.00	152.80	89.10
					COAL	164.36	164.67	48.00	53.00	147.70	89.40
					F1	192.19	193.44	53.00	58.00	138.60	88.50
					F2P	193.44	194.40	58.00	63.00	141.30	88.90
					F2	194.40	200.04	63.00	68.00	149.90	89.10
					F	192.19	200.04	68.00	73.00	161.70	89.10
					G1	216.60	217.72	73.00	78.00	161.60	88.70
					G2P	217.72	218.88	78.00	83.00	142.00	88.30
					G2	218.88	219.88	83.00	88.00	152.80	88.30
					G3P	219.88	220.66	88.00	93.00	150.40	88.00
					G3	220.66	221.66	93.00	98.00	162.00	88.10
					G	216.60	221.66	98.00	103.00	170.40	87.90
					J	241.17	242.27	103.00	108.00	177.90	88.10
								108.00	113.00	180.50	87.70
								113.00	118.00	182.50	87.60
								118.00	123.00	188.10	87.50
								123.00	128.00	189.50	87.60
								128.00	133.00	172.90	87.30
								133.00	138.00	180.80	87.10
								138.00	143.00	184.80	87.30
								143.00	148.00	187.70	86.80
								148.00	153.00	189.60	87.10
								153.00	158.00	190.30	86.70
								158.00	163.00	188.50	87.10
								163.00	168.00	186.40	86.50
								168.00	173.00	186.80	87.00
								173.00	178.00	185.60	86.70
								178.00	183.00	195.40	86.20
								183.00	188.00	197.00	85.80
								188.00	193.00	189.00	85.80
								193.00	198.00	182.70	85.60
								198.00	203.00	179.50	85.60
								203.00	208.00	188.10	85.90
								208.00	213.00	172.50	86.30
								213.00	218.00	147.50	86.40
								218.00	223.00	157.90	86.50
								223.00	228.00	134.30	86.20
								228.00	233.00	135.00	86.00
								233.00	238.00	114.60	84.70
								238.00	243.00	109.80	83.80
								243.00	248.00	112.00	83.50
								248.00	253.00	122.20	83.80
								253.00	258.00	110.80	83.40
								258.00	263.00	112.30	82.60
								263.00	268.00	112.30	82.70
								268.00	275.92	92.40	82.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88155	1351.57	6100738.76	613876.77	297.16	OVER	0.00	3.00	0.00	5.00	266.90	59.00
					A	124.30	125.60	5.00	10.00	271.90	59.20
					B	151.05	152.08	10.00	15.00	271.80	59.80
					C	176.10	176.70	15.00	20.00	273.00	60.60
					CPRK	251.30	252.17	20.00	25.00	271.70	61.40
					D3	252.17	254.72	25.00	30.00	274.30	61.70
					D4P	254.72	256.64	30.00	35.00	270.70	62.40
					D4	256.64	257.62	35.00	40.00	273.40	62.60
					D	252.17	257.62	40.00	45.00	272.50	63.00
					E0	259.77	261.92	45.00	50.00	272.50	63.60
					E1P	261.92	262.84	50.00	55.00	271.10	64.00
					E1	262.84	266.35	55.00	60.00	272.40	64.40
					E2P	266.35	267.05	60.00	65.00	272.50	64.50
					E2	267.05	271.34	65.00	70.00	273.30	64.70
					E3P	271.34	271.77	70.00	75.00	275.10	64.50
					E3U	271.77	273.60	75.00	80.00	273.50	65.40
					E3PTG	273.60	278.38	80.00	85.00	272.50	65.80
					E3L	278.38	279.45	85.00	90.00	273.50	66.10
					E4P	279.45	281.37	90.00	95.00	273.70	66.40
					E4	281.37	282.62	95.00	100.00	273.00	66.70
					G	292.42	293.84	100.00	105.00	273.10	67.10
								105.00	110.00	274.10	66.90
								110.00	115.00	274.40	67.40
								115.00	120.00	274.30	67.70
								120.00	125.00	273.60	67.90
								125.00	130.00	275.40	68.20
								130.00	135.00	274.40	68.00
								135.00	140.00	274.90	68.50
								140.00	145.00	273.70	68.50
								145.00	150.00	274.70	68.60
								150.00	155.00	276.90	68.80
								155.00	160.00	274.80	69.00
								160.00	165.00	279.10	69.00
								165.00	170.00	280.50	68.60
								170.00	175.00	281.10	68.50
								175.00	180.00	280.70	68.00
								180.00	185.00	284.90	67.40
								185.00	190.00	284.90	67.10
								190.00	195.00	285.90	67.10
								195.00	200.00	286.00	66.50
								200.00	205.00	289.10	66.20
								205.00	210.00	292.60	65.70
								210.00	215.00	293.80	65.50
								215.00	220.00	294.40	65.10
								220.00	225.00	296.70	64.90
								225.00	230.00	301.80	64.70
								230.00	235.00	299.50	64.50
								235.00	240.00	305.70	63.90
								240.00	245.00	305.70	63.50
								245.00	250.00	307.60	63.10
								250.00	255.00	304.20	62.30
								255.00	260.00	306.80	61.60
								260.00	265.00	306.10	60.90
								265.00	270.00	310.40	60.40
								270.00	275.00	308.60	60.40
								275.00	280.00	313.60	59.80
								280.00	285.00	311.50	59.40
								285.00	290.00	314.90	58.40
								290.00	297.16	306.00	59.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QMR88501	866.37	6101927.60	612761.81	102.36	OVER	0.00	2.00	0.00	10.00	219.10	89.60
					G	5.38	6.40	10.00	20.00	288.80	89.60
					J	20.44	28.17	20.00	30.00	306.40	89.30
								30.00	40.00	312.80	89.00
								40.00	50.00	339.30	88.70
								50.00	60.00	325.90	88.60
								60.00	70.00	309.70	88.50
								70.00	80.00	294.30	89.00
								80.00	90.00	297.00	88.60
								90.00	102.36	302.80	89.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QMR88502	1009.93	6101124.19	612698.25	83.82	OVER	0.00	1.00	0.00	10.00	25.10	89.60
					G	9.10	10.03	10.00	20.00	73.70	89.50
					J	31.09	38.59	20.00	30.00	96.10	88.00
								30.00	40.00	94.10	87.90
								40.00	50.00	105.50	87.60
								50.00	60.00	99.90	86.60
								60.00	70.00	86.80	86.30
								70.00	83.82	81.70	86.30

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QMR88503	1051.04	6101317.37	612850.22	76.84	OVER	0.00	1.00	0.00	10.00	332.70	89.70
					E3L	2.12	3.46	10.00	20.00	334.90	89.30
					E4	4.90	5.72	20.00	30.00	7.10	89.00
					FAULT	12.00	12.25	30.00	40.00	46.60	89.40
					E4	13.93	14.25	40.00	50.00	184.90	89.60
					E4PTG	14.25	24.12	50.00	60.00	25.20	89.20
					E4L	24.12	24.29	60.00	76.84	12.70	88.90
					G	36.84	37.59				
					J	56.62	64.06				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QMR88504	1049.83	6101230.74	612782.90	90.12	OVER	0.00	1.00	0.00	10.00	92.90	89.80
					E4	4.99	5.89	10.00	20.00	26.80	89.00
					G	20.46	21.72	20.00	30.00	39.50	89.40
					FAULT	40.00	40.50	30.00	40.00	82.70	89.90
					J	53.82	61.62	40.00	50.00	145.50	89.30
								50.00	60.00	206.70	89.90
								60.00	70.00	260.90	89.80
								70.00	80.00	202.70	89.00
								80.00	90.12	213.30	89.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88505	1052.12	6101452.15	612955.31	114.40	OVER	0.00	2.00	0.00	10.00	267.00	89.10
					D3	18.27	20.90	10.00	20.00	343.00	89.80
					D4	20.90	22.46	20.00	30.00	273.60	88.80
					D	18.27	22.46	30.00	40.00	275.50	88.00
					E0U	24.00	25.10	40.00	50.00	257.10	87.20
					E0PTG	25.10	25.75	50.00	60.00	283.70	87.90
					E0L	25.75	26.11	60.00	70.00	320.40	87.10
					E0	24.00	26.11	70.00	80.00	281.60	87.40
					E1P	26.11	27.58	80.00	90.00	285.40	86.50
					E1A	27.58	28.30	90.00	100.00	278.30	86.60
					E1PTG	28.30	28.80	100.00	114.40	286.00	86.20
					E1B	28.80	29.24				
					E1PTG	29.24	29.56				
					E1C	29.56	30.60				
					E1	27.58	30.60				
					E2P	30.60	31.55				
					E2	31.55	34.81				
					E3P	34.81	35.07				
					E3U	35.07	36.85				
					E3PTG	36.85	40.68				
					E3L	40.68	41.78				
					E4P	41.78	43.50				
					E4	43.50	43.79				
					E4PTG	43.79	55.21				
					E4L	55.21	55.74				
					G	67.74	68.57				
					J	88.31	96.08				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88506	1108.90	6101034.50	612999.20	72.06	OVER	0.00	1.65	0.00	11.00	138.20	89.10
					E4	1.65	3.04	11.00	21.00	115.40	89.10
					G	17.79	18.96	21.00	31.00	121.10	88.80
					FAULT	36.20	36.21	31.00	41.00	131.90	88.40
					J	51.92	57.10	41.00	51.00	106.40	87.60
								51.00	61.00	122.70	86.60
								61.00	72.06	104.90	87.70

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88507	1121.58	6100847.72	613208.68	59.34	OVER	0.00	1.00	0.00	11.00	86.70	88.90
					G	6.73	8.15	11.00	21.00	114.10	89.60
					FAULT	21.00	21.10	21.00	31.00	72.50	89.20
					J	42.95	50.60	31.00	41.00	53.50	89.00
								41.00	59.34	70.20	89.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88508	1136.00	6101238.58	613123.09	192.48	COAL	3.69	4.64	0.00	10.00	171.70	88.90
					COAL	6.36	7.19	10.00	20.00	139.40	88.90
					B	25.76	27.78	20.00	30.00	55.20	89.60
					COAL	34.55	34.75	30.00	40.00	134.50	88.70
					COAL	45.39	46.00	40.00	50.00	221.00	89.50
					COAL	51.29	52.23	50.00	60.00	125.00	89.20
					D3	97.74	100.17	60.00	70.00	336.90	89.40
					D4P	100.17	100.53	70.00	80.00	301.40	89.50
					D4	100.53	102.22	80.00	90.00	184.90	89.10
					D	97.74	102.22	90.00	100.00	108.60	89.60
					E0	103.98	105.05	100.00	110.00	322.60	88.90
					E0PTG	105.05	105.54	110.00	120.00	277.60	89.40
					E0L	105.54	105.80	120.00	130.00	320.00	89.00
					E1P	105.80	107.12	130.00	140.00	307.00	88.90
					E1	107.12	109.90	140.00	150.00	289.20	87.00
					FAULT	110.29	110.30	150.00	160.00	307.90	84.40
					E1	110.30	111.13	160.00	170.00	302.10	84.10
					E2P	111.13	111.99	170.00	180.00	304.90	82.50
					E2	111.99	115.36	180.00	192.48	306.00	82.60
					E3P	115.36	115.70				
					E3U	115.70	116.78				
					E3PTG	116.78	120.34				
					E3L	120.34	121.07				
					E4P	121.07	122.79				
					E4	122.79	123.08				
					E4PTG	123.08	135.30				
					E4L	135.30	135.50				
					G	147.69	148.50				
					J	172.52	180.98				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88509	885.30	6101775.38	612708.72	47.28	J	10.27	17.97	0.00	10.00	0.30	88.00
					FAULT	36.20	37.80	10.00	20.00	335.10	88.30
								20.00	30.00	123.70	89.60
								30.00	47.28	297.50	88.50

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR88510	857.62	6101889.64	612654.24	11.00				0.00	11.00	51.70	90.00

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89501	957.87	6101813.84	612933.80	154.86	OVER	0.00	3.00	0.00	3.00	51.70	90.00
					COAL	13.80	14.05	3.00	8.00	165.40	89.10
					COAL	22.85	23.18	8.00	13.00	123.40	88.70
					COAL	41.73	42.05	13.00	18.00	136.00	88.80
					COAL	43.89	44.35	18.00	23.00	170.00	89.20
					CPRK	48.00	70.30	23.00	28.00	197.50	89.40
					D3	70.38	72.80	28.00	33.00	218.50	89.50
					D4P	72.80	73.13	33.00	38.00	199.90	89.60
					D4U	73.13	73.36	38.00	43.00	218.30	89.20
					D4PTG	73.36	73.67	43.00	48.00	194.20	89.20
					D4	73.67	74.36	48.00	53.00	195.70	89.30
					D	70.38	74.36	53.00	58.00	179.50	89.80
					E0	75.70	77.60	58.00	63.00	242.50	89.60
					E1P	77.60	79.29	63.00	68.00	249.00	89.40
					E1	79.29	82.03	68.00	73.00	258.00	89.10
					E2P	82.03	82.95	73.00	78.00	257.50	88.90
					E2	82.95	85.77	78.00	83.00	260.70	88.20
					E3P	85.77	86.15	83.00	88.00	270.90	88.10
					E3U	86.15	87.90	88.00	93.00	264.30	87.60
					E3PTG	87.90	90.82	93.00	98.00	271.00	87.70
					E3L	90.82	91.57	98.00	103.00	278.00	87.70
					E4P	91.57	93.50	103.00	108.00	290.90	87.00
					E4	93.50	93.85	108.00	113.00	284.30	87.90
					E4PTG	93.85	106.80	113.00	118.00	268.60	88.20
					E4L	106.80	107.00	118.00	123.00	279.30	87.30
					G	118.97	119.80	123.00	128.00	290.30	87.70
					J	136.44	144.57	128.00	133.00	290.60	87.00
								133.00	138.00	292.10	86.60
								138.00	143.00	288.30	87.10
								143.00	148.00	294.90	86.70
								148.00	154.86	295.50	86.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89502	947.79	6101644.43	612837.27	103.26	OVER	0.00	1.00	0.00	8.00	268.20	59.10
					D3	6.88	10.30	8.00	13.00	263.00	59.30
					D4P	10.30	10.67	13.00	18.00	269.90	59.30
					D4	10.67	12.12	18.00	23.00	261.90	59.50
					D	6.88	12.12	23.00	28.00	272.60	60.20
					E0	13.50	17.20	28.00	33.00	263.80	60.00
					E1P	17.20	19.13	33.00	38.00	260.30	60.50
					E1	19.13	22.87	38.00	43.00	268.60	60.70
					E2P	22.87	23.95	43.00	48.00	275.20	61.70
					E2	23.95	26.99	48.00	53.00	267.10	61.50
					E3P	26.99	27.38	53.00	58.00	267.10	61.70
					E3U	27.38	29.20	58.00	63.00	270.90	61.40
					E3PTG	29.20	33.38	63.00	68.00	270.30	62.00
					E3L	33.38	34.37	68.00	73.00	266.90	62.40
					E4P	34.37	35.90	73.00	78.00	277.90	62.30
					E4	35.90	36.50	78.00	83.00	271.20	62.80
					E4PTG	36.50	49.20	83.00	88.00	268.10	62.80
					E4L	49.20	49.50	88.00	93.00	271.60	63.20
					G	63.67	64.50	93.00	98.00	271.60	63.00
					J	85.59	94.16	98.00	103.26	271.50	64.10

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9503	993.07	6101111.34	612642.08	48.36	OVER	0.00	3.00	0.00	3.00	51.70	90.00
					G	6.08	6.97	3.00	8.00	196.40	89.40
					J	27.17	35.95	8.00	13.00	206.50	89.90
								13.00	18.00	125.10	89.50
								18.00	23.00	89.40	89.30
								23.00	28.00	62.20	88.50
								28.00	33.00	65.50	88.10
								33.00	38.00	66.80	88.10
								38.00	43.00	64.80	88.40
								43.00	48.36	63.40	88.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9504	1018.82	6101295.93	612699.55	60.62	E4L	7.19	7.88	0.00	5.60	279.10	89.30
					G	19.97	20.80	5.60	10.60	223.50	89.40
					J	40.44	47.66	10.60	15.60	283.60	89.10
								15.60	20.60	244.00	89.30
								20.60	25.60	261.60	89.30
								25.60	30.60	291.20	89.50
								30.60	35.60	249.90	89.30
								35.60	40.60	213.10	89.70
								40.60	45.60	143.70	89.60
								45.60	50.60	69.50	89.70
								50.60	60.62	350.70	89.70

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9505	1031.69	6101224.03	612738.00	57.06	OVER	0.00	3.00	0.00	3.00	51.70	90.00
					G	11.53	12.90	3.00	8.00	161.60	89.80
					J	42.24	50.66	8.00	13.00	141.70	89.20
								13.00	18.00	133.50	89.60
								18.00	23.00	134.10	89.10
								23.00	28.00	134.90	89.00
								28.00	33.00	130.20	89.10
								33.00	38.00	144.70	88.90
								38.00	43.00	150.90	88.50
								43.00	48.00	145.10	88.50
								48.00	57.06	156.70	88.60

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89506	1023.02	6101430.48	612819.26	51.08	OVER	0.00	3.00	0.00	3.00	51.70	90.00
					G	6.50	7.30	3.00	8.00	148.30	87.70
					J	27.32	35.70	8.00	13.00	156.60	87.60
								13.00	18.00	151.60	87.90
								18.00	23.00	143.20	87.80
								23.00	28.00	137.50	87.80
								28.00	33.00	140.90	88.20
								33.00	38.00	152.20	88.20
								38.00	43.00	125.10	88.30
								43.00	51.08	125.10	88.30

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89507	1020.48	6101374.97	612742.29	57.66	OVER	0.00	3.00	0.00	3.00	51.70	90.00
					G	9.15	9.94	3.00	8.00	143.00	88.80
					J	28.97	36.19	8.00	13.00	133.20	89.30
								13.00	18.00	196.90	89.30
								18.00	23.00	145.30	89.30
								23.00	28.00	153.80	89.00
								28.00	33.00	197.80	89.40
								33.00	38.00	123.00	89.50
								38.00	43.00	245.50	89.70
								43.00	48.00	237.60	89.50
								48.00	57.66	98.80	89.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89508	1079.76	6100911.04	613023.54	78.00	OVER	0.00	4.00	0.00	5.00	88.70	60.00
					D3	4.25	5.93	5.00	10.00	86.00	59.70
					D4P	5.93	6.94	10.00	15.00	96.90	60.60
					D4	6.94	8.98	15.00	20.00	100.20	60.50
					D	4.25	8.98	20.00	25.00	93.30	60.40
					FAULT	9.62	9.63	25.00	30.00	103.70	60.20
					D4	9.63	11.88	30.00	35.00	95.00	61.10
					D	9.63	11.88	35.00	40.00	96.50	60.50
					E0	13.30	14.47	40.00	45.00	98.10	60.80
					E1P	14.47	15.12	45.00	50.00	95.90	60.60
					E1	15.12	17.46	50.00	55.00	92.80	60.70
					E2P	17.46	18.21	55.00	60.00	96.20	60.80
					E2	18.21	20.95	60.00	65.00	98.10	61.10
					E3P	20.95	21.20	65.00	70.00	97.30	61.40
					E3U	21.20	22.29	70.00	78.00	99.30	61.40
					E3PTG	22.29	23.27				
					E3L	23.27	24.78				
					E4P	24.78	25.79				
					E4	25.79	26.79				
					E4PTG	26.79	27.16				
					E4L	27.16	27.37				
					G	38.83	39.77				
					J	58.08	65.00				

(v)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89509	1066.56	6100950.51	612925.67	96.22	OVER	0.00	4.00	0.00	5.00	51.70	90.00
					R3	7.20	8.90	5.00	10.00	115.10	89.90
					D4P	8.90	9.70	10.00	15.00	63.10	89.40
					D4	9.70	10.10	15.00	20.00	89.00	89.10
					B	7.20	10.10	20.00	25.00	72.50	88.50
					E0	13.80	14.90	25.00	30.00	67.10	88.10
					E1P	14.90	16.50	30.00	35.00	66.60	87.40
					E1	16.50	21.20	35.00	40.00	71.30	86.10
					E2P	21.20	22.50	40.00	45.00	74.40	85.60
					E2	22.50	25.30	45.00	50.00	83.60	85.90
					E3P	25.30	25.90	50.00	55.00	82.60	85.40
					E3U	25.90	28.10	55.00	60.00	72.70	85.20
					E3PTG	28.10	30.90	60.00	65.00	71.20	85.30
					E3L	30.90	32.03	65.00	70.00	71.00	85.30
					E4P	32.03	34.93	70.00	75.00	70.00	84.90
					E4	34.93	35.92	75.00	80.00	81.20	85.40
					G	50.55	51.50	80.00	85.00	72.40	84.90
					J	75.11	85.11	85.00	90.00	80.30	84.80
								90.00	96.22	71.90	83.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89510	1066.62	6100949.17	612924.82	189.00	OVER	0.00	5.00	0.00	8.00	268.70	45.00
					E1	0.00	7.10	8.00	13.00	267.20	46.30
					E2P	7.10	8.90	13.00	18.00	255.30	49.30
					E2	8.90	19.30	18.00	23.00	247.00	47.20
					E2P	19.30	20.50	23.00	28.00	270.80	48.40
					E3U	20.50	25.70	28.00	33.00	263.70	48.90
					FAULT	44.99	45.00	33.00	38.00	271.70	49.40
					E1	45.00	48.00	38.00	43.00	263.10	49.60
					E2P	48.00	48.90	43.00	48.00	260.40	49.60
					E2	48.90	56.60	48.00	53.00	265.30	48.90
					E3P	56.60	57.70	53.00	189.00	263.80	49.00
					E3U	57.70	62.80				
					E3PTG	62.80	66.30				
					E3L	66.30	67.60				
					E4P	67.60	76.80				
					E4	76.80	79.60				
					G	95.10	97.50				
					FAULT	97.50	97.51				
					E4	98.00	98.80				
					G	121.10	122.50				
					J	156.80	178.00				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89511	1083.47	6100861.33	613107.54	161.62	OVER	0.00	4.80	0.00	161.62	268.70	50.00
					E3U	4.80	10.00				
					E3PTG	10.00	23.00				
					E3L	23.00	28.10				
					E4P	28.10	45.13				
					E4	45.13	48.80				
					G	90.20	92.50				
					J	145.28	155.08				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89512	1083.88	6101087.33	612902.33	78.62	OVER	0.00	1.00	0.00	3.00	51.70	90.00
					G	8.12	9.17	3.00	8.00	180.20	86.30
					J	33.37	43.72	8.00	13.00	169.30	86.50
								13.00	18.00	175.40	87.70
								18.00	23.00	155.60	86.50
								23.00	28.00	156.70	85.50
								28.00	33.00	151.50	85.00
								33.00	38.00	147.50	85.70
								38.00	43.00	137.80	85.40
								43.00	48.00	146.10	85.50
								48.00	53.00	160.30	86.40
								53.00	58.00	136.00	84.90
								58.00	63.00	138.50	84.70
								63.00	68.00	130.90	84.50
								68.00	73.00	128.60	84.10
								73.00	78.62	124.50	83.10

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89513	1131.51	6100937.81	613131.13	75.38	E4	10.00	11.06	0.00	6.00	68.20	49.70
					G	19.33	20.07	6.00	11.00	68.70	49.80
					J	43.69	57.66	11.00	16.00	74.20	49.40
								16.00	21.00	75.90	49.90
								21.00	26.00	76.00	50.50
								26.00	31.00	84.60	50.80
								31.00	36.00	77.00	50.70
								36.00	41.00	80.80	50.90
								41.00	46.00	78.30	51.60
								46.00	51.00	75.70	52.50
								51.00	56.00	65.30	51.90
								56.00	61.00	87.90	52.60
								61.00	66.00	82.30	52.50
								66.00	75.38	82.80	53.70

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89514	1188.16	6100792.55	613410.02	81.62	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					G	8.86	10.09	3.00	8.00	60.20	88.70
					FAULT	34.00	34.01	8.00	13.00	49.20	89.00
					J	62.04	74.54	13.00	18.00	31.40	88.80
								18.00	23.00	42.00	88.70
								23.00	28.00	53.90	88.90
								28.00	33.00	66.70	88.90
								33.00	38.00	64.20	88.60
								38.00	43.00	66.80	88.50
								43.00	48.00	45.80	88.80
								48.00	53.00	55.40	88.90
								53.00	58.00	64.90	89.20
								58.00	63.00	92.20	89.60
								63.00	68.00	136.90	90.00
								68.00	73.00	140.30	89.50
								73.00	81.62	135.00	89.50

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89515	1202.09	6100684.76	613545.51	60.72	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					G	12.49	13.73	3.00	8.00	76.90	88.70
					J	41.70	51.85	8.00	13.00	114.10	88.20
								13.00	18.00	84.70	88.30
								18.00	23.00	89.40	88.60
								23.00	28.00	69.50	88.60
								28.00	33.00	70.00	88.20
								33.00	38.00	77.50	88.10
								38.00	43.00	56.80	88.00
								43.00	48.00	79.80	87.30
								48.00	53.00	63.80	87.10
								53.00	60.72	61.00	87.30

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89516	1221.61	6100562.66	613691.29	72.16	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					E3U	4.84	5.91	3.00	8.00	61.70	88.20
					E3PTG	5.91	9.96	8.00	13.00	74.50	87.80
					E3L	9.96	10.90	13.00	18.00	70.40	87.60
					E4P	10.90	12.64	18.00	23.00	61.00	87.70
					E4	12.64	13.55	23.00	28.00	69.10	87.50
					E4PTG	13.55	14.18	28.00	33.00	79.60	88.20
					E4L	14.18	14.36	33.00	38.00	69.10	87.60
					G	23.03	23.96	38.00	43.00	66.80	88.10
					J	47.67	62.75	43.00	48.00	60.20	87.50
					COAL	64.56	64.82	48.00	53.00	75.90	87.50
					COAL	66.90	67.44	53.00	58.00	47.00	87.60
								58.00	63.00	50.00	87.80
								63.00	72.16	59.00	87.90

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89517	1215.72	6100470.22	613648.16	69.82	OVER	0.00	2.00	0.00	3.00	258.70	45.00
					FAULT	16.50	16.51	3.00	8.00	252.60	46.10
					G	28.37	29.55	8.00	13.00	262.60	46.90
					J	51.54	59.76	13.00	18.00	266.80	47.60
								18.00	23.00	261.20	47.10
								23.00	28.00	259.10	48.20
								28.00	33.00	258.60	48.10
								33.00	38.00	255.70	48.60
								38.00	43.00	258.50	49.50
								43.00	48.00	247.20	50.10
								48.00	53.00	257.70	50.50
								53.00	58.00	259.30	50.30
								58.00	63.00	259.30	51.10
								63.00	69.82	258.00	51.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9518	1215.88	6100468.91	613647.50	102.76	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					J	73.21	92.60	3.00	8.00	204.20	89.50
								8.00	13.00	115.80	89.40
								13.00	18.00	115.50	89.40
								18.00	23.00	133.20	89.40
								23.00	28.00	111.50	89.20
								28.00	33.00	136.00	89.50
								33.00	38.00	138.10	89.40
								38.00	43.00	106.80	89.40
								43.00	48.00	86.00	89.40
								48.00	53.00	83.90	89.40
								53.00	58.00	122.10	89.80
								58.00	63.00	177.60	89.50
								63.00	68.00	119.00	88.00
								68.00	73.00	118.90	89.10
								73.00	78.00	135.10	89.40
								78.00	83.00	129.40	89.50
								83.00	88.00	145.80	89.00
								88.00	93.00	139.60	89.60
								93.00	98.00	183.10	89.40
								98.00	102.76	152.60	89.60

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9519	1243.32	6100370.56	613773.52	61.00	OVER	0.00	2.00	0.00	61.00	268.70	50.00
					G	12.63	13.80				
					J	40.44	48.30				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9520	1242.81	6100371.14	613774.74	81.12	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					COAL	3.43	3.78	3.00	8.00	168.60	87.50
					G	4.90	5.45	8.00	13.00	162.70	89.00
					FAULT	21.00	21.01	13.00	18.00	174.50	89.00
					FAULT	38.00	38.01	18.00	23.00	185.20	88.90
					J	53.85	54.79	23.00	28.00	169.40	90.80
					FAULT	54.79	54.80	28.00	33.00	163.60	88.70
					J	57.89	72.98	33.00	38.00	155.20	88.40
								38.00	43.00	151.30	88.60
								43.00	48.00	149.60	89.30
								48.00	53.00	158.00	88.60
								53.00	58.00	170.80	88.50
								58.00	63.00	164.60	88.10
								63.00	68.00	162.10	87.90
								68.00	73.00	148.90	87.70
								73.00	81.12	143.80	87.40

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9521	1242.69	6100374.29	613774.87	102.82	OVER	0.00	2.00	0.00	7.00	55.10	75.00
					G	4.00	5.20	7.00	12.00	60.60	74.60
					J	65.13	96.28	12.00	17.00	61.60	74.50
								17.00	22.00	62.10	74.90
								22.00	27.00	62.10	75.00
								27.00	32.00	62.40	74.90
								32.00	37.00	63.20	74.70
								37.00	42.00	67.00	75.10
								42.00	47.00	63.60	74.50
								47.00	52.00	64.30	74.90
								52.00	57.00	65.30	74.90
								57.00	62.00	65.10	75.20
								62.00	67.00	65.30	75.60
								67.00	72.00	66.20	75.60
								72.00	77.00	63.70	75.60
								77.00	82.00	68.80	75.50
								82.00	87.00	68.90	75.70
								87.00	92.00	68.50	75.40
								92.00	97.00	68.90	75.50
								102.00	102.82	68.00	75.40

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9522	1216.05	6100987.97	613255.90	149.08	OVER	0.00	1.00	0.00	4.00	236.70	70.00
					COAL	21.80	22.20	4.00	14.00	235.70	70.50
					COAL	24.30	25.60	14.00	19.00	243.40	70.10
					COAL	26.80	27.40	19.00	24.00	236.20	69.70
					COAL	30.00	32.10	24.00	29.00	232.60	69.00
					COAL	33.80	34.50	29.00	39.00	244.90	69.70
					COAL	35.00	35.60	39.00	49.00	237.70	67.30
					CPRK	36.20	49.00	49.00	54.00	233.50	66.80
					D3	51.73	53.70	54.00	59.00	239.60	66.50
					D4P	53.70	54.78	59.00	64.00	240.00	66.40
					D4	54.78	56.73	64.00	69.00	242.90	65.80
					D	51.73	56.73	69.00	74.00	239.20	66.30
					E0	57.52	59.82	74.00	79.00	237.30	66.80
					E1P	59.82	62.06	79.00	84.00	237.20	66.40
					E1	62.06	65.93	84.00	89.00	242.60	65.70
					E2P	65.93	66.68	89.00	94.00	241.70	65.50
					E2	66.68	70.08	94.00	99.00	246.50	64.80
					E3P	70.08	70.83	99.00	104.00	233.60	64.60
					E3U	70.83	73.95	104.00	109.00	240.90	64.20
					FAULT	79.04	79.05	109.00	114.00	239.70	64.10
					E3U	79.05	80.80	114.00	119.00	248.50	64.70
					E3PTG	80.80	85.35	119.00	124.00	246.40	64.70
					E3L	85.35	87.28	124.00	129.00	246.00	64.80
					E4P	87.28	89.50	129.00	134.00	247.90	64.40
					E4	89.50	89.95	134.00	139.00	256.30	64.50
					G	103.35	104.14	139.00	144.00	251.90	64.50
					J	133.85	141.78	144.00	149.08	244.80	64.70

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GMR89523	1252.46	6100837.47	613523.87	146.00	OVER	0.00	1.00	0.00	9.00	262.60	60.70
					COAL	13.40	14.65	9.00	14.00	262.60	60.90
					D3	15.82	17.63	14.00	19.00	274.20	60.50
					D4P	17.63	18.20	19.00	24.00	256.80	60.60
					D4	18.20	19.72	24.00	29.00	256.60	60.10
					D	15.82	19.72	29.00	34.00	255.80	60.00
					E0	20.70	23.10	34.00	39.00	256.40	60.00
					E1P	23.10	23.80	39.00	44.00	248.40	59.70
					E1	23.80	29.80	44.00	146.00	262.70	60.00
					E2P	29.80	30.70				
					E2	30.70	35.33				
					E3P	35.33	35.74				
					E3U	35.74	37.16				
					E3PTG	37.16	43.10				
					E3L	43.10	48.40				
					E4P	48.40	53.10				
					E4	53.10	59.30				
					FAULT	59.30	59.31				
					D3	83.90	86.00				
					D4P	86.00	87.17				
					D4	87.17	88.20				
					D	83.90	88.20				
					E0	89.70	91.90				
					E1P	91.90	92.71				
					E1	92.71	96.47				
					E2P	96.47	97.26				
					E2	97.26	100.40				
					E3P	100.40	100.85				
					E3U	100.85	102.82				
					E3PTG	102.82	110.75				
					E3L	110.75	111.73				
					E4P	111.73	113.45				
					E4	113.45	114.20				
					G	126.20	127.27				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89524	1264.72	6100616.30	613743.96	155.52	OVER	0.00	4.00	0.00	5.00	51.70	90.00
					D3	6.80	10.20	5.00	10.00	107.50	89.40
					D4P	10.20	13.20	10.00	15.00	109.90	89.10
					D4	13.20	14.40	15.00	20.00	165.50	89.90
					D	6.80	14.40	20.00	25.00	38.20	88.90
					E0	15.00	16.80	25.00	30.00	352.60	88.80
					E1P	16.80	17.30	30.00	35.00	347.00	88.70
					E1	17.30	21.83	35.00	40.00	314.40	88.70
					E2P	21.83	22.95	40.00	45.00	308.00	88.10
					E2	22.95	31.82	45.00	50.00	310.70	87.50
					E3P	31.82	33.17	50.00	55.00	324.40	87.70
					E3U	33.17	35.45	55.00	60.00	303.40	87.80
					E3PTG	35.45	43.19	60.00	65.00	301.20	87.20
					E3L	43.19	44.67	65.00	70.00	300.20	87.20
					E4P	44.67	46.70	70.00	75.00	299.20	87.00
					E4	46.70	48.92	75.00	80.00	281.70	87.00
					FAULT	53.40	53.88	80.00	85.00	286.50	86.80
					E2	53.88	54.78	85.00	90.00	295.70	87.60
					E3U	55.45	57.65	90.00	95.00	296.70	87.70
					E3PTG	57.65	65.08	95.00	100.00	314.70	87.90
					E3L	65.08	67.90	100.00	105.00	294.30	88.40
					E4P	67.90	70.34	105.00	110.00	291.80	88.00
					E4	70.34	71.71	110.00	115.00	300.80	88.30
					FAULT	72.65	72.66	115.00	120.00	278.00	87.60
					E3L	72.66	73.51	120.00	125.00	314.70	88.20
					E4P	73.51	76.20	125.00	130.00	303.90	87.70
					E4	76.20	77.90	130.00	135.00	307.80	87.60
					G	91.84	92.17	135.00	140.00	318.10	87.50
					J	124.16	145.70	140.00	145.00	309.90	87.20
								145.00	150.00	311.30	86.60
								150.00	155.52	304.50	87.10

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89525	1285.64	6100454.51	613949.85	147.70	OVER	0.00	3.00	0.00	4.00	51.70	90.00
					CPRK	28.90	36.05	4.00	9.00	92.10	89.40
					D3	36.05	37.81	9.00	14.00	78.10	89.40
					D4P	37.81	39.08	14.00	147.70	134.30	89.30
					D4	39.08	39.92				
					D	36.05	39.92				
					E0P	39.92	41.20				
					E0	41.20	43.15				
					E1P	43.15	43.93				
					E1	43.93	46.80				
					E2P	46.80	48.15				
					E2	48.15	52.52				
					E3P	52.52	53.17				
					E3U	53.17	54.82				
					E3PTG	54.82	58.36				
					E3L	58.36	59.24				
					E4P	59.24	60.69				
					E4	60.69	61.60				
					G	69.82	70.51				
					FAULT	75.79	75.80				
					E3L	75.80	77.87				
					E4P	77.87	80.15				
					E4	80.15	82.05				
					G	93.14	93.77				
					J	126.00	139.12				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9526	1177.40	6101074.99	613116.04	124.44	OVER	0.00	3.00	0.00	4.00	268.70	65.00
					D3	5.34	7.18	4.00	9.00	270.10	65.00
					D4P	7.18	8.40	9.00	14.00	268.20	65.40
					D4	8.40	9.21	14.00	19.00	271.50	65.30
					D	5.34	9.21	19.00	24.00	260.30	64.60
					E0P	9.21	10.50	24.00	29.00	271.30	64.70
					E0	10.50	19.30	29.00	34.00	269.70	65.60
					E1P	19.30	21.00	34.00	39.00	271.00	66.10
					E1	21.00	27.20	39.00	44.00	269.60	66.40
					E2P	27.20	30.50	44.00	49.00	274.60	66.90
					E2	30.50	35.95	49.00	54.00	264.90	66.40
					E3P	35.95	37.80	54.00	59.00	269.70	66.00
					E3U	37.80	38.55	59.00	64.00	270.20	66.00
					E3PTG	38.55	46.12	64.00	69.00	267.10	65.70
					E3L	46.12	47.00	69.00	74.00	269.60	65.40
					E4P	47.00	49.65	74.00	79.00	259.20	64.90
					E4	49.65	50.08	79.00	89.00	265.20	64.70
					E4PTG	50.08	54.37	89.00	94.00	269.90	66.00
					E4L	54.37	54.94	94.00	99.00	256.00	63.30
					G	67.08	67.90	99.00	104.00	267.50	65.50
					J	102.02	115.41	104.00	109.00	268.60	66.50
								109.00	114.00	266.20	66.10
								114.00	119.00	267.50	65.80
								119.00	124.44	274.40	66.80

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMRB9527	1103.92	6101180.28	612955.44	121.70	OVER	0.00	3.00	0.00	4.00	51.70	90.00
					E0	5.35	10.18	4.00	9.00	167.00	88.90
					E1P	10.18	12.15	9.00	14.00	142.90	88.30
					E1	12.15	17.80	14.00	19.00	159.50	88.70
					E2P	17.80	20.30	19.00	24.00	180.60	88.70
					E2	20.30	28.00	24.00	29.00	181.40	88.10
					E3P	28.00	29.40	29.00	34.00	185.50	88.40
					E3U	29.40	36.06	34.00	39.00	183.40	88.10
					FAULT	36.06	36.07	39.00	44.00	181.50	88.30
					E2	36.68	42.87	44.00	49.00	147.00	88.10
					E3P	42.87	43.72	49.00	54.00	136.90	87.80
					E3U	43.72	48.92	54.00	59.00	168.30	88.10
					FAULT	48.92	48.93	59.00	64.00	174.70	88.00
					E3U	49.77	53.49	64.00	69.00	191.10	87.80
					E3PTG	53.49	57.98	69.00	74.00	189.00	88.00
					E3L	57.98	59.40	74.00	79.00	191.60	87.70
					E4P	59.40	61.39	79.00	84.00	203.90	87.10
					E4	61.39	61.77	84.00	89.00	223.20	86.90
					E4PTG	61.77	70.21	89.00	94.00	231.60	87.00
					E4L	70.21	70.46	94.00	99.00	220.80	86.10
					COAL	70.85	71.08	99.00	104.00	224.40	86.10
					G	82.99	83.80	104.00	109.00	218.90	85.80
					J	102.50	110.86	109.00	114.00	223.50	85.80
								114.00	121.70	230.10	85.80

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89528	993.85	6101233.00	612635.71	39.44	OVER	0.00	1.00	0.00	2.00	51.70	90.00
					G	2.35	3.15	2.00	7.00	16.10	89.50
					J	22.76	30.03	7.00	12.00	18.70	89.60
								12.00	17.00	144.90	89.70
								17.00	22.00	357.20	89.80
								22.00	27.00	137.30	89.60
								27.00	32.00	142.80	89.70
								32.00	39.44	146.70	89.30

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89529	975.25	6101155.30	612569.65	33.32	OVER	0.00	1.00	0.00	2.00	51.70	90.00
					J	15.57	22.96	2.00	7.00	157.70	89.70
								7.00	12.00	132.30	88.60
								12.00	17.00	140.60	88.40
								17.00	22.00	158.00	87.70
								22.00	27.00	128.80	88.20
								27.00	33.32	132.10	87.50

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89530	951.99	6101578.31	612775.09	45.56	OVER	0.00	0.01	0.00	2.00	51.70	90.00
					J	25.14	36.92	2.00	7.00	94.30	88.90
					COAL	37.65	38.03	7.00	12.00	91.60	88.90
								12.00	17.00	111.30	88.90
								17.00	22.00	108.70	88.90
								22.00	27.00	117.50	89.20
								27.00	32.00	140.80	89.20
								32.00	37.00	128.90	89.00
								42.00	45.56	179.10	89.50

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89531	852.63	6102097.10	612843.71	52.70	OVER	0.00	1.50	0.00	52.70	51.70	90.00
					E4L	4.30	4.60				
					G	18.43	19.14				
					J	35.65	43.03				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMR89532	851.85	6102231.46	612904.71	60.62	OVER	0.00	2.00	0.00	3.00	51.70	90.00
					EAL	10.10	10.40	3.00	8.00	176.80	88.30
					G	27.70	28.65	8.00	13.00	122.60	89.40
					J	45.60	53.35	13.00	18.00	99.30	89.30
								18.00	23.00	131.90	89.40
								23.00	28.00	144.00	89.70
								28.00	33.00	143.10	89.60
								33.00	38.00	146.50	89.70
								38.00	43.00	229.60	89.70
								43.00	48.00	206.60	89.90
								48.00	53.00	61.60	89.50
								58.00	60.62	35.50	89.60

Appendix T.2.2

Diamond Drill Holes

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QJD7643	1641.49	6095755.82	619441.10	264.50	OVER	0.00	2.00	0.00	264.50	51.70	90.00
					KcH/KcG	72.00	72.10				
					B	122.35	123.05				
					B1/B2	211.05	212.40				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDB4004	875.76	6095357.44	624377.18	109.62	OVER	0.00	8.58	0.00	109.62	120.50	77.80
					COAL	5.38	5.98				
					COAL	6.42	8.57				
					F1	31.30	31.65				
					F2P	31.65	31.93				
					F2	31.93	35.27				
					F	31.30	35.27				
					G1	55.46	55.73				
					G2P	55.73	55.95				
					G2	55.95	57.36				
					G12	55.46	57.36				
					G3P	57.36	57.93				
					G3	57.93	58.89				
					G	55.46	58.89				
					J	80.40	85.37				
					K1P	85.37	86.58				
					K1	86.58	87.63				
					K2P	87.63	91.37				
					K2	91.37	92.06				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD85001	1543.20	6095479.72	620842.46	150.00	OVER	0.00	4.57	0.00	5.00	111.32	67.47
					D1	17.21	18.15	5.00	15.00	111.32	67.47
					D2P	18.15	18.56	15.00	25.00	107.82	67.50
					D2	18.56	19.02	25.00	35.00	108.59	67.58
					D	17.21	19.02	35.00	45.00	108.42	67.32
					D3P	19.02	19.35	45.00	55.00	108.62	67.20
					D3	19.35	19.54	55.00	65.00	107.27	67.37
					D4P	19.54	20.78	65.00	75.00	107.90	67.40
					D4	20.78	21.07	75.00	85.00	109.85	67.52
					E1	45.69	45.89	85.00	95.00	110.75	67.56
					E2P	45.89	46.14	95.00	105.00	107.23	67.55
					E2	46.14	46.54	105.00	115.00	106.84	67.41
					E3P	46.54	46.90	115.00	125.00	106.16	67.19
					E3	46.90	47.84	125.00	135.00	106.68	67.21
					E	45.69	45.89	135.00	145.00	106.64	67.46
					F1	69.58	70.36	145.00	150.00	109.45	67.44
					F2P	70.36	70.83				
					F2	70.83	74.89				
					F	69.58	74.89				
					G1	99.24	100.20				
					G2P	100.20	100.51				
					G2	100.51	101.39				
					G12	99.24	101.39				
					G3P	101.39	101.93				
					G3	101.93	102.87				
					G	99.24	102.87				
					J	116.91	121.43				
					K1P	121.43	122.34				
					K1	122.34	123.43				
					K2P	123.43	124.35				
					K2	124.35	125.23				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD85002	1549.76	6096247.89	620665.99	225.00	OVER	0.00	3.70	0.00	15.00	293.33	75.87
					B	37.73	38.74	15.00	25.00	289.45	76.13
					D1	98.98	99.77	25.00	35.00	284.59	76.47
					D2P	99.77	99.90	35.00	45.00	283.98	76.14
					D2	99.90	100.31	45.00	55.00	282.73	75.80
					D	98.98	100.31	55.00	65.00	279.23	76.11
					D3P	100.31	101.13	65.00	75.00	278.98	76.20
					D3	101.13	101.37	75.00	85.00	280.61	76.04
					D3P	101.37	101.74	85.00	95.00	281.24	76.41
					D4	101.74	102.08	95.00	105.00	280.71	76.41
					E1	117.80	118.35	105.00	115.00	281.60	76.24
					E2P	118.35	118.81	115.00	125.00	279.19	76.70
					E2	118.81	119.20	125.00	135.00	276.75	76.41
					E3P	119.20	119.52	135.00	145.00	279.89	75.97
					E3	119.52	120.31	145.00	155.00	279.70	75.10
					E	117.80	120.31	155.00	165.00	273.70	75.50
					E4P	120.31	122.32	165.00	175.00	275.70	75.30
					E4	122.32	122.77	175.00	185.00	277.70	75.00
					F1	144.92	145.49	185.00	195.00	275.70	75.10
					F2P	145.49	146.08	195.00	205.00	274.70	75.30
					F2	146.08	149.15	205.00	215.00	275.70	75.00
					F	144.92	149.15	215.00	225.00	273.70	75.00
					G1	172.60	173.50				
					G2P	173.50	173.68				
					G2	173.68	174.54				
					G12	172.60	174.54				
					G3P	174.54	175.07				
					G3	175.07	176.01				
					G	172.60	176.01				
					J	191.28	195.08				
					K1P	195.88	196.87				
					K1	196.87	198.06				
					K2P	198.06	198.80				
					K2	198.80	200.12				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD86001	953.93	6096557.33	623975.75	147.00	OVER	0.00	7.01	0.00	26.00	260.70	63.00
					E1	27.17	28.12	26.00	35.00	258.70	63.10
					E2P	28.12	28.80	35.00	45.00	258.70	62.70
					E2	28.80	29.01	45.00	55.00	258.70	63.00
					E3P	29.01	29.20	55.00	65.00	259.70	62.90
					E3	29.20	29.35	65.00	75.00	258.70	62.50
					E	27.17	29.35	75.00	85.00	259.70	62.90
					F1	51.65	52.38	85.00	95.00	259.70	62.60
					F2P	52.38	52.70	95.00	105.00	260.70	62.40
					F2	52.70	55.78	105.00	115.00	260.70	62.40
					F	51.65	55.78	115.00	125.00	260.70	61.90
					G1	90.47	90.73	125.00	135.00	261.70	61.90
					G2P	90.73	91.08	135.00	145.00	261.70	62.30
					G2	91.08	92.03	145.00	147.00	260.70	62.10
					G12	90.47	92.03				
					G3P	92.03	92.96				
					G3	92.96	94.28				
					G	90.47	94.28				
					J	115.86	120.56				
					K1P	120.56	121.00				
					K1	121.00	122.60				
					K2P	122.60	127.25				
					K2	127.25	127.85				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDB6002	1095.53	6096236.98	623500.76	120.40	OVER	0.00	3.66	0.00	6.00	92.70	63.70
					F1	38.31	38.96	6.00	15.00	92.70	64.10
					F2P	38.96	39.37	15.00	25.00	92.70	64.00
					F2	39.37	42.03	25.00	35.00	93.70	64.20
					F	38.31	42.03	35.00	45.00	92.70	63.90
					G1	77.60	77.73	45.00	55.00	93.70	64.10
					G2P	77.73	77.82	55.00	65.00	92.70	64.00
					G2	77.82	78.63	65.00	75.00	91.70	63.90
					G12	77.60	78.63	75.00	85.00	92.70	64.10
					G3P	78.63	79.14	85.00	95.00	91.70	63.90
					G3	79.14	80.90	95.00	105.00	91.70	63.90
					G	77.60	80.90	105.00	115.00	90.70	63.80
					J	95.56	100.49	115.00	120.40	89.70	63.50
					K1P	100.49	101.06				
					K1	101.06	102.34				
					K2P	102.34	105.60				
					K2	105.60	106.34				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDB6003	1532.05	6096400.24	619865.63	225.86	D1	52.45	53.03	0.00	5.00	19.26	88.67
					D2P	53.03	53.16	5.00	15.00	321.58	88.81
					D2	53.16	53.52	15.00	25.00	246.27	89.07
					D	52.45	53.52	25.00	35.00	241.11	89.04
					E1	84.00	84.78	35.00	45.00	253.98	89.04
					E2P	84.78	85.34	45.00	55.00	243.55	89.01
					E2	85.34	85.91	55.00	65.00	218.60	88.83
					E3P	85.91	86.06	65.00	75.00	200.06	89.01
					E3	86.06	87.08	75.00	85.00	207.65	89.41
					E	84.00	87.08	85.00	95.00	208.19	89.63
					E4	88.18	89.98	95.00	105.00	202.96	89.63
					F1	130.66	130.66	105.00	115.00	218.91	89.56
					F2P	130.66	131.27	115.00	125.00	228.96	89.48
					F2	131.27	135.58	125.00	135.00	217.43	89.33
					F	130.66	135.58	135.00	145.00	247.70	88.92
					G1	153.74	154.70	145.00	155.00	228.09	89.08
					FAULT	154.70	154.70	155.00	165.00	192.00	89.48
					G1	163.28	163.73	165.00	175.00	207.38	89.48
					G2P	163.73	163.89	175.00	185.00	186.87	89.37
					G2	163.89	165.07	185.00	195.00	170.27	89.08
					G12	163.28	165.07	195.00	205.00	174.08	89.08
					G3P	165.07	165.41	205.00	215.00	169.48	89.26
					G3	165.41	166.16	215.00	225.86	145.63	89.11
					G	163.28	166.16				
					J	183.90	188.68				
					K1P	188.68	189.48				
					K1	189.48	190.47				
					K2P	190.47	192.00				
					K2	192.00	193.14				

(1)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDB6004	1328.95	6095039.71	621025.49	63.70	OVER	0.00	6.10	0.00	63.70	51.70	90.00
					D	12.50	12.50				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDB6005	1329.25	6095040.51	621025.89	178.31	OVER	0.00	6.10	0.00	5.00	104.70	67.27
					D1	14.00	16.01	5.00	15.00	104.70	67.60
					D	14.00	16.01	15.00	25.00	103.90	67.85
					D2P	16.01	16.44	25.00	35.00	104.43	67.94
					D2	16.44	17.21	35.00	45.00	103.98	68.13
					D3P	17.21	17.65	45.00	55.00	104.14	68.14
					D3	17.65	18.07	55.00	65.00	103.96	68.27
					D4P	18.07	18.36	65.00	75.00	102.94	68.42
					D4	18.36	18.91	75.00	85.00	103.50	68.75
					E	33.40	36.50	85.00	95.00	103.53	68.73
					F	78.64	82.00	95.00	105.00	103.09	68.63
					FAULT	82.00	83.83	105.00	115.00	102.51	68.72
					F	83.83	88.08	115.00	125.00	101.99	68.63
					G1	116.40	117.58	125.00	135.00	103.30	68.80
					G2P	117.58	117.80	135.00	145.00	103.88	69.06
					G2	117.80	119.14	145.00	155.00	103.37	68.77
					G12	116.40	119.14	155.00	165.00	103.34	68.70
					G3P	119.14	119.77	165.00	178.31	103.73	68.92
					G3	119.77	121.04				
					G	116.40	121.04				
					J	146.80	151.38				
					K1P	151.38	152.67				
					K1	152.67	153.52				
					K2P	153.52	154.67				
					K2	154.67	155.88				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDD6006	1325.06	6095648.46	621718.59	99.06	OVER	0.00	3.20	0.00	7.50	270.00	63.20
					F1	11.16	12.05	7.50	12.50	270.00	63.40
					F2P	12.05	12.49	12.50	17.50	270.00	60.70
					F2	12.49	15.35	17.50	22.50	269.30	61.30
					F	11.16	15.35	22.50	27.50	267.40	61.60
					G1	41.76	42.66	27.50	32.50	269.70	61.60
					G2P	42.66	42.86	32.50	37.50	270.90	61.50
					G2	42.86	43.91	37.50	42.50	271.40	61.90
					G12	41.76	43.91	42.50	47.50	274.70	62.50
					G3P	43.91	44.30	47.50	52.50	271.80	60.80
					G3	44.30	45.73	52.50	57.50	269.40	61.10
					G	41.76	45.73	57.50	62.50	272.00	61.20
					J	65.50	70.46	62.50	67.50	271.90	61.30
					K1P	70.46	71.59	67.50	72.50	269.00	61.50
					K1	71.59	72.61	72.50	77.50	266.70	61.50
					K2P	72.61	73.88	77.50	82.50	269.60	61.50
					K2	73.88	75.10	82.50	87.50	268.00	61.60
								87.50	92.50	273.50	61.30
								92.50	97.50	271.20	61.40
								97.50	99.06	268.70	61.80

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHDD6007	1292.95	6095276.73	622427.33	138.68	OVER	0.00	3.00	0.00	5.00	258.70	66.10
					F	42.83	43.91	5.00	15.00	262.70	65.90
					FAULT	43.91	43.91	15.00	25.00	263.70	66.10
					F	43.91	47.43	25.00	35.00	263.70	66.60
					FAULT	47.43	47.43	35.00	45.00	263.70	66.80
					F	47.43	49.01	45.00	55.00	260.70	67.30
					G1	72.59	73.39	55.00	65.00	261.70	67.00
					G2P	73.39	73.56	65.00	75.00	262.70	66.70
					G2	73.56	74.69	75.00	85.00	261.70	66.80
					G12	72.59	74.69	85.00	95.00	261.70	66.60
					G3P	74.69	75.04	95.00	105.00	260.70	66.80
					G3	75.04	76.34	105.00	115.00	262.70	66.90
					G	72.59	76.34	115.00	125.00	264.70	66.10
					J	98.46	104.57	125.00	135.00	263.70	66.40
					K1P	104.57	105.49	135.00	138.68	261.70	66.30
					K1	105.49	106.81				
					K2P	106.81	110.17				
					K2	110.17	111.32				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QHD86008	1413.39	6095971.61	621225.68	169.50	D1	27.07	27.79	0.00	5.00	129.21	87.79
					D2P	27.79	28.04	5.00	15.00	117.23	88.37
					D2	28.04	28.43	15.00	25.00	110.37	88.81
					D3P	28.43	28.59	25.00	35.00	204.41	89.07
					D3	28.59	28.80	35.00	45.00	231.77	89.07
					D4P	28.80	29.08	45.00	55.00	181.55	88.91
					D4	29.08	29.62	55.00	65.00	174.65	88.75
					D	27.07	28.43	65.00	75.00	153.98	88.33
					E3	56.80	59.19	75.00	85.00	146.99	88.55
					F1	79.40	80.45	85.00	95.00	140.57	88.55
					F2P	80.45	80.89	95.00	105.00	145.60	88.43
					F2	80.89	84.40	105.00	115.00	121.45	88.96
					F	79.40	84.40	115.00	125.00	123.48	89.08
					G1	125.05	126.34	125.00	135.00	155.35	88.67
					G2P	126.34	126.48	135.00	145.00	187.65	88.95
					G2	126.48	127.75	145.00	155.00	162.28	89.08
					G12	125.05	127.75	155.00	169.50	162.28	89.08
					G3P	127.75	128.38				
					G3	128.38	129.88				
					G	125.05	129.88				
					J	152.67	159.75				
					K1P	159.75	160.74				
					K1	160.74	162.34				
					K2P	162.34	165.37				
					K2	165.37	166.70				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QHD87001	1021.15	6096689.55	623618.59	160.79	OVER	0.00	8.96	0.00	10.00	308.18	67.35
					D	44.08	45.03	10.00	20.00	289.65	67.11
					F1	67.94	68.91	20.00	30.00	269.98	66.85
					F2P	68.91	69.15	30.00	40.00	268.03	66.91
					F2	69.15	73.61	40.00	50.00	267.28	66.93
					F	67.96	73.61	50.00	60.00	267.34	66.88
					GCGL	81.55	117.96	60.00	70.00	266.51	66.97
					G1	118.04	118.46	70.00	80.00	265.69	67.17
					G2P	118.46	118.82	80.00	90.00	265.86	67.16
					G2	118.82	119.88	90.00	100.00	264.80	67.17
					G3P	119.88	120.79	100.00	110.00	265.36	67.33
					G3	120.79	122.16	110.00	120.00	267.28	67.17
					G	118.04	122.16	120.00	130.00	266.92	67.17
					J	141.76	147.69	130.00	140.00	267.61	67.16
					K1P	147.69	149.07	140.00	150.00	267.32	67.12
					K1	149.07	150.52	150.00	160.79	267.32	67.12
					K2P	150.52	154.58				
					K2	154.58	155.50				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87002	1081.36	6096678.45	623250.51	99.12	OVER	0.00	4.65	0.00	10.00	294.64	87.87
					F1	17.14	17.71	10.00	20.00	301.05	87.87
					F2P	17.71	18.00	20.00	30.00	18.32	88.61
					F2	18.00	20.87	30.00	40.00	139.41	88.93
					F	17.14	20.87	40.00	50.00	196.47	88.45
					GCGL	28.15	61.72	50.00	60.00	206.57	88.21
					G1	61.85	62.06	60.00	70.00	210.69	88.13
					G2P	62.06	62.44	70.00	80.00	225.24	87.89
					G2	62.44	63.57	80.00	90.00	222.69	87.96
					G3P	63.57	63.77	90.00	99.12	222.69	87.96
					G3	63.77	66.43				
					G	61.85	66.43				
					J	82.25	87.45				
					K1P	87.45	88.21				
					K1	88.21	89.83				
					K2P	89.83	92.68				
					K2	92.68	93.48				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87003	996.29	6095802.93	623915.72	177.52	OVER	0.00	3.50	0.00	10.00	83.36	67.22
					D1	24.17	24.80	10.00	20.00	82.79	66.44
					D2P	24.80	25.24	20.00	30.00	82.19	66.01
					D2	25.24	25.98	30.00	40.00	83.23	65.85
					D	24.17	25.98	40.00	50.00	83.93	66.23
					E2	54.50	55.38	50.00	60.00	83.76	66.22
					E3P	55.38	55.94	60.00	70.00	84.26	66.21
					E3	55.94	56.66	70.00	80.00	84.50	66.03
					E	54.50	55.38	80.00	90.00	85.24	65.85
					F1	82.64	83.17	90.00	100.00	85.86	65.65
					F2P	83.17	83.53	100.00	110.00	86.01	65.27
					F2	83.53	87.22	110.00	120.00	87.12	64.88
					F	82.64	87.22	120.00	130.00	86.70	64.75
					FL	87.57	87.79	130.00	140.00	86.16	64.53
					GCGL	104.14	108.75	140.00	150.00	86.25	64.31
					G1	108.78	109.38	150.00	160.00	86.31	64.37
					G2P	109.38	109.89	160.00	170.00	86.49	64.70
					G2	109.89	110.69	170.00	177.52	86.49	64.70
					G3P	110.69	111.33				
					G3	111.33	112.09				
					G	108.78	112.09				
					J	129.08	133.22				
					K1P	133.22	134.40				
					K1	134.40	135.41				
					K2P	135.41	139.48				
					K2	139.48	140.37				
					COAL	140.22	140.37				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87004	1589.74	6095885.15	620622.54	151.10	OVER	0.00	8.25	0.00	5.00	19.22	88.41
					D1	8.51	9.69	5.00	10.00	285.80	89.14
					D2P	9.69	10.57	10.00	20.00	137.37	88.73
					D2	10.57	10.77	20.00	30.00	34.83	88.82
					D3P	10.77	11.29	30.00	40.00	19.22	88.41
					D3	11.29	11.92	40.00	50.00	39.96	88.23
					D	8.51	9.69	50.00	60.00	30.56	88.40
					E1	25.60	25.99	60.00	70.00	35.70	88.49
					E2P	25.99	26.62	70.00	80.00	72.32	88.65
					E2	26.62	27.16	80.00	90.00	71.17	88.19
					E3P	27.16	28.00	90.00	100.00	60.63	87.66
					E3	28.00	28.12	100.00	110.00	78.33	87.37
					E4	33.40	34.05	110.00	120.00	87.52	87.44
					F1	52.36	53.07	120.00	130.00	93.93	87.73
					F2P	53.07	53.34	130.00	140.00	93.72	87.52
					F2	53.34	58.40	140.00	150.00	84.00	87.08
					F	52.36	58.40	150.00	151.10	84.00	87.08
					G101	85.14	85.56				
					FAULT	86.56	86.57				
					G1	86.79	87.78				
					G2P	87.78	87.98				
					G2	87.98	88.84				
					G3P	88.84	89.56				
					G3	89.56	90.48				
					G	86.79	90.48				
					J	104.60	108.60				
					K1P	108.60	109.62				
					K1	109.62	110.52				
					K2P	110.52	111.28				
					K2	111.28	112.53				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87005	1573.26	6096045.68	620230.28	185.78	OVER	0.00	6.71	0.00	10.00	230.74	88.14
					B	15.47	18.63	10.00	20.00	234.44	88.32
					C	32.60	36.50	20.00	30.00	276.52	88.58
					D1	80.71	81.45	30.00	40.00	271.19	88.77
					E1	100.02	100.65	40.00	50.00	252.99	88.61
					E2P	100.65	100.96	50.00	60.00	289.34	88.37
					E2	100.96	102.50	60.00	70.00	281.77	88.41
					E3P	102.50	103.64	70.00	80.00	291.68	88.37
					E3	103.64	105.02	80.00	90.00	299.37	88.64
					E	100.02	105.02	90.00	100.00	279.96	88.94
					F1	123.48	124.09	100.00	110.00	323.09	89.05
					F2P	124.09	124.55	110.00	120.00	339.02	89.17
					F2	124.55	127.44	120.00	130.00	355.23	89.06
					F	123.48	127.44	130.00	140.00	71.22	88.94
					G1	157.47	158.21	140.00	150.00	48.08	89.06
					G2P	158.21	158.35	150.00	160.00	46.54	88.91
					G2	158.35	159.61	160.00	170.00	129.52	88.53
					G3P	159.61	160.18	170.00	185.78	165.45	88.61
					G3	160.18	161.33				
					G	157.47	161.33				
					J	175.50	180.40				
					K1P	180.40	181.31				
					K1	181.31	182.88				
					K2P	182.88	183.85				
					K2	183.85	184.96				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87006	1486.07	6096478.67	620295.84	202.44	OVER	0.00	13.72	0.00	10.00	14.07	87.50
					B	15.43	16.58	10.00	20.00	325.82	88.03
					C1	31.50	31.85	20.00	30.00	188.86	88.30
					C2P	31.85	34.38	30.00	40.00	164.93	88.49
					C2	34.38	35.14	40.00	50.00	181.79	88.81
					C	31.50	35.14	50.00	60.00	79.02	88.28
					D1	83.08	83.82	60.00	70.00	320.56	88.43
					D2P	83.82	83.99	70.00	80.00	284.69	88.75
					D2	83.99	84.30	80.00	90.00	282.59	88.64
					D	83.08	84.30	90.00	100.00	173.76	88.54
					E1	105.93	106.46	100.00	110.00	144.23	88.56
					E2P	106.46	106.89	110.00	120.00	228.74	88.74
					E2	106.89	108.25	120.00	130.00	224.61	88.69
					E3P	108.25	109.32	130.00	140.00	223.38	88.59
					E3	109.32	110.03	140.00	150.00	248.98	88.59
					E	105.93	110.03	150.00	160.00	160.04	88.56
					F1	135.74	136.37	160.00	170.00	354.79	88.46
					F2P	136.37	136.94	170.00	180.00	207.95	88.49
					F2	136.94	140.41	180.00	190.00	232.92	88.55
					F	137.74	140.41	190.00	202.44	37.34	88.57
					G1	161.71	162.78				
					G2P	162.78	163.18				
					G2	163.18	164.03				
					G3P	164.03	164.65				
					G3	164.65	166.02				
					G	161.71	166.02				
					J	186.83	192.19				
					K1P	192.19	193.05				
					K1	193.05	194.26				
					K2P	194.26	195.39				
					K2	195.39	196.41				
					K3P	196.41	196.79				
					K3	196.79	197.17				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87007	1329.15	6095442.39	622018.43	120.63	OVER	0.00	4.88	0.00	1.00	132.14	88.48
					F1	32.22	33.40	1.00	10.00	142.20	88.98
					F2P	33.40	33.95	10.00	20.00	206.68	89.56
					F2	33.95	38.68	20.00	30.00	180.09	89.41
					F	32.22	38.68	30.00	40.00	129.47	88.92
					G1	72.66	73.93	40.00	50.00	158.26	88.67
					G2P	73.93	74.15	50.00	60.00	167.28	89.08
					G2	74.15	75.62	60.00	70.00	181.63	89.22
					G3P	75.62	76.00	70.00	80.00	183.44	88.96
					G3	76.00	78.47	80.00	90.00	186.49	88.56
					G	72.66	78.47	90.00	100.00	204.30	88.41
					J	103.12	109.99	100.00	120.63	223.43	88.81
					K1P	109.99	111.76				
					K1	111.76	113.28				
					K2P	113.28	116.54				
					K2	116.54	118.16				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87008	1167.00	6094538.83	621727.19	138.62	OVER	0.00	17.37	0.00	10.00	93.59	67.19
					F1	37.22	37.87	10.00	20.00	92.90	67.19
					F2P	37.87	38.12	20.00	30.00	92.84	67.30
					F2	38.12	40.26	30.00	40.00	92.88	67.39
					F	37.22	40.26	40.00	50.00	92.05	67.25
					FL	40.26	41.27	50.00	60.00	91.37	67.10
					G1	58.87	59.78	60.00	70.00	91.18	67.32
					G2P	59.78	59.86	70.00	80.00	91.99	67.58
					G2	59.86	62.41	80.00	90.00	91.59	67.41
					G3P	62.41	62.94	90.00	100.00	90.90	67.46
					G3	62.94	64.75	100.00	110.00	91.12	67.65
					G	58.87	64.75	110.00	120.00	91.33	67.86
					J	84.51	90.06	120.00	138.62	90.85	67.92
					K1P	90.06	91.73				
					K1	91.73	93.42				
					K2P	93.42	98.49				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87009	1108.43	6095088.70	622957.50	105.14	OVER	0.00	6.70	0.00	10.00	247.70	65.80
					F1	24.70	25.34	10.00	20.00	249.70	65.40
					F2P	25.34	25.71	20.00	30.00	248.70	66.70
					F2	25.71	27.56	30.00	40.00	251.70	65.50
					F	24.70	27.56	40.00	50.00	250.70	65.50
					G1	61.08	61.93	50.00	60.00	249.70	65.60
					G2P	61.93	62.10	60.00	70.00	251.70	65.40
					G2	62.10	63.23	70.00	80.00	251.70	65.00
					G3P	63.23	63.65	80.00	90.00	251.70	64.80
					G3	63.65	65.20	90.00	100.00	250.70	65.20
					G	61.08	65.20	100.00	105.14	249.70	65.10
					J	88.12	93.94				
					K1P	93.94	95.40				
					K1	95.40	96.62				
					K2P	96.62	100.29				
					K2	100.29	101.27				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87010	894.89	6094879.67	623642.35	158.55	OVER	0.00	3.05	0.00	5.00	255.70	64.60
					E3	22.18	23.40	5.00	10.00	258.70	64.60
					FAULT	48.09	48.10	10.00	20.00	258.70	64.90
					F	48.09	49.40	20.00	30.00	259.70	64.90
					G1	89.91	90.82	30.00	40.00	260.70	64.50
					G2P	90.82	91.03	40.00	50.00	261.70	64.50
					G2	91.03	92.01	50.00	60.00	257.70	64.20
					G3P	92.01	92.40	60.00	70.00	258.70	64.20
					G3	92.40	94.50	70.00	80.00	260.70	64.40
					G	89.91	94.50	80.00	90.00	258.70	64.40
					J	114.68	117.62	90.00	100.00	261.70	64.40
					K1P	117.62	118.78	100.00	110.00	259.70	64.20
					K1	118.78	119.81	110.00	120.00	258.70	64.00
					K2P	119.81	128.06	120.00	130.00	258.70	64.00
					K2	128.06	129.77	130.00	140.00	258.70	64.50
					K2L	130.03	131.11	140.00	150.00	261.70	64.40
								150.00	158.55	258.70	64.50

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87011	877.77	6095267.55	623875.17	189.12	OVER	0.00	7.62	0.00	5.00	227.60	88.65
					D1	61.40	62.22	5.00	10.00	270.59	88.91
					D1P	62.22	62.64	10.00	20.00	306.62	88.81
					D2	62.64	63.47	20.00	30.00	300.40	88.56
					D	61.40	63.47	30.00	40.00	303.33	88.57
					E3	97.80	99.50	40.00	50.00	296.96	88.30
					F1	121.53	121.92	50.00	60.00	291.26	88.46
					F2P	121.92	122.08	60.00	70.00	296.42	88.57
					F2	122.08	125.93	70.00	80.00	293.24	88.41
					F	121.53	125.93	80.00	90.00	286.04	88.30
					G1	146.22	147.27	90.00	100.00	283.26	88.38
					G2P	147.27	147.59	100.00	110.00	287.50	88.39
					G2	147.59	148.41	110.00	120.00	286.57	87.91
					G3P	148.41	148.88	120.00	130.00	278.89	87.84
					G3	148.88	150.42	130.00	140.00	281.39	87.66
					G	146.22	150.42	140.00	150.00	283.09	87.21
					J	170.19	175.22	150.00	160.00	277.29	87.07
					K1P	175.22	176.36	160.00	170.00	277.89	86.95
					K1	176.36	177.43	170.00	189.12	282.08	86.64
					K2P	177.43	183.82				
					K2	183.82	184.66				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD87012	818.91	6096170.57	624826.02	155.24	OVER	0.00	8.53	0.00	10.00	258.70	66.30
					D1	24.66	26.41	10.00	20.00	259.70	66.40
					D2P	26.41	26.74	20.00	30.00	258.70	66.20
					D2	26.74	27.64	30.00	40.00	258.70	66.00
					D	24.66	27.64	40.00	50.00	258.70	65.90
					E1	43.12	43.41	50.00	60.00	258.70	65.60
					E2P	43.41	44.68	60.00	70.00	260.70	65.80
					E2	44.68	46.02	70.00	80.00	260.70	65.90
					E3P	46.02	46.80	80.00	90.00	258.70	65.50
					E3	46.80	49.36	90.00	100.00	259.70	65.70
					F1	71.44	72.10	100.00	110.00	259.70	65.40
					F2P	72.10	72.43	110.00	120.00	262.70	65.70
					F2	72.43	76.35	120.00	130.00	259.70	65.10
					F	71.44	76.35	130.00	140.00	260.70	65.40
					G1	118.83	119.16	140.00	150.00	261.70	65.10
					G2P	119.16	119.27	150.00	155.24	260.70	65.10
					G2	119.27	120.73				
					G3P	120.73	121.96				
					G3	121.96	123.22				
					G	118.83	123.22				
					J	141.94	148.00				
					K1P	148.00	149.21				
					K1	149.21	150.90				
					K2P	150.90	155.24				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88002	1464.97	6095006.23	620510.67	247.50	OVER	0.00	1.00	0.00	15.00	280.60	59.40
					E1	11.38	11.80	15.00	25.00	280.90	59.80
					E2P	11.80	12.44	25.00	30.00	266.70	62.40
					E2	12.44	13.92	30.00	35.00	265.30	62.50
					E3P	13.92	16.78	35.00	40.00	264.60	62.50
					EJ	16.78	18.02	40.00	45.00	265.80	62.60
					F1	35.76	36.56	45.00	50.00	265.10	62.70
					F2P	36.56	37.22	50.00	55.00	265.90	62.70
					F2U	37.22	38.92	55.00	60.00	265.60	62.70
					F2PTG	38.92	39.23	60.00	65.00	265.50	62.80
					F2L	39.23	40.96	65.00	70.00	265.90	62.80
					F	35.76	40.96	70.00	75.00	266.00	62.70
					COAL	43.07	43.58	75.00	80.00	265.40	62.80
					G1	56.58	57.60	80.00	85.00	264.70	62.90
					G2P	57.60	57.78	85.00	90.00	267.10	62.80
					G2	57.78	58.78	90.00	95.00	267.20	62.60
					G3P	58.78	59.13	95.00	100.00	276.70	61.60
					G3	59.13	62.18	100.00	105.00	280.90	61.00
					G	56.58	62.18	105.00	247.50	277.80	61.30
					J	74.95	77.97				
					K1P	77.97	78.52				
					K1	78.52	79.10				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88003	1171.43	6094667.81	621309.94	120.42	OVER	0.00	17.60	0.00	120.42	51.70	90.00
					COAL	25.14	26.12				
					G1	41.05	43.84				
					G2P	43.84	44.20				
					G2	44.20	46.80				
					G3P	46.80	47.54				
					G3	47.54	52.62				
					G	41.05	52.62				
					J	81.76	86.43				
					K1P	86.43	86.85				
					K1	86.85	87.41				
					K2P	87.41	89.04				
					K2	89.04	90.82				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88004	814.20	6094804.78	624224.66	115.60	OVER	0.00	78.80	0.00	2.00	186.40	88.90
					K2	81.50	82.51	2.00	4.00	168.50	89.10
					K3P	82.51	83.24	4.00	6.00	95.50	88.90
					K3	83.24	83.56	6.00	8.00	168.90	89.90
								8.00	10.00	312.30	88.80
								10.00	12.00	185.40	89.00
								12.00	14.00	167.60	89.80
								14.00	16.00	184.90	89.10
								16.00	18.00	305.30	89.90
								18.00	20.00	336.00	89.40
								20.00	22.00	40.20	89.90
								22.00	24.00	199.10	89.00
								24.00	26.00	345.60	89.00
								26.00	28.00	78.40	89.00
								28.00	30.00	83.10	89.60
								30.00	32.00	201.10	89.70
								32.00	34.00	242.60	89.30
								34.00	36.00	110.90	89.60
								36.00	38.00	219.00	89.70
								38.00	40.00	85.80	89.40
								40.00	42.00	188.40	89.80
								42.00	44.00	239.00	89.80
								44.00	115.60	131.90	89.50

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88005	987.16	6094924.77	623402.79	147.06	OVER	0.00	1.50	0.00	5.00	237.80	89.10
					E3U	6.34	7.85	5.00	10.00	274.60	89.00
					E3PTG	7.85	8.08	10.00	15.00	224.40	88.50
					E3L	8.08	8.28	15.00	20.00	238.40	89.10
					E	6.34	8.28	20.00	25.00	251.70	88.40
					F1	32.57	33.26	25.00	30.00	244.70	88.20
					F2P	33.26	33.47	30.00	35.00	239.10	88.10
					F2U	33.47	35.61	35.00	40.00	247.60	88.40
					F2PTG	35.61	36.72	40.00	45.00	242.10	88.50
					F2L	36.72	38.30	45.00	50.00	243.30	88.40
					F	32.57	38.30	50.00	55.00	247.20	88.20
					G1	81.39	83.82	55.00	60.00	249.10	87.70
					G2P	83.82	84.11	60.00	65.00	249.80	87.50
					G2	84.11	85.71	65.00	70.00	245.80	87.40
					G3P	85.71	86.22	70.00	75.00	243.30	87.40
					G3	86.22	86.98	75.00	80.00	244.20	87.40
					G	81.39	86.98	80.00	85.00	236.90	87.40
					J	115.41	122.51	85.00	90.00	243.60	87.40
					K1P	122.51	125.34	90.00	95.00	244.90	87.30
					K1	123.85	125.34	95.00	100.00	245.80	87.40
					K2P	125.34	137.36	100.00	105.00	235.50	87.20
					K2	137.36	138.44	105.00	110.00	241.30	87.20
								110.00	115.00	238.60	87.10
								115.00	120.00	236.80	87.00
								120.00	125.00	234.90	86.90
								125.00	130.00	235.50	86.90
								130.00	135.00	239.20	86.90
								135.00	140.00	236.10	86.70
								140.00	147.06	237.20	86.80

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88006	1168.49	6094505.45	621847.87	73.76	OVER	0.00	1.50	0.00	5.00	95.60	63.30
					E3	6.37	7.90	5.00	10.00	93.70	63.10
					F1U	15.60	15.80	10.00	15.00	93.80	63.20
					F1	15.80	16.61	15.00	20.00	94.00	63.40
					F2P	16.61	17.05	20.00	25.00	92.00	62.00
					F2U	17.05	18.37	25.00	30.00	95.30	63.60
					F2PTG	18.37	19.31	30.00	35.00	95.30	64.30
					F2L	19.31	20.97	35.00	40.00	91.10	63.80
					F	15.66	20.97	40.00	45.00	92.50	63.50
					G1	34.11	34.92	45.00	50.00	92.80	63.70
					G2P	34.92	35.26	50.00	55.00	94.00	63.80
					G2	35.26	36.44	55.00	60.00	94.00	64.00
					G3P	36.44	36.78	60.00	65.00	93.20	64.00
					G3	36.78	38.25	65.00	73.76	92.20	63.80
					G	34.11	38.25				
					PTG	38.25	39.17				
					FLT	39.17	39.17				
					G3	39.17	40.90				
					J	65.29	69.95				
					K1P	69.95	71.04				
					K1	71.04	72.22				

(2)

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88007	778.71	6094857.37	624457.14	129.42	OVER	0.00	52.12	0.00	50.00	151.70	88.80
					F1	63.36	63.76	50.00	55.00	149.70	87.10
					F2P	63.76	63.94	55.00	65.00	147.30	87.50
					F2	63.94	67.76	65.00	75.00	165.80	88.00
					F	63.36	67.76	75.00	85.00	158.50	87.10
					G1	87.14	87.86	85.00	95.00	159.60	87.70
					G2P	87.86	88.18	95.00	105.00	173.80	88.20
					G2	88.18	88.91	105.00	115.00	185.80	87.80
					G3P	88.91	89.55	115.00	129.42	191.60	87.70
					G3	89.55	90.69				
					G	87.14	90.69				
					J	111.39	116.13				
					K1P	116.13	117.09				
					K1	117.09	119.61				
					K2P	119.61	123.51				
					K2	123.51	124.13				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88008	826.64	6095046.29	624356.10	195.80	OVER	0.00	36.27	0.00	195.80	51.70	90.00
					D1	64.34	65.20				
					D2P	65.20	65.54				
					D2	65.54	66.26				
					D	64.34	66.26				
					E3U	95.72	97.15				
					E3PTG	97.15	97.67				
					E3L	97.67	97.95				
					E3	95.72	97.95				
					E	95.72	97.95				
					F1U	120.44	120.63				
					F1	120.63	121.08				
					F2P	121.08	121.24				
					F2	121.24	124.42				
					F	120.63	124.42				
					G1	142.74	143.54				
					G2P	143.54	143.80				
					G2	143.80	144.66				
					G3P	144.66	145.00				
					G3	145.00	146.30				
					G	142.74	146.30				
					FAULT	159.10	159.78				
					J	175.86	159.78				
					K1P	159.78	181.16				
					K1	181.16	182.58				
					K2P	182.58	187.32				
					K2	187.32	187.96				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88009	828.72	6094925.76	624248.98	153.80	OVER	0.00	57.61	0.00	153.80	51.70	90.00
					E	62.16	62.52				
					F1	82.79	83.31				
					F2P	83.31	83.46				
					F2	83.46	87.47				
					F	82.79	87.47				
					G1	108.04	108.96				
					G2P	108.96	109.22				
					G2	109.22	109.87				
					G3P	109.87	110.15				
					G3	110.15	111.56				
					G	108.04	111.56				
					J	132.98	138.25				
					K1P	138.25	139.70				
					K1	139.70	140.92				
					K2P	140.92	145.90				
					K2	145.90	146.63				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88010	827.92	6094638.05	623985.61	91.74	OVER	0.00	59.44	0.00	91.74	51.70	90.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88011	779.57	6094780.64	624397.61	100.90	OVER	0.00	60.40	0.00	100.90	51.70	90.00
					J	80.96	86.16				
					K1P	86.16	87.07				
					K1	87.07	88.64				
					K2P	88.64	93.50				
					K2	93.50	94.21				
					COAL	96.10	96.28				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QHD88012	776.48	6094785.20	624763.91	107.59	OVER	0.00	53.64	0.00	107.59	51.70	90.00
					G1	65.20	66.06				
					G2P	66.06	66.32				
					G2	66.32	67.40				
					G3P	67.40	67.99				
					G3	67.99	69.25				
					G	65.20	69.25				
					J	94.92	99.66				
					K1P	99.66	100.96				
					K1	100.96	102.17				
					K2P	102.17	107.25				
					K2	107.25	107.83				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QHD89001	1305.05	6094965.93	621172.33	308.66	OVER	0.00	3.00	0.00	10.00	249.00	65.70
					E	56.10	60.20	10.00	20.00	250.50	65.50
					F1	158.52	162.77	20.00	30.00	253.20	65.00
					F2P	162.77	163.82	30.00	40.00	249.50	65.10
					F2A	163.82	167.90	40.00	50.00	249.30	65.20
					PTG	167.90	168.24	50.00	60.00	251.60	65.40
					F2B	168.24	169.29	60.00	70.00	250.60	65.20
					PTG	169.29	169.64	70.00	80.00	251.30	65.10
					F2C	169.64	175.24	80.00	90.00	249.50	64.90
					F2	163.82	175.24	90.00	100.00	246.70	64.90
					F	158.52	175.24	100.00	110.00	249.90	65.30
					G1	201.57	203.56	110.00	120.00	247.70	65.30
					G2P	203.56	204.16	120.00	130.00	250.60	65.70
					G2	204.16	206.27	130.00	140.00	252.00	65.00
					G3P	206.27	207.48	140.00	150.00	248.90	65.40
					G3	207.48	210.10	150.00	160.00	255.70	65.20
					G	201.57	210.10	160.00	170.00	243.00	65.60
					J	248.11	250.81	170.00	180.00	250.80	65.00
					FAULT	250.90	260.10	180.00	190.00	251.60	65.30
					COAL	251.77	252.60	190.00	200.00	250.70	65.60
					COAL	260.14	260.50	200.00	210.00	259.30	66.30
					COAL	263.49	264.90	210.00	220.00	246.30	66.20
					FAULT	267.60	268.30	220.00	230.00	250.40	66.60
					J	268.72	284.75	230.00	240.00	243.90	66.90
								240.00	250.00	247.90	66.80
								250.00	260.00	247.00	67.20
								260.00	270.00	241.20	68.00
								270.00	280.00	246.60	67.30
								280.00	290.00	256.10	67.40
								290.00	308.66	242.00	67.60

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth des	dip des
QHD89002	1256.73	6094828.12	621422.73	120.68	OVER	0.00	0.50	0.00	10.00	57.90	48.30
					F	23.61	24.17	10.00	15.00	58.90	48.30
					G1	47.34	47.94	15.00	20.00	60.00	48.30
					G2	47.94	48.97	20.00	25.00	60.90	48.50
					G3P	48.97	49.45	25.00	30.00	59.70	48.30
					G3	49.45	50.64	30.00	35.00	60.60	48.40
					G	47.34	50.64	35.00	40.00	59.00	48.40
					J	67.37	71.25	40.00	45.00	58.00	48.50
					K1P	71.25	72.14	45.00	50.00	60.70	48.50
					K1	72.14	73.60	50.00	55.00	59.00	48.50
					J&K1	67.37	73.60	55.00	60.00	58.70	48.60
					K2P	73.60	75.53	60.00	65.00	58.60	48.50
					K2	75.53	76.80	65.00	70.00	59.20	48.40
								70.00	75.00	58.70	48.30
								75.00	80.00	60.40	48.70
								80.00	85.00	57.50	49.10
								85.00	90.00	55.90	48.80
								90.00	95.00	57.50	48.80
								95.00	100.00	57.70	49.00
								100.00	105.00	57.50	48.90
								105.00	110.00	57.90	49.00
								110.00	115.00	56.10	48.80
								115.00	120.68	54.80	49.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMD86001	1510.87	6100003.47	614370.14	223.98	A1	9.16	9.46	0.00	10.00	172.90	88.90
					A2	15.85	16.23	10.00	20.00	172.00	88.90
					B	27.30	28.35	20.00	30.00	163.40	88.80
					FA	52.20	52.20	30.00	40.00	163.40	88.90
					FA	57.05	58.24	40.00	50.00	173.60	89.00
					C	59.14	62.18	50.00	60.00	185.90	89.10
					Q	77.00	77.00	60.00	70.00	177.00	89.10
					^	97.23	97.23	70.00	80.00	159.60	88.90
					CPRK	114.60	132.52	80.00	90.00	149.40	88.80
					D3	132.52	134.69	90.00	100.00	141.80	88.60
					D4	136.74	137.64	100.00	110.00	137.50	88.40
					E1	142.02	143.90	110.00	120.00	137.60	88.30
					E2	144.79	148.34	120.00	130.00	135.60	88.20
					E3	148.73	150.60	130.00	140.00	135.30	87.90
					E3	152.11	152.90	140.00	150.00	135.30	87.70
					E	154.29	163.32	150.00	160.00	133.40	87.60
					E4	154.78	155.83	160.00	170.00	134.50	87.50
					G2	166.00	167.18	170.00	180.00	140.90	87.40
					J1	193.28	198.58	180.00	190.00	141.00	87.30
					J2	199.05	200.65	190.00	200.00	140.90	87.10
					J3	201.70	202.28	200.00	210.00	148.80	87.10
					J	193.28	202.28	210.00	220.00	145.90	87.10
								220.00	224.10	143.00	87.00

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMD88003	1302.30	6100962.80	613524.60	232.20	OVER	0.00	3.00	0.00	232.20	268.70	60.00
					KCH	3.00	24.00				
					B	69.69	70.38				
					CPRK	178.27	178.68				
					D3	178.68	180.21				
					D4	181.57	182.64				
					D	178.68	182.64				
					FAULT	184.48	185.00				
					CPRK	185.00	185.38				
					D3	185.38	187.52				
					D4P	187.52	189.40				
					D4	189.40	190.38				
					E1	195.74	199.38				
					FAULT	199.55	199.56				
					E1	199.56	207.66				
					E2P	207.66	208.40				
					E2	208.40	212.07				
					E3P	212.07	212.57				
					E3U	212.57	213.87				
					FAULT	213.87	213.88				
					E2	213.88	216.69				
					E3P	216.69	216.83				
					E3U	216.83	218.56				
					E3PTG	218.56	222.04				
					E3L	222.04	223.14				
					E4	225.00	225.35				

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMD08004	1430.19	6100180.45	614348.19	212.50	"	16.40	16.40	0.00	10.00	328.20	88.10
					CPRK	38.50	66.20	10.00	20.00	328.20	88.10
					D3	66.20	68.40	20.00	30.00	342.90	88.40
					D4	70.50	71.60	30.00	40.00	356.50	88.70
					Eo	73.50	74.70	40.00	50.00	315.10	88.30
					E1	76.70	79.90	50.00	60.00	310.60	88.30
					E2	80.80	85.80	60.00	70.00	307.70	88.30
					FA	86.40	86.40	70.00	80.00	305.70	88.60
					E2	86.40	88.10	80.00	90.00	323.60	88.60
					E3	88.70	90.70	90.00	100.00	10.30	88.20
					E3L	94.40	95.70	100.00	110.00	354.80	89.00
					E4	98.70	100.30	110.00	120.00	351.90	88.40
					G	114.40	116.20	120.00	130.00	13.10	88.60
					J1	167.10	177.20	130.00	140.00	325.40	88.80
					J2	177.50	179.40	140.00	150.00	24.20	86.90
					J3	180.40	181.70	150.00	160.00	33.30	86.40
					COAL?	184.80	185.30	160.00	170.00	34.90	86.40
					COAL?	188.60	189.00	170.00	180.00	35.90	86.40
								180.00	190.00	38.60	86.60
								190.00	200.00	46.00	87.00
								200.00	210.00	48.40	87.60
								210.00	212.00	54.60	87.70

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMD09501	947.17	6101941.72	613011.93	172.50	OVER	0.00	2.00	0.00	6.00	149.80	87.90
					B	18.32	19.73	6.00	11.00	157.50	87.80
					CPRK	68.40	86.10	11.00	16.00	165.00	87.90
					D3	86.67	88.78	16.00	21.00	159.80	88.10
					D4P	88.78	89.11	21.00	26.00	158.00	88.30
					D4U	89.11	89.27	26.00	31.00	162.20	88.20
					D4	89.60	90.30	31.00	36.00	155.50	88.40
					D	86.67	90.30	36.00	41.00	154.00	88.50
					E0	91.53	93.63	41.00	46.00	158.00	88.50
					E1P	93.63	95.00	46.00	51.00	167.70	88.40
					E1	95.00	97.63	51.00	56.00	151.20	88.00
					E2P	97.63	98.62	56.00	61.00	156.60	88.10
					E2	98.62	101.35	61.00	66.00	155.60	88.30
					E3P	101.35	101.75	66.00	71.00	161.20	88.40
					E3U	101.75	103.44	71.00	76.00	160.50	88.40
					E3PIG	103.44	107.35	76.00	81.00	165.70	88.50
					E3L	107.35	108.09	81.00	86.00	157.10	88.60
					E4P	108.09	110.20	86.00	91.00	170.30	88.40
					E4	110.20	110.55	91.00	96.00	167.10	88.90
					G	136.92	137.76	96.00	101.00	158.40	88.70
					J	155.05	162.50	101.00	106.00	175.60	89.00
								106.00	111.00	175.10	88.90
								111.00	116.00	185.10	89.00
								116.00	121.00	225.90	89.50
								121.90	126.00	251.30	89.40
								126.00	131.00	203.70	88.90
								131.00	136.00	200.50	88.90
								136.00	141.00	225.70	89.30
								141.00	146.00	229.00	89.30
								146.00	151.00	243.10	89.30
								151.00	156.00	244.40	89.20
								156.00	161.00	242.80	88.90
								161.00	166.00	229.80	88.90
								171.00	172.50	225.60	88.70

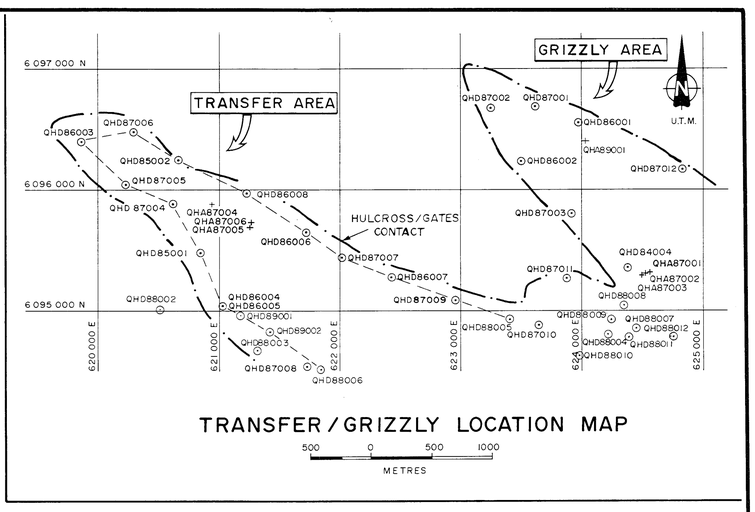
Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
QMD89502	1154.09	6101191.93	613205.07	218.88	OVER	0.00	2.00	0.00	9.00	264.20	60.00
					CPRK	103.30	109.87	9.00	14.00	269.30	59.90
					D3	109.87	111.80	14.00	19.00	268.10	59.90
					D4P	111.80	112.16	19.00	24.00	268.00	60.10
					D4	112.16	113.93	24.00	29.00	267.70	60.10
					D	109.87	113.93	29.00	34.00	269.10	60.10
					E0	115.10	117.34	34.00	39.00	268.60	60.20
					E1P	117.34	118.73	39.00	44.00	268.60	60.10
					E1	118.73	122.62	44.00	49.00	268.60	60.20
					FAULT	123.04	123.21	49.00	54.00	268.40	60.10
					E1	123.21	124.23	54.00	59.00	268.40	60.10
					E2P	124.23	124.61	59.00	64.00	268.80	60.20
					E2	124.61	128.45	64.00	69.00	268.80	60.30
					E3P	128.45	128.78	69.00	74.00	269.00	60.30
					E3U	128.78	130.46	74.00	79.00	269.30	60.30
					E3PTG	130.46	133.74	79.00	84.00	269.20	60.30
					FAULT	133.74	133.75	84.00	89.00	269.80	60.30
					E3U	133.75	134.39	89.00	94.00	270.00	60.30
					E3PTG	134.39	137.83	94.00	99.00	270.20	60.20
					E3L	137.83	138.65	99.00	104.00	270.10	60.20
					FAULT	138.65	138.89	104.00	109.00	269.90	60.10
					E3L	138.89	139.35	109.00	114.00	269.70	60.10
					E4P	139.35	141.45	114.00	119.00	268.20	60.00
					E4	141.45	141.95	119.00	124.00	268.60	60.00
					FAULT	153.64	156.98	124.00	129.00	270.40	60.00
					E4L	163.53	163.85	129.00	134.00	270.50	60.10
					G	175.87	176.75	134.00	139.00	269.00	60.10
					J	199.33	208.51	139.00	144.00	267.50	60.00
								144.00	149.00	269.20	60.00
								149.00	154.00	267.00	59.80
								154.00	159.00	269.90	60.00
								159.00	164.00	268.10	60.10
								164.00	169.00	268.40	60.00
								169.00	174.00	269.80	60.00
								174.00	179.00	267.80	60.00
								179.00	184.00	270.00	59.90
								184.00	189.00	267.90	59.90
								189.00	194.00	269.20	59.90
								194.00	199.00	269.40	59.90
								199.00	204.00	268.60	59.90
								204.00	209.00	272.60	60.00
								209.00	214.00	258.50	60.10
								214.00	218.88	269.60	60.20

Hole	Elevation m	Northing UTM	Easting UTM	Depth m	Seam	From m	To m	Dev. From	Dev To	Azimuth deg	dip deg
GMD09503	1261.44	6100743.42	613692.71	185.08	OVER	0.00	3.00	0.00	14.00	264.20	71.50
					D3	81.55	87.17	14.00	24.00	261.40	71.30
					D4P	87.17	88.84	24.00	29.00	270.20	71.80
					D4	88.84	92.09	29.00	34.00	263.00	71.40
					D	81.55	92.09	34.00	39.00	263.40	71.60
					E0	94.35	99.35	39.00	44.00	265.20	71.80
					E1P	99.35	100.92	44.00	49.00	263.50	71.90
					E1	100.92	107.44	49.00	54.00	262.90	71.60
					E2P	107.44	108.37	54.00	59.00	263.50	71.50
					E2	108.37	113.30	59.00	64.00	263.40	71.60
					E3P	113.30	113.80	64.00	69.00	264.60	71.60
					E3U	113.80	114.72	69.00	74.00	264.30	71.50
					E3PTG	114.72	118.68	74.00	79.00	265.00	71.60
					E3L	118.68	119.64	79.00	84.00	269.20	71.70
					E4P	119.64	122.18	84.00	89.00	262.00	72.20
					E4	122.18	123.45	89.00	94.00	263.20	71.60
					G	134.60	136.61	94.00	99.00	263.30	71.60
					J	167.97	174.22	99.00	104.00	261.70	71.30
								104.00	109.00	264.90	71.50
								109.00	114.00	262.40	71.50
								114.00	119.00	267.00	71.40
								119.00	124.00	265.40	71.40
								124.00	129.00	264.10	71.40
								129.00	134.00	263.60	71.40
								134.00	139.00	263.80	71.30
								139.00	144.00	264.80	71.30
								144.00	149.00	263.80	71.30
								149.00	154.00	264.50	71.20
								154.00	159.00	264.40	71.20
								159.00	164.00	265.30	71.20
								164.00	169.00	265.10	71.30
								169.00	174.00	268.80	71.30
								174.00	179.00	264.60	71.20
								179.00	185.08	265.80	71.10

Appendix T.3
1989 Geological Report
Correlation Charts

Appendix T.3.1
Transfer Gates Correlation

TRANSFER AREA



TRANSFER/GRIZZLY LOCATION MAP

500 0 500 1000
METRES

LITHOLOGIC SYMBOLS

CONGLOMERATE	CGL
COARSE SANDSTONE	CS
MEDIUM SANDSTONE	MS
FINE SANDSTONE	FS
VERY FINE SANDSTONE	VFS
SANDY SHALE	SSH (SILTSTONE)
COARSE SHALE	CHSH (SILTY CLAYSTONE)
SHALE	SH (CLAYSTONE)
DARK GREY SHALE	DKGRSH (CARBONACEOUS > 60% ASH)
DARK SHALE	DKSH (50 - 60 % ASH)
COALY SHALE	CSH (40 - 50 % ASH)
COAL / ROCK	CD (30 - 40 % ASH)
COAL	CC (20 - 30 % ASH)
COAL	CB (10 - 20 % ASH)
COAL	CA (<10 % ASH)

QHD 85002
QHD 87005
HULCROSS
GATES
QHD 86003
QHD 87006
B SEAM
QHD 89001
QHD 85001
QHD 86005
QHD 87004
QHD 86008
QHD 86007
CAPROCK
D SEAM
E3 SEAM
FAULT
QHD 87007
QHD 88005
QHD 87009
QHD 86006
QHD 88006
QHD 89002
F SEAM
FAULT ZONE
G SEAM
J SEAM
KI SEAM
K2 SEAM

LEGEND

COAL THICKNESS (m)
0.99
1.14
TOTAL SEAM THICKNESS (m)
INDICATES TOTAL DEPTH IS DEEPER THAN INDICATED

5 0 5 10
METRES (VERTICAL)

Rev	D	M	Y	Revision Description	Drn	Des	App
3	20	03	90	UPDATED	DJW	NH	DJ
2	22	11	89	ADD 1989 DATA	DKL	NH	DJ
1	28	02	89	UPDATED	DKL	NH	DJ
0	17	03	88	ORIGINAL DRAFT	KJV	NH	DJ

QUINTETTE COAL LIMITED
Project Manager
DENISON MINES LIMITED
COAL DIVISION

Area TRANSFER | Category CORRELATION

Drawing Title

TRANSFER AREA
GATES CORRELATION

Scale 1:200 | Drawing No. 88-903-26-001 | Rev. 3

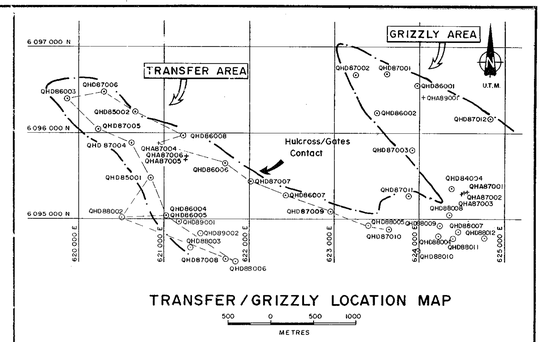
753

Appendix T.3.2

Transfer Seam Correlation

(2 sheets)

TRANSFER AREA



TRANSFER / GRIZZLY LOCATION MAP

500 0 500 1000
METRES

QHD86005 QHD85001 QHD87004 QHD87005 QHD86003 QHD87006 QHD85002 QHD86008

D SEAM

QHD 88002

QHD 88005 QHD87010

EI AND E2 SEAMS

E3 SEAM

QHD 88006 QHD 88002 QHD85001 QHD87004 QHD87005 QHD86003 QHD87006 QHD85002 QHD86008 QHA87004 (ADIT-1989 SAMPLE) QHD86006 QHD87007 QHD87009 QHD88005

F SEAM

*OMITTED PORTION : 3.00 METRES (TRUE THICKNESS) OF SHALE AND COARSE SHALE

*OMITTED PORTION : 2.0 METRES (TRUE THICKNESS) SHALE AND COARSE SHALE

*OMITTED PORTION : 1.0 METRES (TRUE THICKNESS) OF COARSE SHALE AND GREY SHALE

FAULT

LITHOLOGIC SYMBOLS

MISSING ROCK		MR	
CONGLOMERATE		CGL	
COARSE SANDSTONE		CS	
MEDIUM SANDSTONE		MS	
FINE SANDSTONE		FS	
VERY FINE SANDSTONE		VFS	
SANDY SMALE		SSH (SILTSTONE)	
COARSE SHALE		CRSH (SILTY CLAYSTONE)	
SHALE		SH (CLAYSTONE)	
DARK GREY SHALE		DKGRSH (CARBONACEOUS > 60% ASH)	
DARK SHALE		DKSH (50 - 60% ASH)	
COALY SHALE		CSH (40 - 50 % ASH)	
COAL / ROCK		CD (30 - 40 % ASH)	
COAL		CC (20 - 30 % ASH)	
COAL		CB (10 - 20 % ASH)	
COAL		CA (<10 % ASH)	
MISSING COAL		MC	

LEGEND

ROCK THICKNESS(m) AND LITHOLOGY

COAL THICKNESS(m) AND DESIGNATION

COAL THICKNESS(m)

TOTAL SEAM THICKNESS(m)

1 0.5 0 1 2 3
METRES (vertical)

Rev.	D	M	Y	Revision Description	Drn.	Des.	App.
2	14	05	89	AS-BUILT PLOT	DKI	NH	DJ
1	28	09	88	UPDATED	DKI	NH	DJ
0	04	04	88	ORIGINAL DRAFT	ET	NH	DJ

QUINTETTE COAL LIMITED

Project Manager
DENISON MINES LIMITED
COAL DIVISION

Area TRANSFER | Category CORRELATION

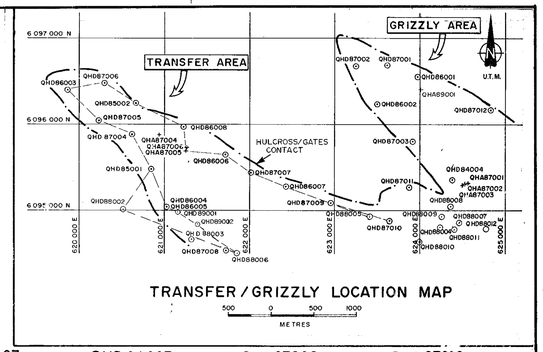
Drawing Title

TRANSFER AREA
DETAILED SEAM CORRELATION
D, E AND F SEAMS

753

Scale	Drawing No.	Rev.
1:50 (vert.)	88-903-26-002	2

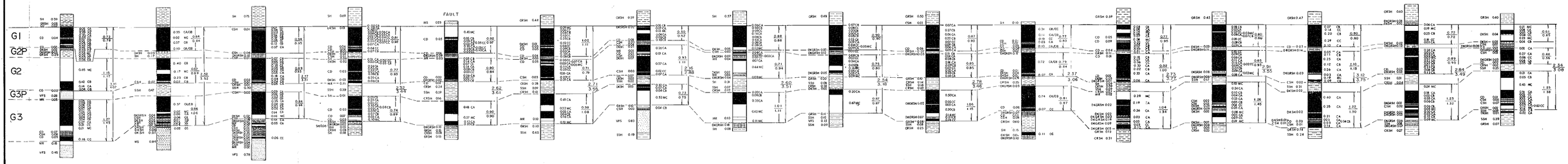
TRANSFER AREA



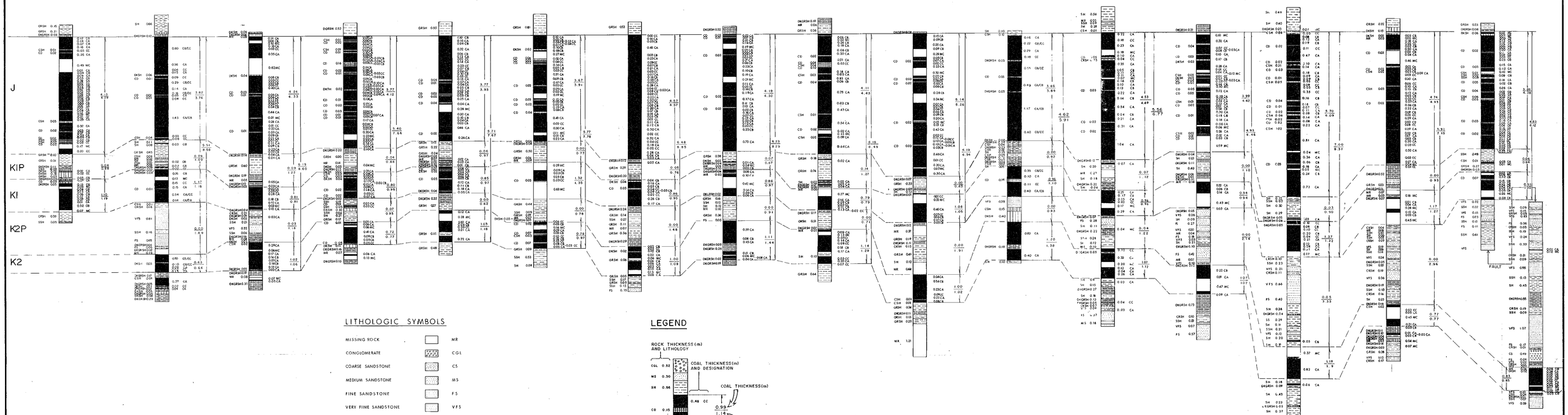
TRANSFER / GRIZZLY LOCATION MAP

500 0 500 1000
METRES

QHD 88006 QHD 89001 QHD 88002 QHD85001 QHD 87004 QHD87005 QHD86003 QHD87006 QHD85002 QHD 86008 QHA87006 (ADIT-1989 SAMPLE) QHD 86006 QHD87007 QHD 86007 QHD87009 QHD87010



QHD 88006 QHD 89002 QHD86005 QHD85001 QHD 87004 QHD87005 QHD86003 QHD87006 QHD85002 QHD 86008 QHA 87005 (ADIT-1989 SAMPLE) QHD 86006 QHD87007 QHD 86007 QHD87009 QHD88005



LITHOLOGIC SYMBOLS

MISSING ROCK		MR
CONGLOMERATE		CGL
COARSE SANDSTONE		CS
MEDIUM SANDSTONE		MS
FINE SANDSTONE		FS
VERY FINE SANDSTONE		VFS
SANDY SHALE		SSH (SILTSTONE)
COARSE SHALE		CRSH (SILTY CLAYSTONE)
SHALE		SH (CLAYSTONE)
DARK GREY SHALE		DKGRSH (CARBONACEOUS > 60% ASH)
DARK SHALE		DKSH (50 - 60 % ASH)
COALY SHALE		CSH (40 - 50 % ASH)
COAL / ROCK		CD (30 - 40 % ASH)
COAL		CC (20 - 30 % ASH)
COAL		CB (10 - 20 % ASH)
COAL		CA (< 10 % ASH)
MISSING COAL		MC

LEGEND

1 0 1 2
METRES (VERTICAL)

753

Rev.	D	M	Y	Revision Description	Drn.	Des.	App.
2	14	11	89	ADD 1989 ADIT SAMPLES & CORE HOLES	DKL	NH	DJ
1	28	02	89	UPDATED	DKL	NH	DJ
0	24	03	88	ORIGINAL DRAFT	ET	DJ	DJ

QUINTETTE COAL LIMITED

Project Manager
DENISON MINES LIMITED
COAL DIVISION

Area TRANSFER | Category CORRELATION

Drawing Title

TRANSFER AREA
DETAILED SEAM CORRELATION
G, J AND K SEAMS

Scale	Drawing No.	Rev.
1 : 50 (vert.)	88 - 903 - 26 - 003	2