

ALBERTA GEOLOGICAL SURVEY - COAL GEOLOGY

COAL COMPILATION PROJECT - CARDINAL RIVER

NTS 83C/15

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**Coal Compilation Project
Open File Report: 1992-7
Minerals and Coal Geoscience Section
Alberta Geological Survey**

TABLE of CONTENTS

Foreword	i
Acknowledgments	ii
Introduction	1
Project Objective	1
Background	1
Process	1
Results	2
Location and Access	4
Geological Setting	4
Stratigraphy of Coal-Bearing Units	5
Luscar Group - Gates Formation	5
Brazeau Formation	6
Coalspur Formation	6
Structure	6
Environmental Setting	7
Integrated Resource Plans (IRP's)	7
Resource Management	7
Coal Dispositions	7
Established Coal Resources and Reserves	7
Exploration History	8
Coal	8
Coal Exploration Drillholes	8
Oil and Gas	9
Coal Occurrences	10
Coal Exploration Drillholes	10
Coal Outcrops	11
Palynology	11
Coal Quality Summary	12
Coal Rank	12
Coal Exploration Drillholes	12
Operating and Abandoned Coal Mines	12
Coal Bed Methane (CBM) Resource Potential	13
Coal Resource Development Potential	15
Coal Potential	15
Resources	15
Coal Quality	15
Mining Potential	15
Overburden	15

Geotechnical	15
Data Availability	16
Future Work	16
References	17

LIST of FIGURES

	<i>Page</i>
Figure 1. Coal Compilation Project (CCP) - Completed NTS Mapsheets	3
Figure 2. Stratigraphic Nomenclature for the Coal Compilation Project - Mountains and Foothills of North-Central Alberta (after ERCB ST 92-31)	5
Figure 3. Gas Generation in Coal	13

LIST of APPENDICES

- Appendix 1. 83C/15 - Coal Drillholes
- Appendix 2. 83C/15 - Oil and Gas Wells: Status and Formation Tops
- Appendix 3. 83C/15 - Coal Intersections of the Coal Drillholes
- Appendix 4. 83C/15 - Palynological Analysis of AGS Samples Collected in 1993

LIST of MAPS

ALBERTA RESEARCH COUNCIL MAP RCM13 (in pocket)

Foreword

The prime objective of the three year pilot Coal Compilation Project (CCP), initiated in the 1989/90 fiscal year (FY), is to provide coal resource maps to stimulate and support industry exploration programs, and assist government in matters of resource management. An essential feature of the program is the use of cost effective Geoscience Information System (GSIS) technology that allows the database and various thematic maps to be analyzed, updated, and displayed with complete flexibility at any scale.

Each map is intended to be a stand alone, unique product contributing to an overall synthesis of information. Maps generated are at a regional or reconnaissance level. Collection of new data is limited. Data compiled and evaluated are based on Alberta and Federal government sources and unpublished corporate reports and data from the coal industry. The coal industry has cooperated and supported the CCP by providing numerous unpublished corporate reports to the Alberta Geological Survey (AGS). The availability of these reports has been an essential component toward the success of this project.

To the end of the 1991/92 FY, the CCP encompasses fifteen 1: 50 000 scale mapsheets. Four mapsheets were completed during the 1989/90 FY, five during the 1990/91 FY and an additional six during the past 1991/92 FY.

Custom maps and database searches can be obtained by contacting the Minerals and Coal Geoscience Section, Alberta Geological Survey, Alberta Research Council. Raw coal exploration data¹ that are in the 'public' domain can, for a nominal fee, be viewed in microfiche form at the Records Centre of the Energy Resources Conservation Board (ERCB) in Calgary, Alberta. Arrangements can also be made to acquire copies of all/selected data.

¹Specifically, the geophysical logs (and other associated data) of coal exploration drillholes and, as available, analytical data relating to coal quality.

Acknowledgments

The project is funded by the Alberta Department of Energy and the Alberta Research Council. The Alberta Geological Survey Coal Program Technical Advisory Committee provided valuable guidance for the project.

D. Goulet assisted with map digitization and data entry. Maps and text were reviewed and constructive comments were provided by Rick Marsh of the Coal Department of the ERCB.

Esso Resources Canada Limited, especially former staff members G. Ockert and D. Hallas, are thanked for making unpublished reports/data available to the Alberta Geological Survey.

Introduction

Project Objective

The stated objective of the pilot Coal Compilation Project (CCP), initiated in the 1989/90 FY, is to provide coal resource maps on a 1: 50 000 scale, which would

- stimulate and support industry exploration programs, and
- assist government in matters of resource management (eg, Integrated Resource Plans) in areas that may have good coal development potential, but have a lack of data or understanding.

Background

The idea for a new coal geology map series spawned from a 1986 AGS questionnaire that was sent to the industry sector and government agencies in both Canada and the USA. Questionnaire responses identified the need to revamp the dated and/or complete lack of coal geology maps, particularly in the Mountains and Foothills regions of Alberta.

In 1989, the concept of merging resident computer mapping techniques with available Geographic Information System (GIS) technology, was successfully tested at the AGS during a pilot Geoscience Information System (GSIS) project. Current maps, costing much less than traditional mapping procedures, could be produced.

Commencing in the 1989/90 FY, the AGS' Coal Program Technical Advisory Committee (CPTAC) supported the concept, and a 3 year project with a sixteen map goal.

Process

The use of GIS technology and the focus on data compilation with only minimal field work, in opposition to traditional field work and data gathering, was a totally new and untried concept. Within industry and government files, there were many more data than initially expected. The data had been collected over many years and at different levels of precision, integrity and for a wide variety of purposes. Little of the data, excepting that within AGS and ERCB databases, was in an electronic format; further, most data had not been collected in consideration of modern database specifications. Limited budgets, field time and difficult terrain minimized 'ground truthing'. Staff training was required during the first two years of the program. In the early stages of the program, GIS platform limitations (hardware/software/connectivity) provided additional non-geological technical challenges.

Map areas were selected at the annual meeting of the CPTAC. As mapsheet areas were identified, data gathering commenced with a literature search and identification of possible data sources. AGS reports, internal files and electronic databases provide primary information. The ERCB is a major source of information for both coal and oil/gas data. Much of the fundamental geologic information used in the CCP maps comes from mapping by the Geological Survey of Canada. Information fundamental to the effectiveness of the CCP maps comes from industry reports and files. Every effort is made to acquire information from industry and to incorporate it into the CCP maps and reports in a way that does not compromise corporate confidentiality.

Due to tight schedules and limited budgets, time spent in the field, to gather new data and/or verify existing data, is minimal.

When available geologic information is combined with base map information² within a GIS, the generation of a product begins. In general both digital and hard copy data or graphic elements are entered into the GIS software product (ARC/INFO) where they are analyzed, displayed or plotted to hardcopy. Custom maps are produced from the various data and graphic elements in the information system.

The analytical power of GIS modelling is not extensively explored; the project's primary focus is on producing new maps as rapidly as possible. However, since the information is stored within a fully functional GIS, all modelling capabilities, beyond the scope of the Project, are available for the future. The GIS technology has been used, however, to produce a simple evaluation of the Coal Resource Development Potential of each mapsheet. The model, based on limited data, is a semiquantitative and subjective evaluation of the potential of coal development within a map area. The model is primarily based on geological criteria and does not take into account governmental restrictions and/or actual economic constraints on coal development.

Results

To the end of the 1991/92 FY the CCP encompasses fifteen NTS mapsheets from the Alberta Mountains and Foothills regions (Figure 1). For each mapsheet, the CCP product includes a coal

² Including digital map data from the Alberta Department of Forestry Lands and Wildlife.

resource map (scale 1:50 000), thematic snapshot maps (scale 1:250 000) and accompanying text. The snapshot maps depict data relating to differing subject areas, including coal exploration data, coal dispositions, coal development potential and an index to specific reference documents.

In 1989/90, the CCP focussed on the Hinton - Grande Cache Corridor, located in west-central Alberta. Four contiguous NTS mapsheets were completed. From southeast to northwest, they are 83F/5, 83E/9, 83E/14 and 83E/15. During 1990/91, the second year of the project, focus was on the area north of Grande Cache (83L/2, 83L/3, 83L/7, and 83L/10). An additional map, 83E/16, located east of Grande Cache, and in the Berland River area, was also completed. Six maps were completed during 1991 / 92; four maps (83F/4, 83C/9, 83C/15 and 83C/16) continue the coverage south from Hinton and two maps are in the Crowsnest Pass

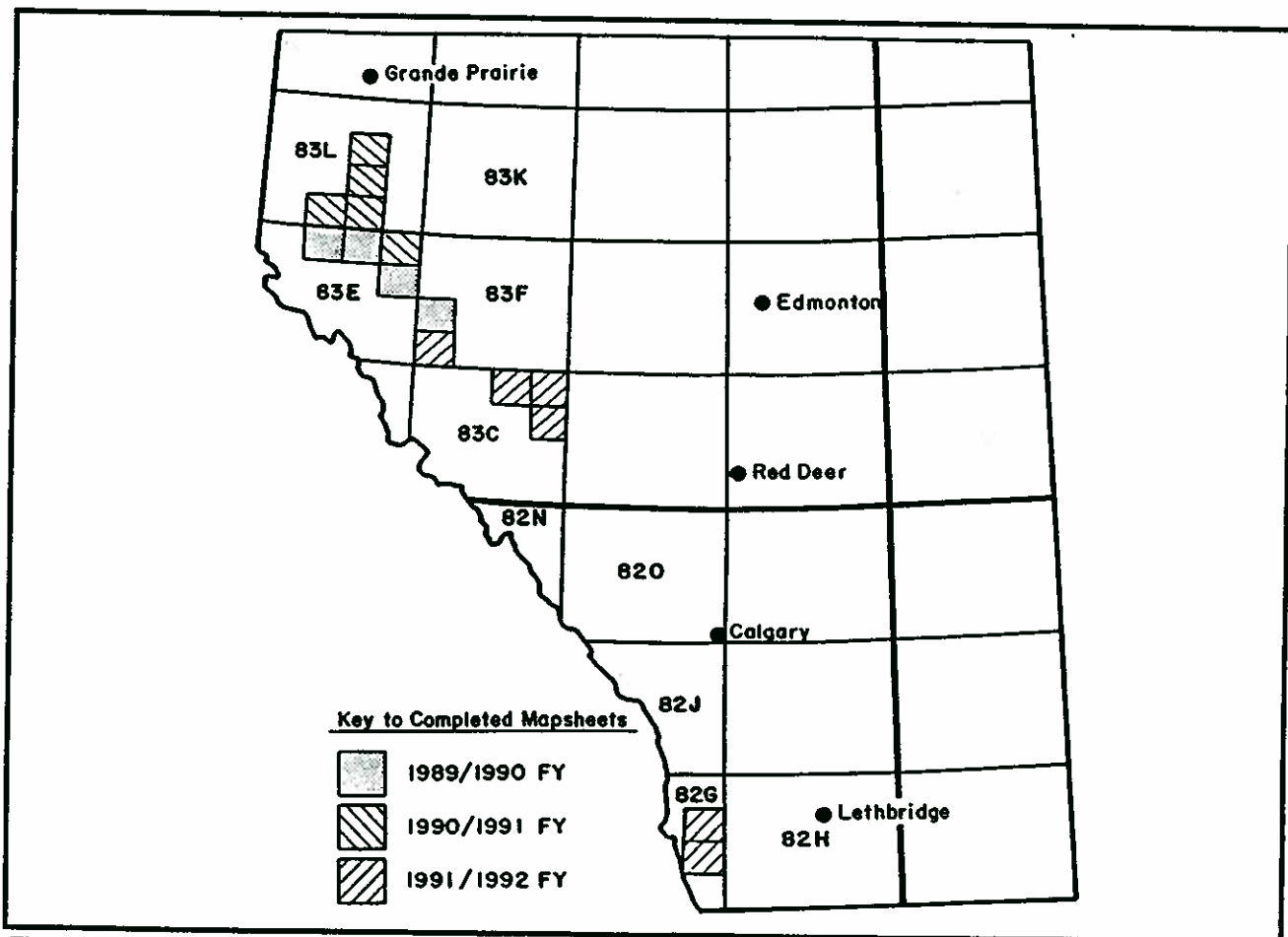


Figure 1 Coal Compilation Project (CCP) - Completed NTS Mapsheets

area (82G/8 and 82G/9).

Funding for the CCP will continue for the 1992/93 FY; an additional four mapsheets will be completed.

* * * * *

Location and Access

The study area of mapsheet NTS 83C/15 (Cardinal River) is located in west-central Alberta between Latitudes 52° 45' and 53° 00' North, and Longitudes 116° 30' and 117° 00' West (between Townships 43 and 46 inclusive, and Ranges 18 to 21 inclusive, West of the 5th Meridian).

A Treaty Indian encampment, Small Boys Camp, is located along the Grave Flats road. Nordegg (83C/8) and Robb (83F/2) are the closest communities to the mapsheet area. Robb is located some 50 road-kilometres northwest of the mapsheet's north boundary; Nordegg is located some 60 road-kilometres southeast of the mapsheet's eastern boundary.

All-weather access, to and within the area, is provided by the Forestry Trunk Road (Secondary Highway 940). The secondary highway passes through the northeast quarter of the mapsheet. Additional secondary access, in part, seasonal, is provided by a network of wellsite and logging roads, trails and seismic lines.

There is no existing rail service within the mapsheet area; the closest in-service rail line is located some 10 kilometres northwest of the north boundary of the mapsheet. The existing rail service (Canadian National Railways) terminates at the Coal Valley Mine operated by Luscar Ltd.; the rail line has the capacity to accommodate coal unit trains. Coal ports at

- Vancouver are located some 1100 rail-kilometres west from the Coal Valley Mine
- Thunder Bay are located some 2280 rail-kilometres east from the Coal Valley Mine.

Geological Setting

Within the mapsheet 83C/15 (Cardinal River), coal measures are deposited within thick successions of primarily sandstones, siltstones and shales. Known coal-bearing sequences are

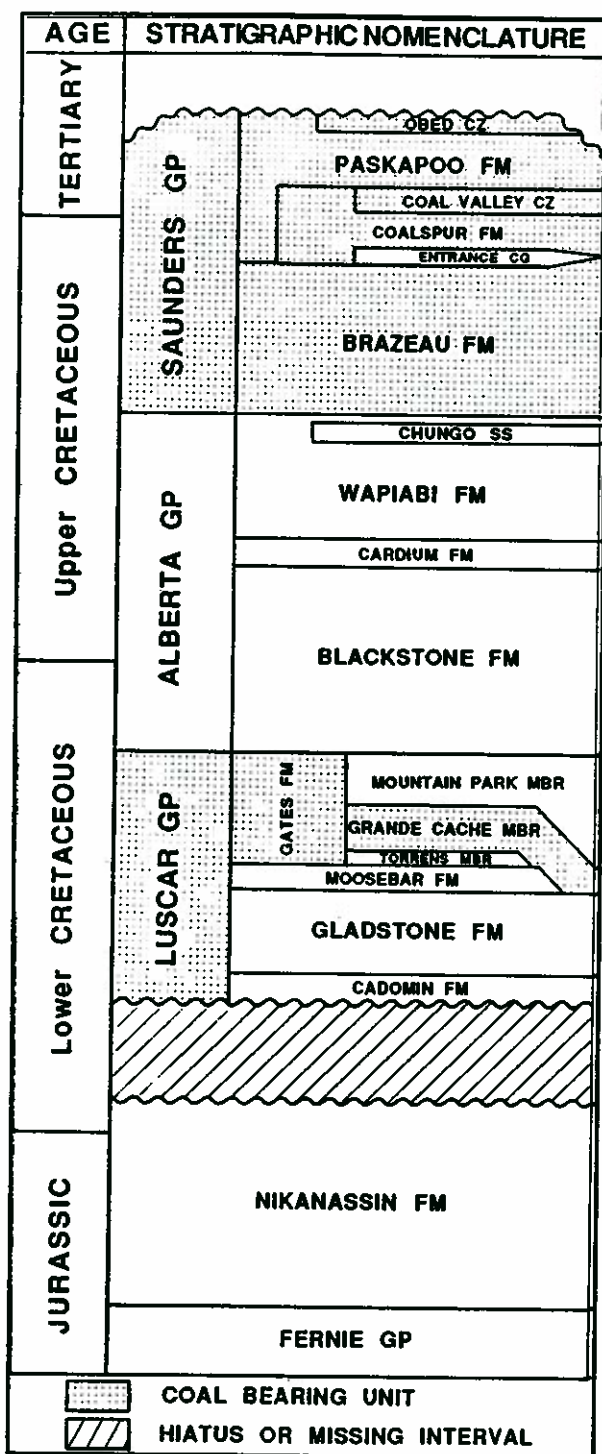


Figure 2 Stratigraphic Nomenclature for the Coal Compilation Project - Mountains and Foothills of North-Central Alberta (after ERCB ST 92-31)

contained within the Gates Formation of the Lower Cretaceous Luscar Group, and in the Brazeau and Coalspur formations of the Upper Cretaceous / Tertiary Saunders Group.

Stratigraphic nomenclature for the above strata is shown in Figure 2.

Stratigraphy of Coal-Bearing Units

Luscar Group - Gates Formation

The Luscar Group is some 400 to 600 metres thick and consists of sandstones, siltstones, shales, conglomerates and coals, predominantly deposited in nonmarine environments. Strata of the Luscar Group have been divided into four formations (Langenberg and McMechan, 1985). In ascending order, they are the:

- Cadomin Formation, alluvial conglomerates
- Gladstone Formation, predominantly alluvial sandstone, shale and minor coal
- Moosebar Formation, marine shale and minor sandstone
- Gates Formation, mainly nonmarine sandstones, shales and coals.

The Gates Formation is ~350 metres thick and can be divided into three members. In ascending order, they are the

- basal Torrens Member, shoreface sandstones
- Grande Cache Member, coastal plain sandstones, shales and major economic coal seams
- Mountain Park Member, fluvial sandstones, shales and minor coals.

Defining the upper and lower boundaries of the coal-bearing Grande Cache Member can be difficult within, and in close proximity to, the mapsheet area; the Grande Cache Member is believed to be some 110 metres thick and may contain in excess of 5 metres of coal in 4 main seams.

Brazeau Formation

The Brazeau Formation is ~1200 metres thick and consists of primarily nonmarine sandstone, conglomerate, shale and thin coal seams; it should be noted, however, that thicker coal zones (with as-drilled thicknesses to 13 metres) have also been recorded; these thicker Brazeau coal zones are located near the top of the Formation.

Coalspur Formation

The Coalspur Formation consists of ~600 metres of sandstones, shales and economic coals, predominantly deposited in nonmarine environments.

Structure

For most of the mapsheet, strata of the coal-bearing formations have been subjected to deformation which has produced northwesterly trending thrust faults and folds. As a result, the strata are exposed in a series of northwest trending thrust sheets.

In the southwest half of the mapsheet, strata of the coal-bearing Luscar Group are transected by a number of west dipping faults, including the Nikanassin and Grave Flats thrusts; in the northeast half of the mapsheet, strata of the coal-bearing Brazeau and Coalspur formations are transected by a number of faults, including the west dipping Brazeau and Ancona thrusts, and by the east dipping Pedley Thrust.

The axis of the (overturned) Brazeau Syncline traverses the mapsheet in a northwesterly / southeasterly trend; the axial trace, in part, is located very close to the northwest corner of the mapsheet.

Environmental Setting

Integrated Resource Plans (IRP's)

Mapsheet 83C/15 contains two existing Sub-Regional IRP's; they are the

- Coal Branch
- Nordegg - Red Deer River

Outlines of the two IRP's are presented on an inset on the enclosed map RCM13.

Resource Management

Coal Dispositions

The status of the rights_to_coal within an area can generally be categorized into one of the following

- Crown coal lease
- Crown coal lease under application
- Areas with registered right of first refusal
- Freehold coal rights
- Coal withdrawn from disposition.

According to a recent (1990-03-30) Alberta Energy Coal Disposition Map, there are substantial corporate coal land holdings on the 83C/15 mapsheet.

Dentherm Resources Limited holds coal leases. Luscar Ltd. holds coal leases and coal lease applications; Shell Canada Limited holds only coal lease applications.

There are also freehold land parcels and areas with registered right of first refusal.

Established Coal Resources and Reserves

Coal reserves are calculated by the ERCB for the whole of Alberta. The mapsheet contains coal fields from both the ERCB-designated Mountains and Foothills regions.

In part, the Southesk River Coal Field is contained within the CCP mapsheet 83C/15. The coal field, containing coal of the Luscar Group, is part of the ERCB-designated 'Mountain Region'. The mapsheet also contains, within the Mountain Region, the Grave Flats and Muskiki Lake 'Coal Occurrences'. These coal occurrences are also part of the Luscar Group.

The Coalspur and McLeod River coal fields are, in part, also contained within the CCP mapsheet 83C/15 (Cardinal River). The coal fields, containing coal of the Coalspur Formation, are part of the ERCB-designated 'Foothills Region'.

Only the Coal Field outlines have been shown on the GIS plot.

Exploration History

Coal

Coal Exploration Drillholes

Some 489 coal exploration holes³ have been drilled by 6 companies. Of the holes drilled, 296 holes (61%) contain recorded coal intersections on the AGS Coal Database (these are picks as recorded by ERCB staff); it follows that 193 holes (39%) did not intersect coal. Hole depths varied from 8 metres to a maximum of 168 metres.

A summary of the coal exploration drilling activities follows:

Company	Number of Coal Drillholes
Consolidation Coal Company of Canada	157
Denison Mines Limited	17
Lexco Testing Ltd.	255
Luscar Ltd.	35
Shell Canada Resources Ltd.	21
Sterling Coal Valley Mining Co. Ltd.	4

³Information, concerning coal exploration drillholes, is based on the AGS Coal Database, April, 1989 version of the ERCB Coal Hole File. It is planned, in the next fiscal year, to upgrade the AGS Coal Database with the April, 1992 version of the ERCB Coal Hole File.

Based on the April, 1989 version of the ERCB Coal Hole File, details of the coal exploration drillholes are given in Appendix 1; the data listing includes the following information:

- sitid; the assigned Site Identification Number within the AGS Coal Database
- cat_id; the assigned Catalogue Identification Number within the ERCB Coal Hole File (April, 1989 version)
- orig; the original identification number of the datapoint (ie, drillhole number); this item may have been edited, in some instances, by the ERCB to allow the 'orig' to be accommodated by the existing format of the ERCB Coal file
- c; a Yes/No _toggle to denote whether or not the datapoint, as stored on the AGS Coal Database, contains coal intersections
- q; a Yes/No _toggle to denote whether or not the datapoint, as stored on the AGS Coal Database, contains coal quality data
- m; meridian
- twp; township
- rg; range
- s; section
- rs; reference section
- rc; reference corner
- metn; metres north or south from the reference corner
- mete; metres east or west from the reference corner
- elev; ground or surface elevation of the datapoint (drillhole)
- td; total depth of drillhole reported in metres
- cpdt; completion date of the datapoint (drillhole); date coded as yymmdd
- drld; data_release date of the datapoint (drillhole); date coded as yymmdd
- cor; the assigned corporation number within the AGS Coal Database
- company; identifies the company that generated the datapoint (drillhole).

Oil and Gas

The CCP mapsheet 83C/15 contains, in part, the following three Gas Fields

- Lovett River
- Opabin
- Voyager

Field outlines, as they apply to the mapsheet, are shown on the GIS plot.

Within the mapsheet area, 20 gas (and/or oil) wells have been drilled. Of the wells drilled,

- 10 have been abandoned
- 9 are capped gaswells
- 1 has been abandoned and reentered.

See Appendix 2 for additional data. The Appendix is based on queries from the ERCB oil and gas database (January, 1991 version).

Coal Occurrences

Coal Exploration Drillholes

Coal intersections, per coal exploration drillhole, have been included in Appendix 3. Each drillhole is a self-contained data set and includes the following information:

- **sitid**; the assigned Site Identification Number within the AGS Coal Database
- **cat_id**; the assigned Catalogue Identification Number within the ERCB Coal Hole File (April, 1989 version)
- **m**; meridian
- **twp**; township
- **rg**; range
- **s**; section
- **rs**; reference section
- **rc**; reference corner
- **metn**; metres north or south from the reference corner
- **mete**; metres east or west from the reference corner
- **nts**; identifies the 1: 50000 NTS mapsheet which contains the datapoint
- **orig**; the original identification number of the datapoint (ie, drillhole number); this item may have been edited, in some instances, by the ERCB to allow the 'orig' to be accommodated by the existing format of the ERCB Coal file
- **name of the corporation that generated the datapoint (drillhole)**
- **elev**; ground or surface elevation of the datapoint (drillhole)
- **td**; total depth of drillhole reported in metres
- **dep_log**; bottom depth, in metres, of the logged interval; this field has a default value of zero
- **rego**; thickness, in metres, of the regolith this field has a default value of zero

- cpdt; completion date of the datapoint (drillhole) date coded as yymmdd
- drld; data_release date of the datapoint (drillhole) date coded as yymmdd
- qual; a Yes/No _toggle to denote whether or not the datapoint, as stored on the AGS Coal Database, contains coal quality data
- piktyp; the type of geological pick, as identified in the AGS Coal Database; for this Appendix, all piktyp's are 1, ie, coal seam
- piknum; the geological pick identification number as stored in the AGS Coal Database
- dtop; depth to top of coal in metres
- dbase; depth to bottom of coal in metres
- thick; thickness (ie, dbase - dtop) of the coal seam in metres
- seamno; the ERCB_Designated Coal Seam Name/Number (if assigned/known); this field has a default value of zero
- min; mineral matter content of the coal (usually an ERCB estimate from the interpretation of geophysical logs); this field has a default value of zero
- cnt_mkr; the ERCB_Designated Geologic Group/Formation (if assigned/known).

While most coals intersected in the drillholes are from within the Coalspur Formation, coals from the Brazeau Formation, as well as coals from the Luscar Group, have also been intersected.

Coal Outcrops

Within the mapsheet, a number of coal outcrops have been documented by the Alberta Geological Survey of the Alberta Research Council and by the Geological Survey of Canada. Known coal outcrops are contained within the Luscar Group, and within the Brazeau and Coalspur formations. Description details, including seam thicknesses, of the coal outcrops and/or seam projections are, in many instances, not known.

Locations of the noted coal outcrops are shown on the enclosed map RCM13.

Palynology

In 1993, two Brazeau shale samples were described and sampled by AGS staff. Locations of the two shale outcrops are shown on map RCM13. The outcrops are located in Sections 20 and 29,

Township 46, Range 18 West 5th Meridian. Results of the palynological analysis of the two samples, RC93-7 and RC93-8, are contained within Appendix 4.

Coal Quality Summary

Coal Rank

For the mapsheet area, there is very little coal quality data.

Within the area of 83C/15 (Cardinal River), coals of the Brazeau Formation have a rank of high volatile C bituminous. No coal quality data is available for coals of the

- Coalspur Formation; the rank of the coal is probably high volatile C bituminous
- Luscar Group ; the rank of the coal is probably medium volatile bituminous.

Coal Exploration Drillholes

Only one coal drillhole, originated by Shell Canada Resources Ltd. contains raw coal quality information. All samples pertain to the Brazeau Formation coals. Available coal quality information, from the drillhole, includes

- 11 complete Proximate Analyses (as-received basis)
- 11 analyses of Heating Value (as-received basis)
- 11 analyses of Ash (dry basis)
- 11 analyses of Sulphur (dry basis).

Operating and Abandoned Coal Mines

In 1992, the size of the mine permit area of Mine No. 1778 was increased, with an extension to the southwest; the revamped mine permit area is located, in part, within mapsheet 83C/15 (see map RCM13). Mine No. 1778, an active surface coal mine designated as the Coal Valley Mine, is owned and operated by Luscar Ltd.

There are no other operating or abandoned coal mine workings within the mapsheet area.

Coal Bed Methane (CBM) Resource Potential

During coalification, large amounts of methane may be produced. Reserves/resources of in-place gas depends on a number of factors including rank (Figure 3), volume of coal, depth of burial and methane retention.

The volume of in-place coal (ie, size of the potential reservoir) can be calculated. Within the mapsheet, past coal exploration/development activities focussed on near-surface coals of the Luscar Group, the Brazeau Formation and the Coalspur Formation; generated data points established coal thickness(es) within the stratigraphic sequence. One coal exploration drillhole was cored and sampled to generate initial coal quality information for Brazeau Formation coals. Little is known, within the mapsheet area, concerning the retention of CBM within a reservoir, and/or production of CBM from within a reservoir.

Considering only coal quality, the (presumed) medium volatile coals of the Luscar Group provide the best CBM exploration/exploitation potential for the mapsheet. It should be noted, however, that data point distribution for Luscar Group coals is poor. Data occurs as either small isolated

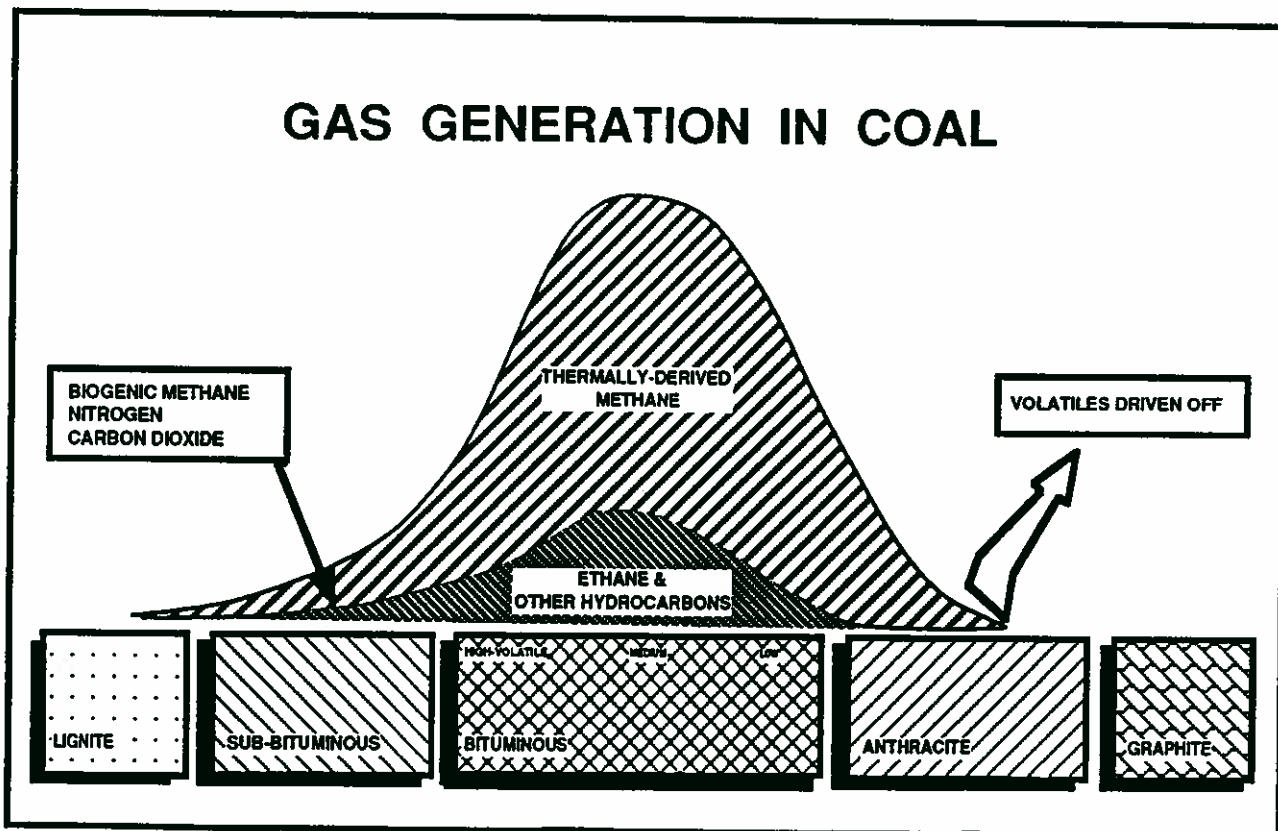


Figure 1 Gas Generation in Coal

clusters (drillholes) or widely spread individual points (oil/gas wells).

The (anticipated) high volatile coals of the Coalspur Formation probably contain favourable CBM potential. Even though there may be some uncertainty concerning thickness(es) and/or lateral extent and/or continuity of the high volatile bituminous coals of the Brazeau Formation, they too should be considered for their CBM potential .

Based on the above data, and/or the lack of, a (cursory) assessment of the CBM resource potential has been completed for the mapsheet. Economic and/or social factors were not included as part of the evaluation criteria.

Results have been graphically presented on a 'Coal Bed Methane Resource Potential' inset map of the accompanying RCM13. Five categories of CBM resource potentials were established, ie, Excellent, Very Good, Good, Fair to Poor, and Poor to Nil. On mapsheet 83C/15 (Cardinal River), only 3 categories have been utilized. The 'Good' sector on the companion map identifies those areas, where coal deposition, including quantity, quality and structural setting, may be favourable for the exploration/exploitation of a CBM reservoir. 'Fair to Poor' areas indicate

- existing commitments regarding the utilization of the coal; eg, coal reserves/resources may be contained within and/or, in close proximity, to approved and/or existing surface mining operations
- a lower knowledge level, ie, more data is needed to properly evaluate a coal's character, and/or
- coals of only secondary interest, as it applies to CBM reservoir exploration/exploitation; ie, the targeted coal is 'much less than ideal', with regard to quantity, quality and structural setting.

'Poor to Nil' areas are either

- non coal-bearing or
- underlain by coal that has little to no likelihood of being subjected to CBM exploration/exploitation ventures; the coal is generally lacking in either quantity and/or quality; further, depth of burial and structural complexities may also have contributed to the coal's low ranking.

Coal Resource Development Potential

A semiquantitative and subjective evaluation of the potential of coal development in the map area is based on limited data. It is based on mainly geological criteria and does not take into account governmental restrictions on coal development or evaluate actual economic constraints to development now or in the future. The three criteria that have been used are Coal Potential, Mining Potential, and Data Availability (discussed in more detail below). Areas in Green on the companion map (thematic inset 'Coal Development Potential') reflect higher level of knowledge and potential for development of coal than the blue (medium) or red areas (low). Areas rated in blue indicate more information is needed to determine the coal development potential. Areas coloured red indicate some potential for development. The remaining uncoloured areas have no data available often because the coal, if present, is at depth under non coal-bearing rocks.

Coal Potential

Resources

For much of the mapsheet area, the amount of available data is insufficient for a quantitative evaluation of coal resources. Where sufficient coal drillholes and/or coal outcrops exist, the ERCB (1991) has calculated estimates of in-place and recoverable established resources for the Southesk River, Coalspur and McLeod River coal fields.

Coal Quality

Very little coal quality data is available but where test results are present, the potential of the coal for development is strengthened.

Mining Potential

Overburden

An evaluation of overburden for surface mining and depth for underground mining has been made. (The 'Mining Potential' criteria did not take into account governmental restrictions on coal development or evaluate actual economic constraints to development now or in the future.)

Geotechnical

Geotechnical considerations included an evaluation of structural setting. Consideration was given to infrastructural concerns related to site, environment and potential mining problems.

Data Availability

Little coal data is available for the entire map area but where present the potential of the coal for development is strengthened. In general, where coal has been documented, it has an increased development potential. Some value was given to areas containing sediments that typically include coal.

Future Work

The mapsheet has only been superficially examined from a coal resource/exploration point of view. Past coal exploration activity has been confined to the southwest and northeast quadrants of the mapsheet. Additional data regarding coal presence has been interpreted from selected oil/gas well logs. The coal development potential of the mapsheet, except for the area of the mine permit area of the Luscar Ltd. - Coal Valley Mine, is uncertain; almost 40% of the coal exploration holes drilled within the mapsheet area did not intersect coal. Additional coal quality data needs to be collected; to date coal quality data is limited to eleven samples from one coal exploration drillhole. Detailed stratigraphic and/or structural studies are also needed in the less explored areas.

The high volatile bituminous coals of the Coalspur and Brazeau formations may provide potential reservoirs for CBM exploration/exploitation. Coals of the Luscar Group are probably medium volatile bituminous and could/should also be evaluated to identify potential CBM targets. Additional work is required to establish and evaluate the coalbed methane resources of the mapsheet area.

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Appendix 1, 83C/15 - Coal Drillholes

Appendix 2. 83C/15 - Oil and Gas Wells; Status and Formation Tops

Site ID: 61046

Source ID: 00/11-07-044-18W5/0

Latitude: 052.782463

Well Length: 4811.000

Longitude: 116.598493

KB Elevation: 1575.100

Status: Capped Gaswell

Well Name: CHEVRON ET AL BLACKSTONE 11-7-44-18

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
981.500	3220.145	WAPIABI FM	WPBI
985.000	3231.627	WAPIABI FM	WPBI
1511.900	4960.302	CARDIUM FM	CARD
1532.000	5026.247	CARDIUM FM	CARD
1533.800	5032.152	FAULT	FLT
1533.900	5032.480	CARDIUM FM	CARD
1534.000	5032.809	FAULT	FLT
1534.100	5033.137	WAPIABI FM	WPBI
1555.000	5101.706	FAULT	FLT
1555.100	5102.034	CARDIUM FM	CARD
1555.700	5104.002	CARDIUM FM	CARD
1565.000	5134.515	FAULT	FLT
1565.100	5134.843	WAPIABI FM	WPBI
1578.000	5177.166	CARDIUM FM	CARD
1627.800	5340.551	BLACKSTONE FM	BKST
1654.000	5426.509	BLACKSTONE FM	BKST
2154.300	7067.914	FAULT	FLT
2154.400	7068.241	BLACKSTONE FM	BKST
2241.000	7352.362	FAULT	FLT
2241.100	7352.691	BLACKSTONE FM	BKST
2267.100	7437.993	FAULT	FLT
2267.200	7438.320	BLACKSTONE FM	BKST
2375.000	7791.995	FAULT	FLT
2375.100	7792.323	BLACKSTONE FM	BKST
2413.300	7917.651	BLAIRMORE GRP	BL
2553.000	8375.984	BLAIRMORE GRP	BL
2892.200	9488.846	LOWER BLAIRMORE	L BL
2921.600	9585.303	FAULT	FLT
2921.700	9585.630	BLAIRMORE GRP	BL
2957.100	9701.772	LOWER BLAIRMORE	L BL
3143.000	10311.680	LOWER BLAIRMORE	L BL
3180.000	10433.071	FAULT	FLT
3180.100	10433.399	BLAIRMORE GRP	BL
3225.000	10580.709	LOWER BLAIRMORE	L BL
3396.100	11142.062	CADOMIN FM	CADM
3407.800	11180.446	NIKANASSIN FM	NIKA
3439.500	11284.449	FAULT	FLT
3439.600	11284.777	CADOMIN FM	CADM

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3454.900	11334.974	NIKANASSIN FM	NIKA
3523.400	11559.711	ROCK CREEK MBR	RKCK
3545.800	11633.202	POKER CHIP SH	PK C SH
3586.400	11766.404	NORDEGG MBR	NORF
3612.700	11852.690	SULPHUR MOUNTAIN FM	SUL MT
3624.300	11890.749	TURNER VALLEY FM	TV
3705.600	12157.481	SHUNDA FM	SHUN
3795.400	12452.100	PEKISKO FM	PEK
3798.000	12460.630	CADOMIN FM	CADM
3814.000	12513.124	NIKANASSIN FM	NIKA
3840.300	12599.410	BANFF FM	BNFF
3855.000	12647.639	FAULT	FLT
3855.100	12647.967	CADOMIN FM	CADM
3874.000	12709.975	NIKANASSIN FM	NIKA
3954.000	12972.441	ROCK CREEK MBR	RKCK
3980.000	13057.743	POKER CHIP SH	PK C SH
4002.800	13132.547	EXSHAW FM	EX
4008.700	13151.903	WABAMUN GRP	WAB
4027.000	13211.942	NORDEGG MBR	NORF
4057.000	13310.368	SULPHUR MOUNTAIN FM	SUL MT
4066.400	13341.207	FAULT	FLT
4066.500	13341.536	BANFF FM	BNFF
4070.300	13354.003	TURNER VALLEY FM	TV
4158.200	13642.390	SHUNDA FM	SHUN
4159.900	13647.966	FAULT	FLT
4160.000	13648.294	SHUNDA FM	SHUN
4209.700	13811.353	FAULT	FLT
4209.800	13811.680	BLAIRMORE GRP	BL
4251.000	13946.851	PEKISKO FM	PEK
4297.000	14097.770	BANFF FM	BNFF
4462.000	14639.108	EXSHAW FM	EX
4468.000	14658.793	WABAMUN GRP	WAB
4526.000	14849.082	FAULT	FLT
4526.100	14849.410	BANFF FM	BNFF
4620.000	15157.480	FAULT	FLT
4670.100	15321.852	BLAIRMORE GRP	BL

Site ID: 61047

Source ID: 00/07-23-044-19W5/0

Latitude: 052.805317

Well Length: 2776.700

Longitude: 116.645961

KB Elevation: 1557.200

Status: Abandoned

Well Name: PLATEAU-CHUNGA NO. 1 WELL

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
335.300	1100.066	CARDIUM SD	CARD SD
469.400	1540.026	CARDIUM SD	CARD SD
469.400	1540.026	FAULT	FLT
597.400	1959.974	BLACKSTONE FM	BKST
1472.200	4830.052	BLAIRMORE GRP	BL
2097.000	6879.921	BLACKSTONE FM	BKST
2097.000	6879.921	FAULT	FLT
2548.100	8359.909	BLAIRMORE GRP	BL

Site ID: 61048

Source ID: 00/03-27-044-19W5/0

Latitude: 052.827447

Well Length: 4297.000

Longitude: 116.682434

KB Elevation: 1578.200

Status: Capped Gaswell

Well Name: CHEVRON ET AL BLACKSTONE 3-27-44-19

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
511.900	1679.462	WAPIABI FM	WPBI
512.000	1679.790	WAPIABI FM	WPBI
917.500	3010.171	BADHEART FM	BADH
917.600	3010.499	BADHEART FM	BADH
1074.400	3524.935	CARDIUM FM	CARD
1076.800	3532.809	CARDIUM FM	CARD
1138.400	3734.908	CARDIUM SD	CARD SD
1142.900	3749.672	CARDIUM SD	CARD SD
1167.000	3828.740	BLACKSTONE FM	BKST
1172.100	3845.472	BLACKSTONE FM	BKST
1487.200	4879.265	FAULT	FLT
1487.500	4880.250	BLACKSTONE FM	BKST
1500.000	4921.260	FAULT	FLT
1500.300	4922.245	BLACKSTONE FM	BKST
1722.900	5652.559	BLAIRMORE GRP	BL
1742.500	5716.864	BLAIRMORE GRP	BL
2143.100	7031.168	FAULT	FLT
2143.400	7032.152	BLAIRMORE GRP	BL
2168.000	7112.861	FAULT	FLT
2168.300	7113.846	BLAIRMORE GRP	BL
2346.600	7698.819	FAULT	FLT
2346.900	7699.803	BANFF FM	BNFF
2372.000	7782.152	FAULT	FLT
2372.300	7783.137	BANFF FM	BNFF
2459.100	8067.914	FAULT	FLT
2459.400	8068.897	BLAIRMORE GRP	BL
2476.000	8123.360	FAULT	FLT
2476.300	8124.344	BLAIRMORE GRP	BL
2965.500	9729.331	FAULT	FLT
2965.800	9730.315	BANFF FM	BNFF
2993.000	9819.554	FAULT	FLT
2993.300	9820.538	BANFF FM	BNFF
3145.200	10318.897	FAULT	FLT
3145.300	10319.227	BLAIRMORE GRP	BL
3164.000	10380.578	FAULT	FLT
3164.300	10381.563	BLAIRMORE GRP	BL
3547.400	11638.451	CADOMIN FM	CADM
3565.900	11699.147	NIKANASSIN FM	NIKA

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3582.800	11754.594	CADOMIN FM	CADM
3602.000	11817.586	NIKANASSIN FM	NIKA
3682.600	12082.021	ROCK CREEK MBR	RKCK
3707.300	12163.059	POKER CHIP SH	PK C SH
3721.000	12208.006	ROCK CREEK MBR	RKCK
3746.000	12290.026	POKER CHIP SH	PK C SH
3752.800	12312.337	NORDEGG MBR	NORD
3784.300	12415.683	RUNDLE GRP	RUND
3791.800	12440.289	NORDEGG MBR	NORD
3823.000	12542.651	RUNDLE GRP	RUND
3895.300	12779.856	SHUNDA FM	SHUN
3935.000	12910.105	SHUNDA FM	SHUN
3966.200	13012.468	PEKISKO FM	PEK
4005.900	13142.717	PEKISKO FM	PEK
4019.200	13186.352	BANFF FM	BNFF
4059.000	13316.930	BANFF FM	BNFF
4187.900	13739.829	EXSHAW FM	EX
4188.900	13743.110	WABAMUN GRP	WAB
4199.800	13778.871	FAULT	FLT
4200.100	13779.856	BANFF FM	BNFF
4228.000	13871.392	EXSHAW FM	EX
4229.000	13874.672	WABAMUN GRP	WAB
4240.000	13910.762	FAULT	FLT
4240.100	13911.090	BANFF FM	BNFF

Site ID: 61049

Source ID: 00/10-31-044-19W5/0

Latitude: 052.837784

Well Length: 4008.100

Longitude: 116.744341

KB Elevation: 1426.200

Status: Abandoned

Well Name: IMP ET AL CHUNGO 10-31-44-19

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
259.100	850.066	WAPIABI FM	WPBI
818.400	2685.040	UPPER CARDIUM	U CARD
883.000	2896.982	LOWER CARDIUM	L CARD
907.400	2977.034	BLACKSTONE FM	BKST
1649.000	5410.105	GRIT BEDS	GR BD
1682.500	5520.013	BLAIRMORE GRP	BL
2200.700	7220.145	BLACKSTONE FM	BKST
2200.700	7220.145	FAULT	FLT
2395.700	7859.908	BLAIRMORE GRP	BL
2879.800	9448.163	CADOMIN FM	CADM
2900.500	9516.076	NIKANASSIN FM	NIKA
2926.100	9600.066	BLAIRMORE GRP	BL
2926.100	9600.066	FAULT	FLT
2950.800	9681.103	CADOMIN FM	CADM
2958.700	9707.021	NIKANASSIN FM	NIKA
3230.000	10597.113	PASSAGE BEDS	PAS BD
3294.900	10810.039	GREEN BEDS	GN BD
3304.000	10839.896	ROCK CREEK MBR	RKCK
3315.900	10878.938	NORDEGG MBR	NORD
3345.500	10976.050	TRIASSIC SYSTEM	TRIA SYS
3393.300	11132.875	RUNDLE GRP	RUND
3602.700	11819.882	BLAIRMORE GRP	BL
3602.700	11819.882	FAULT	FLT
3637.500	11934.056	CADOMIN FM	CADM
3669.800	12040.026	NIKANASSIN FM	NIKA
3754.500	12317.914	PASSAGE BEDS	PAS BD
3803.300	12478.019	GREEN BEDS	GN BD
3819.800	12532.152	ROCK CREEK MBR	RKCK
3838.700	12594.160	NORDEGG MBR	NORD
3886.200	12750.000	TRIASSIC SYSTEM	TRIA SYS
3910.000	12828.084	RUNDLE GRP	RUND

Site ID: 61050

Source ID: 00/10-32-044-19W5/0

Latitude: 052.835738

Well Length: 5667.000

Longitude: 116.726980

KB Elevation: 1415.800

Status: Abandoned

Well Name: SHELL LOVETTR 10-32-44-19

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
796.600	2613.517	BADHEART FM	BADH
920.000	3018.373	CARDIUM FM	CARD
977.400	3206.693	CARDIUM SD	CARD SD
977.500	3207.021	CARDIUM SD	CARD SD
1009.900	3313.320	BLACKSTONE FM	BKST
1010.000	3313.648	BLACKSTONE FM	BKST
1226.800	4024.935	FAULT	FLT
1227.000	4025.591	FAULT	FLT
1227.100	4025.919	BLACKSTONE FM	BKST
1227.300	4026.575	BLACKSTONE FM	BKST
1416.000	4645.669	FAULT	FLT
1416.300	4646.654	BLACKSTONE FM	BKST
1417.000	4648.950	FAULT	FLT
1417.300	4649.935	BLACKSTONE FM	BKST
1507.100	4944.554	BLAIRMORE GRP	BL
1508.800	4950.131	BLAIRMORE GRP	BL
1691.600	5549.869	FAULT	FLT
1691.900	5550.854	BLAIRMORE GRP	BL
1695.000	5561.024	FAULT	FLT
1695.300	5562.008	BLAIRMORE GRP	BL
2073.300	6802.166	FAULT	FLT
2073.600	6803.150	BLAIRMORE GRP	BL
2081.000	6827.428	FAULT	FLT
2081.300	6828.413	BLAIRMORE GRP	BL
2303.800	7558.399	FAULT	FLT
2304.100	7559.384	BLAIRMORE GRP	BL
2316.000	7598.425	FAULT	FLT
2316.300	7599.410	BLAIRMORE GRP	BL
2533.500	8312.008	FAULT	FLT
2533.800	8312.992	ROCK CREEK MBR	RKCK
2553.000	8375.984	FAULT	FLT
2553.300	8376.969	ROCK CREEK MBR	RKCK
2562.800	8408.137	POKER CHIP SH	PK C SH
2583.700	8476.706	POKER CHIP SH	PK C SH
2607.000	8553.149	NORDEGG MBR	NORD
2629.500	8626.969	SPRAY RIVER GRP	SPRY R
2630.500	8630.250	NORDEGG MBR	NORD
2654.500	8708.990	SPRAY RIVER GRP	SPRY R

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
2669.500	8758.202	RUNDLE GRP	RUND
2697.000	8848.426	RUNDLE GRP	RUND
2729.000	8953.412	FAULT	FLT
2729.300	8954.396	BLAIRMORE GRP	BL
2760.000	9055.118	FAULT	FLT
2760.300	9056.103	BLAIRMORE GRP	BL
3435.400	11270.997	CADOMIN FM	CADM
3467.600	11376.641	NIKANASSIN FM	NIKA
3496.400	11471.129	FERNIE GRP	FERN
3515.000	11532.152	CADOMIN FM	CADM
3527.600	11573.491	NIKANASSIN FM	NIKA
3548.700	11642.717	ROCK CREEK MBR	RKCK
3556.900	11669.619	FERNIE GRP	FERN
3567.400	11704.068	POKER CHIP SH	PK C SH
3610.000	11843.832	ROCK CREEK MBR	RKCK
3615.400	11861.549	NORDEGG MBR	NORD
3629.000	11906.168	POKER CHIP SH	PK C SH
3646.000	11961.942	SPRAY RIVER GRP	SPRY R
3676.100	12060.696	RUNDLE GRP	RUND
3677.300	12064.633	NORDEGG MBR	NORD
3708.000	12165.354	SPRAY RIVER GRP	SPRY R
3709.500	12170.276	FAULT	FLT
3709.800	12171.261	NORDEGG MBR	NORD
3737.300	12261.483	SPRAY RIVER GRP	SPRY R
3738.200	12264.436	RUNDLE GRP	RUND
3767.700	12361.221	RUNDLE GRP	RUND
3771.700	12374.344	FAULT	FLT
3772.000	12375.328	NORDEGG MBR	NORD
3799.500	12465.552	SPRAY RIVER GRP	SPRY R
3830.000	12565.617	RUNDLE GRP	RUND
3839.900	12598.098	SHUNDA FM	SHUN
3902.400	12803.149	SHUNDA FM	SHUN
3943.800	12938.977	FAULT	FLT
3944.100	12939.961	SHUNDA FM	SHUN
3977.100	13048.229	PEKISKO FM	PEK
4008.000	13149.606	FAULT	FLT
4008.300	13150.591	SHUNDA FM	SHUN
4018.600	13184.384	FAULT	FLT
4018.900	13185.367	BLAIRMORE GRP	BL
4040.200	13255.250	PEKISKO FM	PEK
4070.200	13353.675	CADOMIN FM	CADM
4082.000	13392.389	FAULT	FLT
4082.300	13393.373	BLAIRMORE GRP	BL
4085.400	13403.543	NIKANASSIN FM	NIKA
4133.900	13562.664	CADOMIN FM	CADM
4149.200	13612.862	NIKANASSIN FM	NIKA
4153.100	13625.657	ROCK CREEK MBR	RKCK
4160.800	13650.918	FERNIE GRP	FERN
4181.100	13717.521	POKER CHIP SH	PK C SH
4217.000	13835.303	ROCK CREEK MBR	RKCK
4219.000	13841.864	NORDEGG MBR	NORD

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
4245.000	13927.166	POKER CHIP SH	PK C SH
4247.100	13934.056	SPRAY RIVER GRP	SPRY R
4270.600	14011.155	RUNDLE GRP	RUND
4283.000	14051.838	NORDEGG MBR	NORF
4311.100	14144.029	SPRAY RIVER GRP	SPRY R
4334.600	14221.129	RUNDLE GRP	RUND
4362.900	14313.977	SHUNDA FM	SHUN
4427.000	14524.278	SHUNDA FM	SHUN
4427.400	14525.591	PEKISKO FM	PEK
4484.500	14712.927	BANFF FM	BNFF
4491.500	14735.893	PEKISKO FM	PEK
4548.700	14923.558	BANFF FM	BNFF
4653.300	15266.732	EXSHAW FM	EX
4658.700	15284.450	WABAMUN GRP	WAB
4717.600	15477.691	EXSHAW FM	EX
4723.000	15495.407	WABAMUN GRP	WAB
4839.600	15877.953	FAULT	FLT
4839.900	15878.938	WABAMUN GRP	WAB
4904.000	16089.239	FAULT	FLT
4904.300	16090.223	WABAMUN GRP	WAB
5081.500	16671.588	WINTERBURN GRP	WINT
5146.000	16883.203	WINTERBURN GRP	WINT
5156.100	16916.340	IRETON FM	IRE
5177.600	16986.877	LEDUC FM	LED
5220.900	17128.938	IRETON FM	IRE
5242.400	17199.475	LEDUC FM	LED
5248.800	17220.473	BEAVERHILL LAKE FM	BH LK
5314.000	17434.383	BEAVERHILL LAKE FM	BH LK

Site ID: 61051

Source ID: 00/08-07-044-20W5/0

Latitude: 052.771768

Well Length: 3054.100

Longitude: 116.886412

KB Elevation: 1629.800

Status: Abandoned

Well Name: TEXAS GULF ET AL MUSKIKI 8-7-44-20

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
22.300	73.163	MOUNTAIN PARK FM	MTN PK
591.900	1941.929	LUSCAR FM	LUSK
592.500	1943.898	LUSCAR FM	LUSK
1091.800	3582.021	CADOMIN FM	CADM
1093.000	3585.958	CADOMIN FM	CADM
1105.800	3627.953	NIKANASSIN FM	NIKA
1107.000	3631.890	NIKANASSIN FM	NIKA
1630.400	5349.082	FERNIE GRP	FERN
1636.800	5370.079	FERNIE GRP	FERN
1713.600	5622.047	GREEN BEDS	GN BD
1722.100	5649.935	GREEN BEDS	GNBD
1749.200	5738.845	ROCK CREEK MBR	RKCK
1758.700	5770.013	ROCK CREEK MBR	RKCK
1835.800	6022.966	NORDEGG MBR	NORD
1848.000	6062.992	NORDEGG MBR	NORD
1853.200	6080.053	WHITEHORSE FM	WTHR
1866.000	6122.047	WHITEHORSE FM	WTHR
1923.000	6309.055	SULPHUR MOUNTAIN FM	SUL MT
1938.500	6359.908	SULPHUR MOUNTAIN FM	SUL MT
2033.000	6669.948	TURNER VALLEY FM	TV
2053.100	6735.893	TURNER VALLEY FM	TV
2124.800	6971.129	SHUNDA FM	SHUN
2148.200	7047.900	SHUNDA FM	SHUN
2194.900	7201.115	PEKISKO FM	PEK
2221.400	7288.058	PEKISKO FM	PEK
2234.500	7331.037	BANFF FM	BNFF
2262.200	7421.916	BANFF FM	BNFF
2389.300	7838.911	EXSHAW FM	EX
2392.400	7849.081	PALLISER FM	PALL
2424.100	7953.084	EXSHAW FM	EX
2427.400	7963.911	PALLISER FM	PALL
2593.800	8509.843	ALEXO FM	ALEX
2638.700	8657.152	ALEXO FM	ALEX
2639.000	8658.137	FAULT	FLT
2639.000	8658.137	PALLISER FM	PALL
2684.100	8806.103	EXSHAW FM	EX
2685.900	8812.008	FAULT	FLT
2685.900	8812.008	PALLISER FM	PALL

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
2687.400	8816.929	BANFF FM	BNFF
2733.100	8966.864	EXSHAW FM	EX
2736.800	8979.003	BANFF FM	BNFF
2834.000	9297.900	PEKISKO FM	PEK
2883.700	9460.958	FAULT	FLT
2883.700	9460.958	PEKISKO FM	PEK
2894.400	9496.063	PEKISKO FM	PEK
2916.000	9566.930	FAULT	FLT
2916.000	9566.930	PEKISKO FM	PEK
2948.900	9674.869	FAULT	FLT
2948.900	9674.869	PEKISKO FM	PEK
2955.000	9694.882	SHUNDA FM	SHUN
2984.000	9790.026	FAULT	FLT
2984.000	9790.026	PEKISKO FM	PEK
3026.100	9928.150	SHUNDA FM	SHUN

Site ID: 61052

Source ID: 00/03-17-044-20W5/0

Latitude: 052.785594

Well Length: 4032.500

Longitude: 116.877623

KB Elevation: 1610.600

Status: Abandoned

Well Name: IMP ET AL MUSKIKI 4-17-44-20

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
216.400	709.974	BLAIRMORE GRP	BL
823.000	2700.131	CADOMIN FM	CADM
847.300	2779.856	NIKANASSIN FM	NIKA
1449.900	4756.890	FERNIE GRP	FERN
1559.400	5116.142	ROCK CREEK MBR	RKCK
1746.500	5729.987	FAULT	FLT
1746.800	5730.972	ROCK CREEK MBR	RKCK
1752.600	5750.000	FAULT	FLT
1752.900	5750.984	ROCK CREEK MBR	RKCK
1894.000	6213.911	FAULT	FLT
1894.300	6214.896	FERNIE GRP	FERN
1902.000	6240.158	FAULT	FLT
1902.300	6241.142	FERNIE GR	FERN
1950.700	6399.935	FAULT	FLT
1951.000	6400.919	BLAIRMORE GRP	BL
1959.900	6430.118	FAULT	FLT
1960.200	6431.103	BLAIRMORE GRP	BL
2895.000	9498.032	CADOMIN FM	CADM
2913.600	9559.056	NIKANASSIN FM	NIKA
2968.800	9740.158	CADOMIN FM	CADM
2990.100	9810.040	NIKANASSIN FM	NIKA
3048.600	10001.969	FAULT	FLT
3048.900	10002.953	BLAIRMORE GRP	BL
3120.200	10236.877	CADOMIN FM	CADM
3130.900	10271.981	NIKANASSIN FM	NIKA
3144.000	10314.961	FAULT	FLT
3144.300	10315.945	BLAIRMORE GRP	BL
3226.300	10584.975	CADOMIN FM	CADM
3238.800	10625.984	NIKANASSIN FM	NIKA

Site ID: 61053

Source ID: 00/06-21-044-20W5/0

Latitude: 052.804555

Well Length: 4409.200

Longitude: 116.850102

KB Elevation: 1628.500

Status: Abandoned and Re-entered

Well Name: CPOG THISTLE 6-21-44-20

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
941.500	3088.911	CARDIUM SD	CARD SD
941.800	3089.895	CARDIUM SD	CARD SD
1021.700	3352.034	LOWER CARDIUM	L CARD
1022.300	3354.003	LOWER CARDIUM	L CARD
1036.000	3398.950	BLACKSTONE FM	BKST
1036.600	3400.919	BLACKSTONE FM	BKST
1664.800	5461.942	BLAIRMORE GRP	BL
1667.000	5469.160	BLAIRMORE GRP	BL
2781.600	9125.985	CADOMIN FM	CADM
2786.500	9142.061	CADOMIN FM	CADM
2801.100	9189.961	NIKANASSIN FM	NIKA
2806.300	9207.021	NIKANASSIN FM	NIKA
3504.900	11499.016	PASSAGE BEDS	PAS BD
3519.800	11547.900	PASSAGE BEDS	PAS BD
3559.800	11679.135	ROCK CREEK MBR	RKCK
3572.300	11720.145	NORDEGG MBR	NORD
3576.200	11732.939	ROCK CREEK MBR	RKCK
3588.700	11773.950	NORDEGG MBR	NORD
3591.500	11783.137	TRIASSIC SYSTEM	TRIA SYS
3608.500	11838.911	TRIASSIC SYSTEM	TRIA SYS
3646.900	11964.896	TURNER VALLEY FM	TV
3665.500	12025.919	TURNER VALLEY FM	TV
3710.600	12173.885	SHUNDA FM	SHUN
3730.800	12240.158	SHUNDA FM	SHUN
3767.000	12358.924	FAULT	FLT
3767.000	12358.924	NIKANASSIN FM	NIKA
3788.400	12429.134	FAULT	FLT
3788.700	12430.118	NIKANASSIN FM	NIKA

Site ID: 61054

Source ID: 00/06-21-044-20W5/2

Latitude: 052.805448

Well Length: 4409.200

Longitude: 116.845968

KB Elevation: 1628.500

Status: Abandoned

Well Name: CANHUNTER THISTLE 6-21-44-20

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
941.500	3088.911	CARDIUM SD	CARD SD
941.800	3089.895	CARDIUM SD	CARD SD
1021.700	3352.034	LOWER CARDIUM	L CARD
1022.300	3354.003	LOWER CARDIUM	L.CARD
1036.000	3398.950	BLACKSTONE FM	BKST
1036.600	3400.919	BLACKSTONE FM	BKST
1664.800	5461.942	BLAIRMORE GRP	BL
1666.900	5468.833	BLAIRMORE GRP	BL
2781.600	9125.985	CADOMIN FM	CADM
2786.500	9142.061	CADOMIN FM	CADM
2801.100	9189.961	NIKANASSIN FM	NIKA
2806.300	9207.021	NIKANASSIN FM	NIKA
3504.900	11499.016	PASSAGE BEDS	PAS BD
3519.500	11546.916	PASSAGE BEDS	PAS BD
3559.800	11679.135	ROCK CREEK MBR	RKCK
3572.300	11720.145	NORDEGG MBR	NORD
3575.900	11731.955	ROCK CREEK MBR	RKCK
3588.700	11773.950	NORDEGG MBR	NORD
3591.500	11783.137	TRIASSIC SYSTEM	TRIA SYS
3608.200	11837.927	TRIASSIC SYSTEM	TRIA SYS
3646.900	11964.896	TURNER VALLEY FM	TV
3665.200	12024.935	TURNER VALLEY FM	TV
3710.600	12173.885	SHUNDA FM	SHUN
3730.700	12239.830	SHUNDA FM	SHUN
3767.000	12358.924	FAULT	FLT
3767.300	12359.909	NIKANASSIN FM	NIKA
3788.700	12430.118	FAULT	FLT
3789.000	12431.103	NIKANASSIN FM	NIKA
4378.300	14364.501	TOTAL DEPTH	TD
4409.200	14465.880	TOTAL DEPTH	TD

Site ID: 63197

Source ID: 00/04-03-045-18W5/0

Latitude: 052.846337

Well Length: 4245.000

Longitude: 116.539535

KB Elevation: 1477.000

Status: Capped Gaswell

Well Name: CHEVRON ET AL BROWN CREEK 4-3-45-18

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
2036.200	6680.446	WAPIABI FM	WPBI
2036.500	6681.431	WAPIABI FM	WPBI
2377.500	7800.197	BADHEART FM	BADH
2378.000	7801.837	BADHEART FM	BADH
2474.500	8118.438	CARDIUM FM	CARD
2475.000	8120.079	CARDIUM FM	CARD
2529.400	8298.557	CARDIUM SD	CARD SD
2530.000	8300.525	CARDIUM SD	CARD SD
2542.400	8341.207	BLACKSTONE FM	BKST
2543.000	8343.176	BLACKSTONE FM	BKST
3001.800	9848.426	BASE FISH SCALES ZONE	BFSC
3004.000	9855.644	BASE FISH SCALES ZONE	BFSC
3035.700	9959.646	BLAIRMORE GRP	BL
3038.000	9967.192	BLAIRMORE GRP	BL
3306.000	10846.457	CADOMIN FM	CADM
3308.500	10854.659	CADOMIN FM	CADM
3324.500	10907.152	NIKANASSIN FM	NIKA
3327.000	10915.354	NIKANASSIN FM	NIKA
3441.400	11290.683	PASSAGE BEDS	PAS BD
3444.000	11299.213	PASSAGE BEDS	PAS BD
3459.400	11349.737	GREEN BEDS	GN BD
3462.000	11358.269	GREEN BEDS	GNBD
3489.900	11449.803	ROCK CREEK MBR	RKCK
3492.500	11458.334	ROCK CREEK MBR	RKCK
3522.300	11556.103	POKER CHIP SH	PK C SH
3525.000	11564.961	POKER CHIP SH	PK C SH
3549.200	11644.357	NORDEGG MBR	NORD
3552.000	11653.544	NORDEGG MBR	NORD
3586.600	11767.062	TRIASSIC SYSTEM	TRIA SYS
3589.500	11776.575	TRIASSIC SYSTEM	TRIA SYS
3592.100	11785.105	TURNER VALLEY FM	TV
3595.000	11794.620	TURNER VALLEY FM	TV
3661.400	12012.467	SHUNDA FM	SHUN
3664.500	12022.638	SHUNDA FM	SHUN
3766.300	12356.628	PEKISKO FM	PEK
3770.000	12368.767	PEKISKO FM	PEK
3824.400	12547.244	BANFF FM	BNFF
3828.500	12560.696	BANFF FM	BNFF

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
4018.600	13184.384	EXSHAW FM	EX
4020.600	13190.945	WABAMUN GRP	WAB
4024.000	13202.101	EXSHAW FM	EX
4026.000	13208.662	WABAMUN GRP	WAB
4040.400	13255.905	FAULT	FLT
4040.500	13256.234	BANFF FM	BNFF
4045.900	13273.950	FAULT	FLT
4046.000	13274.278	BANFF FM	BNFF
4089.200	13416.011	FAULT	FLT
4089.300	13416.339	BANFF FM	BNFF
4094.900	13434.711	FAULT	FLT
4095.000	13435.040	BANFF FM	BNFF
4135.200	13566.931	EXSHAW FM	EX
4137.700	13575.132	WABAMUN GRP	WAB
4141.000	13585.958	EXSHAW FM	EX
4143.500	13594.160	WABAMUN GRP	WAB
4155.100	13632.219	FAULT	FLT
4155.200	13632.547	BANFF FM	BNFF
4160.900	13651.247	FAULT	FLT
4161.000	13651.575	BANFF FM	BNFF

Site ID: 63199

Source ID: 00/11-13-045-19W5/0

Latitude: 052.878237

Well Length: 4581.500

Longitude: 116.628492

KB Elevation: 1461.200

Status: Capped Gaswell

Well Name: SHELL ETAL CARDR 11-13-45-19

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
487.700	1600.066	WAPIABI FM	WPBI
517.800	1698.819	FAULT	FLT
517.900	1699.147	BRAZEAU FM	BRAZ
2290.600	7515.092	BADHEART FM	BADH
2391.200	7845.145	CARDIUM SD	CARD SD
2459.700	8069.882	BLACKSTONE FM	BKST
2949.800	9677.822	BASE FISH SCALES ZONE	BFSC
2975.800	9763.124	BLAIRMORE GRP	BL
3215.600	10549.869	GLAUCONITIC SS	GLC SS
3232.100	10604.003	OSTRACOD ZONE	OST
3380.200	11089.896	CADOMIN FM	CADM
3394.800	11137.796	FERNIE GRP	FERN
3435.100	11270.014	ROCK CREEK MBR	RKCK
3460.400	11353.019	FAULT	FLT
3460.500	11353.347	FERNIE GRP	FERN
3499.100	11479.987	NORDEGG MBR	NORD
3535.700	11600.065	TURNER VALLEY FM	TV
3599.700	11810.040	SHUNDA FM	SHUN
3678.900	12069.882	PEKISKO FM	PEK
3724.600	12219.817	BANFF FM	BNFF
3902.900	12804.790	WABAMUN GRP	WAB
4273.000	14019.029	FAULT	FLT
4273.100	14019.357	FERNIE GRP	FERN
4286.400	14062.992	NORDEGG MBR	NORD
4339.700	14237.862	TURNER VALLEY FM	TV
4433.600	14545.933	SHUNDA FM	SHUN
4567.400	14984.908	BANFF FM	BNFF

Site ID: 63200

Source ID: 00/03-24-045-21W5/0

Latitude: 052.893860

Well Length: 4810.000

Longitude: 116.923295

KB Elevation: 1560.400

Status: Abandoned

Well Name: GULF ET AL CARDR 3-24-45-21

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
1747.000	5731.627	BADHEART FM	BADH
1807.000	5928.478	CARDIUM FM	CARD
1837.500	6028.543	CARDIUM SD	CARD SD
1930.000	6332.021	BLACKSTONE FM	BKST
2930.000	9612.861	MOUNTAIN PARK FM	MTN PK
3165.000	10383.858	LUSCAR FM	LUSK
3868.000	12690.289	CADOMIN FM	CADM
3886.000	12749.345	NIKANASSIN FM	NIKA
3972.000	13031.496	ROCK CREEK MBR	FKCK
4000.000	13123.360	POKER CHIP SH	PK C SH
4072.500	13361.221	NORDEGG MBR	NORF
4104.000	13464.567	TRIASSIC SYSTEM	TRIA SYS
4190.000	13746.720	TURNER VALLEY FM	TV
4276.000	14028.872	SHUNDA FM	SHUN
4387.000	14393.045	PEKISKO FM	PEK
4435.000	14550.525	BANFF FM	BNFF
4595.000	15075.460	EXSHAW FM	EX
4600.000	15091.864	WABAMUN GRP	WAB

Site ID: 63201

Source ID: 00/12-25-045-21W5/0

Latitude: 052.906358

Well Length: 4657.600

Longitude: 116.905681

KB Elevation: 1604.500

Status: Abandoned

Well Name: GULF UNION POC CARDR 12-25-45-21

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
824.200	2704.068	CARDIUM FM	CARD
824.500	2705.052	CARDIUM FM	CARD
860.500	2823.163	CARDIUM SD	CARD SD
860.800	2824.147	CARDIUM SD	CARD SD
959.500	3147.966	BLACKSTONE FM	BKST
960.100	3149.934	BLACKSTONE FM	BKST
974.800	3198.163	FAULT	FLT
974.900	3198.491	WAPIABI FM	WPBI
975.400	3200.131	FAULT	FLT
975.500	3200.459	WAPIABI FM	WPBI
1237.800	4061.024	CARDIUM SD	CARD SD
1238.700	4063.976	CARDIUM SD	CARD SD
1328.300	4357.940	BLACKSTONE FM	BKST
1329.800	4362.861	BLACKSTONE FM	BKST
1944.900	6380.906	MOUNTAIN PARK FM	MTN PK
1957.100	6420.932	MOUNTAIN PARK FM	MTN PK
2424.100	7953.084	FAULT	FLT
2424.200	7953.412	LUSCAR FM	LUSK
2447.500	8029.856	FAULT	FLT
2447.600	8030.184	LUSCAR FM	LUSK
2521.000	8270.998	FAULT	FLT
2521.100	8271.326	LUSCAR FM	LUSK
2578.900	8460.958	FAULT	FLT
2579.000	8461.286	LUSCAR FM	LUSK
2606.000	8549.869	FAULT	FLT
2606.100	8550.197	LUSCAR FM	LUSK
2664.000	8740.158	FAULT	FLT
2664.300	8741.143	LUSCAR FM	LUSK
3020.000	9908.137	CADOMIN FM	CADM
3044.600	9988.846	NIKANASSIN FM	NIKA
3057.100	10029.856	CADOMIN FM	CADM
3083.400	10116.142	NIKANASSIN FM	NIKA
3253.700	10674.869	ROCK CREEK MBR	RKCK
3268.700	10724.082	POKER CHIP SH	PK C SH
3304.900	10842.848	ROCK CREEK MBR	RKCK
3310.700	10861.877	NORDEGG MBR	NORD
3322.300	10899.935	POKER CHIP SH	PK C SH
3341.200	10961.942	TRIASSIC SYSTEM	TRIA SYS

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3369.600	11055.119	NORDEGG MBR	NORD
3399.400	11152.887	TURNER VALLEY FM	TV
3404.300	11168.964	TRIASSIC SYSTEM	TRIA SYS
3468.600	11379.922	TURNER VALLEY FM	TV
3504.600	11498.032	SHUNDA FM	SHUN
3513.700	11527.888	FAULT	FLT
3513.800	11528.216	ROCK CREEK MBR	RKCK
3529.000	11578.084	POKER CHIP SH	PK C SH
3570.100	11712.927	NORDEGG MBR	NORD
3582.600	11753.938	SHUNDA FM	SHUN
3593.000	11788.059	FAULT	FLT
3593.100	11788.387	ROCK CREEK MBR	RKCK
3601.800	11816.930	TRIASSIC SYSTEM	TRIA SYS
3609.400	11841.863	POKER CHIP SH	PK C SH
3652.700	11983.924	NORDEGG MBR	NORD
3668.900	12037.073	TURNER VALLEY FM	TV
3688.700	12102.034	TRIASSIC SYSTEM	TRIA SYS
3760.900	12338.911	SHUNDA FM	SHUN
3761.800	12341.864	TURNER VALLEY FM	TV
3844.700	12613.846	PEKISKO FM	PEK
3859.400	12662.073	SHUNDA FM	SHUN
3891.400	12767.061	BANFF FM	BNFF
3947.200	12950.132	PEKISKO FM	PEK
3995.600	13108.925	BANFF FM	BNFF
4033.400	13232.939	EXSHAW FM	EX
4037.400	13246.063	PALLISER FM	PALL
4142.200	13589.896	EXSHAW FM	EX
4145.900	13602.034	PALLISER FM	PALL
4200.800	13782.152	FAULT	FLT
4200.900	13782.480	BANFF FM	BNFF
4237.000	13900.919	FAULT	FLT
4237.100	13901.247	TURNER VALLEY FM	TV
4288.500	14069.883	SHUNDA FM	SHUN
4312.900	14149.935	FAULT	FLT
4313.000	14150.263	BANFF FM	BNFF
4326.300	14193.897	FAULT	FLT
4326.400	14194.226	CADOMIN FM	CADM
4342.200	14246.064	NIKANASSIN FM	NIKA
4349.800	14270.997	FAULT	FLT
4349.900	14271.325	TURNER VALLEY FM	TV
4401.300	14439.961	SHUNDA FM	SHUN
4438.800	14562.992	FAULT	FLT
4438.900	14563.320	CADOMIN FM	CADM
4454.700	14615.158	NIKANASSIN FM	NIKA
4499.800	14763.123	ROCK CREEK MBR	RKCK
4525.400	14847.113	POKER CHIP SH	PK C SH
4613.800	15137.139	ROCK CREEK MBR	RKCK
4639.100	15220.146	POKER CHIP SH	PK C SH

Site ID: 64915

Source ID: 00/16-19-046-18W5/0

Latitude: 052.985030

Well Length: 3801.000

Longitude: 116.594558

KB Elevation: 1353.400

Status: Capped Gaswell

Well Name: GULF ET AL LOVETTR 16-19-46-18

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
884.400	2901.575	EDMONTON GRP	EDM
885.000	2903.543	EDMONTON GRP	EDM
1611.400	5286.746	BELLY RIVER GRP	BR
1612.500	5290.354	BELLY RIVER GRP	BR
1985.500	6514.108	WAPIABI FM	WPBI
1987.700	6521.326	WAPIABI FM	WPBI
2345.800	7696.195	BADHEART FM	BADH
2353.000	7719.816	BADHEART FM	BADH
2411.200	7910.761	CARDIUM FM	CARD
2420.000	7939.633	CARDIUM FM	CARD
2439.400	8003.281	CARDIUM SD	CARD SD
2449.000	8034.777	CARDIUM SD	CARD SD
2543.500	8344.816	BLACKSTONE FM	BKST
2556.000	8385.827	BLACKSTONE FM	BKST
2730.300	8957.678	SECOND WHITE SPECK	H2WS
2751.000	9025.591	SECOND WHITE SPECK	H2WS
2873.000	9425.854	BASE FISH SCALES ZONE	BFSC
2902.000	9520.998	BASE FISH SCALES ZONE	BFSC
3079.400	10103.019	LUSCAR FM	LUSK
3118.300	10230.644	LUSCAR FM	LUSK
3444.600	11301.182	CADOMIN FM	CADM
3463.200	11362.205	FERNIE GRP	FERN
3484.400	11431.759	ROCK CREEK MBR	RKCK
3493.000	11459.974	CADOMIN FM	CADM
3504.000	11496.063	POKER CHIP SH	PK C SH
3512.500	11523.950	FERNIE GRP	FERN
3530.400	11582.677	NORDEGG MBR	NORD
3533.600	11593.177	ROCK CREEK MBR	RKCK
3553.500	11658.465	POKER CHIP SH	PK C SH
3570.000	11712.599	TURNER VALLEY FM	TV
3580.400	11746.719	NORDEGG MBR	NORD
3617.400	11868.110	SHUNDA FM	SHUN
3620.500	11878.281	TURNER VALLEY FM	TV
3642.300	11949.804	FAULT	FLT
3642.800	11951.444	NORDEGG MBR	NORD
3668.500	12035.762	SHUNDA FM	SHUN
3691.800	12112.205	FAULT	FLT
3692.300	12113.846	LUSCAR FM	LUSK

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3693.200	12116.798	FAULT	FLT
3693.700	12118.438	NORDEGG MBR	NORD
3743.700	12282.480	FAULT	FLT
3744.200	12284.121	LUSCAR FM	LUSK

Site ID: 64916

Source ID: 00/12-30-046-18W5/0

Latitude: 052.997879

Well Length: 3810.000

Longitude: 116.609575

KB Elevation: 1387.100

Status: Capped Gaswell

Well Name: B. A. TRIAD ET AL LOVETT RIVER 12-30

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
874.800	2870.079	EDMONTON GRP	EDM
928.700	3046.916	KNEEHILLS TUFF ZONE	KHL TF
1630.100	5348.097	BELLY RIVER GRP	BR
1963.800	6442.914	WAPIABI FM	WPBI
2358.200	7736.877	BADHEART FM	BADH
2451.500	8042.979	CARDIUM FM	CARD
2502.100	8208.990	CARDIUM SD	CARD SD
2579.500	8462.927	BLACKSTONE FM	BKST
2694.700	8840.879	SECOND WHITE SPECKLED S	H2WS
2932.800	9622.048	BASE FISH SCALES ZONE	BFSC
2959.600	9709.975	LUSCAR FM	LUSK
3418.300	11214.896	CADOMIN FM	CADM
3441.200	11290.026	ROCK CREEK MBR	RKCK
3512.500	11523.950	NORDEGG MBR	NORD
3551.800	11652.888	TURNER VALLEY FM	TV
3608.200	11837.927	SHUNDA FM	SHUN
3623.500	11888.124	NORDEGG MBR	NORD
3643.600	11954.069	TURNER VALLEY FM	TV
3705.100	12155.841	SHUNDA FM	SHUN
3757.000	12326.116	FAULT	FLT
3757.000	12326.116	NORDEGG MBR	NORD
3771.900	12375.000	FAULT	FLT
3771.900	12375.000	LUSCAR FM	LUSK

Site ID: 64917

Source ID: 00/11-21-046-19W5/0

Latitude: 052.977257

Well Length: 4378.000

Longitude: 116.703743

KB Elevation: 1387.300

Status: Capped Gaswell

Well Name: GULF ET AL REDCAP 11-21-46-19

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
2175.600	7137.796	WAPIABI FM	WPBI
2182.700	7161.089	WAPIABI FM	WPBI
2529.400	8298.557	BADHEART FM	BADH
2557.500	8390.748	BADHEART FM	BADH
2629.600	8627.297	CARDIUM FM	CARD
2665.000	8743.438	CARDIUM FM	CARD
2682.000	8799.213	CARDIUM SD	CARD SD
2706.500	8879.594	BLACKSTONE FM	BKST
2721.300	8928.150	CARDIUM SD	CARD SD
2748.000	9015.748	BLACKSTONE FM	BKST
3152.100	10341.536	BASE FISH SCALES ZONE	BFSC
3182.200	10440.289	BLAIRMORE GRP	BL
3232.000	10603.675	BASE FISH SCALES ZONE	BFSC
3265.000	10711.942	BLAIRMORE GRP	BL
3407.600	11179.791	FAULT	FLT
3408.500	11182.743	BLAIRMORE GRP	BL
3510.000	11515.748	FAULT	FLT
3511.000	11519.029	BLAIRMORE GRP	BL
3553.400	11658.137	FAULT	FLT
3554.300	11661.090	BLAIRMORE GRP	BL
3666.200	12028.216	CADOMIN FM	CADM
3670.000	12040.683	FAULT	FLT
3671.000	12043.964	BLAIRMORE GRP	BL
3672.600	12049.213	FAULT	FLT
3673.500	12052.166	BLAIRMORE GRP	BL
3716.200	12192.258	CADOMIN FM	CADM
3725.300	12222.113	FAULT	FLT
3726.200	12225.065	BLAIRMORE GRP	BL
3741.500	12275.263	CADOMIN FM	CADM
3753.900	12315.945	FERNIE GRP	FERN
3784.300	12415.683	ROCK CREEK MBR	RKCK
3793.000	12444.227	CADOMIN FM	CADM
3800.000	12467.192	FAULT	FLT
3801.000	12470.473	BLAIRMORE GRP	BL
3809.300	12497.704	POKER CHIP SH	PK C SH
3837.900	12591.535	NORDEGG MBR	NORD
3848.000	12624.672	CADOMIN FM	CADM
3858.000	12657.480	FAULT	FLT

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3859.000	12660.762	BLAIRMORE GRP	BL
3871.200	12700.788	DEBOLT FM	DBLT
3875.800	12715.880	CADOMIN FM	CADM
3889.500	12760.827	FERNIE GRP	FERN
3922.500	12869.095	ROCK CREEK MBR	RKCK
3941.400	12931.103	SHUNDA FM	SHUN
3949.500	12957.678	POKER CHIP SH	PK C SH
3952.800	12968.505	FAULT	FLT
3953.700	12971.457	DEBOLT FM	DBLT
3974.700	13040.354	FAULT	FLT
3975.700	13043.636	DEBOLT FM	DBLT
3980.000	13057.743	NORDEGG MBR	NORF
4015.500	13174.213	DEBOLT FM	DBLT
4076.000	13372.704	SHUNDA FM	SHUN
4088.000	13412.074	FAULT	FLT
4089.000	13415.354	DEBOLT FM	DBLT
4110.000	13484.252	FAULT	FLT
4111.000	13487.533	DEBOLT FM	DBLT

Site ID: 64918

Source ID: 00/15-01-046-20W5/0

Latitude: 052.937776

Well Length: 4621.100

Longitude: 116.768392

KB Elevation: 1500.500

Status: Capped Gaswell

Well Name: ESSO HANSON 15-1-46-20

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
1303.000	4274.935	WAPIABI FM	WPBI
1663.000	5456.037	BADHEART FM	BADH
1768.100	5800.853	CARDIUM FM	CARD
1813.600	5950.131	CARDIUM SD	CARD SD
1836.400	6024.935	BLACKSTONE FM	BKST
2670.400	8761.155	BLAIRMORE GRP	BL
2721.900	8930.118	FAULT	FLT
2722.000	8930.446	BLACKSTONE FM	BKST
2828.500	9279.855	FAULT	FLT
2828.600	9280.185	BLAIRMORE GRP	BL
3436.000	11272.966	CADOMIN FM	CADM
3453.400	11330.053	FERNIE GRP	FERN
3530.500	11583.006	ROCK CREEK MBR	RKCK
3560.700	11682.087	POKER CHIP SH	PK C SH
3595.400	11795.932	NORDEGG MBR	NORD
3625.600	11895.014	SPRAY RIVER GRP	SPRY R
3643.600	11954.069	TURNER VALLEY FM	TV
3721.300	12208.990	SHUNDA FM	SHUN
3801.200	12471.129	PEKISKO FM	PEK
3844.400	12612.861	BANFF FM	BNFF
4008.700	13151.903	EXSHAW FM	EX
4016.000	13175.854	PALLISER FM	PALL
4074.000	13366.143	FAULT	FLT
4074.100	13366.471	FERNIE GRP	FERN
4080.700	13388.124	ROCK CREEK MBR	RKCK
4093.200	13429.134	POKER CHIP SH	PK C SH
4105.000	13467.849	NORDEGG MBR	NORD
4123.900	13529.855	FAULT	FLT
4124.000	13530.185	CADOMIN FM	CADM
4126.700	13539.043	FERNIE GRP	FERN
4209.600	13811.024	ROCK CREEK MBR	RKCK
4237.600	13902.888	POKER CHIP SH	PK C SH
4273.300	14020.013	NORDEGG MBR	NORD
4300.700	14109.909	TRIASSIC SYSTEM	TRIA SYS
4316.000	14160.105	TURNER VALLEY FM	TV
4393.100	14413.059	SHUNDA FM	SHUN
4502.800	14772.966	PEKISKO FM	PEK
4550.100	14928.150	BANFF FM	BNFF

Site ID: 64919

Source ID: 00/02-20-046-20W5/0

Latitude: 052.975252

Well Length: 4365.000

Longitude: 116.867866

KB Elevation: 1450.100

Status: Capped Gaswell

Well Name: GULF ET AL HANSON 2-20-46-20

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
454.800	1492.126	WAPIABI FM	WPBI
455.000	1492.782	WAPIABI FM	WPBI
614.700	2016.732	CARDIUM FM	CARD
615.000	2017.717	CARDIUM FM	CARD
677.600	2223.097	CARDIUM SD	CARD SD
678.000	2224.409	CARDIUM SD	CARD SD
703.100	2306.759	BLACKSTONE FM	BKST
703.500	2308.071	BLACKSTONE FM	BKST
951.300	3121.063	FAULT	FLT
951.400	3121.391	CARDIUM FM	CARD
952.900	3126.313	FAULT	FLT
953.000	3126.641	CARDIUM FM	CARD
1017.100	3336.942	CARDIUM SD	CARD SD
1021.000	3349.738	CARDIUM SD	CARD SD
1050.000	3444.882	BLACKSTONE FM	BKST
1052.500	3453.084	BLACKSTONE FM	BKST
1162.300	3813.321	FAULT	FLT
1162.400	3813.648	CARDIUM FM	CARD
1164.900	3821.851	FAULT	FLT
1165.000	3822.179	CARDIUM FM	CARD
1224.100	4016.076	FAULT	FLT
1224.200	4016.404	CARDIUM FM	CARD
1226.900	4025.263	FAULT	FLT
1227.000	4025.591	CARDIUM FM	CARD
1276.600	4188.320	CARDIUM SD	CARD SD
1278.500	4194.554	CARDIUM SD	CARD SD
1316.000	4317.585	BLACKSTONE FM	BKST
1319.000	4327.428	BLACKSTONE FM	BKST
1433.800	4704.068	FAULT	FLT
1433.900	4704.396	WAPIABI FM	WPBI
1436.900	4714.239	FAULT	FLT
1437.000	4714.567	WAPIABI FM	WPBI
1448.700	4752.953	CARDIUM FM	CARD
1451.800	4763.124	CARDIUM FM	CARD
1519.900	4986.549	CARDIUM SD	CARD SD
1523.000	4996.719	CARDIUM SD	CARD SD
1536.800	5041.995	FAULT	FLT
1536.900	5042.323	CARDIUM FM	CARD

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
1539.900	5052.166	FAULT	FLT
1540.000	5052.494	CARDIUM FM	CARD
1554.900	5101.378	CARDIUM SD	CARD SD
1558.000	5111.549	CARDIUM SD	CARD SD
1596.800	5238.846	BLACKSTONE FM	BKST
1600.000	5249.344	BLACKSTONE FM	BKST
1789.200	5870.079	FAULT	FLT
1789.300	5870.407	CARDIUM FM	CARD
1792.900	5882.218	FAULT	FLT
1793.000	5882.546	CARDIUM FM	CARD
1856.200	6089.895	CARDIUM SD	CARD SD
1860.000	6102.362	CARDIUM SD	CARD SD
1900.000	6233.596	FAULT	FLT
1900.100	6233.924	CARDIUM SD	CARD SD
1903.900	6246.391	FAULT	FLT
1904.000	6246.719	CARDIUM SD	CARD SD
1944.000	6377.953	CARDIUM FM	CARD
1948.000	6391.076	CARDIUM FM	CARD
2035.900	6679.462	WAPIABI FM	WPBI
2040.000	6692.914	WAPIABI FM	WPBI
2132.700	6997.047	FAULT	FLT
2132.800	6997.375	CARDIUM FM	CARD
2136.900	7010.827	FAULT	FLT
2137.000	7011.155	CARDIUM FM	CARD
2191.800	7190.945	CARDIUM SD	CARD SD
2196.000	7204.725	CARDIUM SD	CARD SD
2221.800	7289.371	BLACKSTONE FM	BKST
2226.000	7303.150	BLACKSTONE FM	BKST
2843.700	9329.725	BLAIRMORE GRP	BL
2853.000	9360.236	BLAIRMORE GRP	BL
3095.100	10154.528	FAULT	FLT
3095.200	10154.855	BLAIRMORE GRP	BL
3109.900	10203.084	FAULT	FLT
3110.000	10203.412	BLAIRMORE GRP	BL
3466.300	11372.376	CADOMIN FM	CADM
3490.100	11450.460	FERNIE GRP	FERN
3491.500	11455.053	CADOMIN FM	CADM
3516.000	11535.434	FERNIE GRP	FERN
3567.600	11704.726	ROCK CREEK MBR	RKCK
3595.000	11794.620	ROCK CREEK MBR	RKCK
3612.100	11850.723	POKER CHIP SH	PK C SH
3630.800	11912.074	NORDEGG MBR	NORD
3640.000	11942.258	POKER CHIP SH	PK C SH
3659.000	12004.594	NORDEGG MBR	NORD
3661.400	12012.467	TRIASSIC SYSTEM	TRIA SYS
3690.000	12106.300	TRIASSIC SYSTEM	TRIA SYS
3711.800	12177.822	TURNER VALLEY FM	TV
3741.000	12273.622	TURNER VALLEY FM	TV
3793.200	12444.882	SHUNDA FM	SHUN
3823.000	12542.651	SHUNDA FM	SHUN
3859.400	12662.073	PEKISKO FM	PEK

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3889.500	12760.827	PEKISKO FM	PEK
3910.700	12830.381	BANFF FM	BNFF
3941.000	12929.790	BANFF FM	BNFF
4043.100	13264.765	FAULT	FLT
4043.200	13265.092	PEKISKO FM	PEK
4055.100	13304.135	BANFF FM	BNFF
4073.900	13365.813	FAULT	FLT
4074.000	13366.143	PEKISKO FM	PEK
4086.000	13405.513	BANFF FM	BNFF
4213.400	13823.491	FAULT	FLT
4213.500	13823.819	FERNIE GRP	FERN
4235.300	13895.341	ROCK CREEK MBR	RKCK
4245.400	13928.478	FAULT	FLT
4245.500	13928.807	FERNIE GRP	FERN
4259.500	13974.738	FAULT	FLT
4259.600	13975.066	TRIASSIC SYSTEM	TRIA SYS
4267.500	14000.984	ROCK CREEK MBR	RKCK
4285.800	14061.023	TURNER VALLEY FM	TV
4291.900	14081.037	FAULT	FLT
4292.000	14081.365	TRIASSIC SYSTEM	TRIA SYS
4318.500	14168.308	TURNER VALLEY FM	TV

Site ID: 64920

Source ID: 00/15-25-046-20W5/0

Latitude: 052.997818

Well Length: 4445.500

Longitude: 116.772585

KB Elevation: 1433.500

Status: Abandoned

Well Name: TPOC ET AL REDCAP 15-25-46-20

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3884.100	12743.111	CADOMIN FM	CADM
3901.400	12799.869	FERNIE GRP	FERN
3947.500	12951.116	ROCK CREEK MBR	RKCK
3963.900	13004.921	POKER CHIP SH	PK C SH
4001.400	13127.953	NORDEGG MBR	NORF
4003.200	13133.858	CADOMIN FM	CADM
4020.900	13191.930	FERNIE GRP	FERN
4034.000	13234.908	TRIASSIC SYSTEM	TRIA SYS
4053.800	13299.869	ELKTON MBR	ELTN
4068.500	13348.098	ROCK CREEK MBR	RKCK
4086.100	13405.841	POKER CHIP SH	PK C SH
4109.000	13480.972	SHUNDA FM	SHUN
4123.300	13527.887	NORDEGG MBR	NORF
4157.500	13640.093	TRIASSIC SYSTEM	TRIA SYS
4177.300	13705.053	ELKTON MBR	ELTN
4186.700	13735.894	PEKISKO FM	PEK
4232.500	13886.155	BANFF FM	BNFF
4232.500	13886.155	SHUNDA FM	SHUN
4310.200	14141.077	PEKISKO FM	PEK
4355.900	14291.011	BANFF FM	BNFF

Site ID: 137232

Source ID: 00/15-03-046-21W5/0

Latitude: 052.936469

Well Length: 4402.000

Longitude: 116.966833

KB Elevation: 1687.900

Status: Abandoned

Well Name: GULF AEC MOUNTAIN 15-3-46-21

NOTE: Data lines, in 'bold text', represent true vertical depths.
Data lines, in 'normal text', represent as-drilled depths.

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
733.000	2404.856	CARDIUM SD	CARD SD
734.000	2408.136	CARDIUM SD	CARD SD
832.400	2730.971	BLACKSTONE FM	BKST
834.000	2736.220	BLACKSTONE FM	BKST
1177.900	3864.501	FAULT	FLT
1178.200	3865.486	CARDIUM SD	CARD SD
1184.000	3884.515	FAULT	FLT
1184.300	3885.499	CARDIUM SD	CARD SD
1228.000	4028.872	BLACKSTONE FM	BKST
1260.300	4134.843	BLACKSTONE FM	BKST
2175.000	7135.827	MOUNTAIN PARK FM	MTN PK
2197.000	7208.005	MOUNTAIN PARK FM	MTN PK
2540.100	8333.662	LUSCAR FM	LUSK
2575.000	8448.163	LUSCAR FM	LUSK
2955.100	9695.211	CADOMIN FM	CADM
2999.200	9839.896	NIKANASSIN FM	NIKA
3005.000	9858.924	CADOMIN FM	CADM
3051.000	10009.843	NIKANASSIN FM	NIKA
3113.400	10214.567	FERNIE GRP	FERN
3171.000	10403.544	FERNIE GRP	FERN
3260.400	10696.851	ROCK CREEK MBR	RKCK
3324.000	10905.512	ROCK CREEK MBR	RKCK
3335.100	10941.930	NORDEGG MBR	NORD
3401.000	11158.137	NORDEGG MBR	NORD
3435.600	11271.654	TRIASSIC SYSTEM	TRIA SYS
3498.400	11477.690	FAULT	FLT
3500.800	11485.564	TRIASSIC SYSTEM	TRIA SYS
3505.000	11499.344	TRIASSIC SYSTEM	TRIA SYS
3525.400	11566.273	FAULT	FLT
3525.900	11567.913	NORDEGG MBR	NORD
3541.700	11619.751	FAULT	FLT
3541.900	11620.407	NORDEGG MBR	NORD
3570.000	11712.599	FAULT	FLT
3572.500	11720.801	TRIASSIC SYSTEM	TRIA SYS
3574.400	11727.034	FAULT	FLT
3574.700	11728.019	FERNIE GRP	FERN
3598.000	11804.462	FAULT	FLT

Depth Metres	Depth Feet	Horizon Name	Horizon Name Abbreviation
3598.500	11806.103	NORDEGG MBR	NORD
3601.300	11815.289	ROCK CREEK MBR	RKCK
3615.000	11860.236	FAULT	FLT
3615.300	11861.221	NORDEGG MBR	NORD
3626.800	11898.950	FAULT	FLT
3627.200	11900.263	ROCK CREEK MBR	RKCK
3633.900	11922.244	FAULT	FLT
3634.200	11923.229	NIKANASSIN FM	NIKA
3649.000	11971.785	FAULT	FLT
3649.300	11972.770	FERNIE GRP	FERN
3677.000	12063.648	ROCK CREEK MBR	RKCK
3703.500	12150.591	FAULT	FLT
3704.000	12152.231	ROCK CREEK MBR	RKCK
3711.000	12175.197	FAULT	FLT
3711.300	12176.182	NIKANASSIN FM	NIKA
3812.400	12507.874	FAULT	FLT
3812.700	12508.858	LUSCAR FM	LUSK
3839.300	12596.129	CADOMIN FM	CADM
3858.400	12658.793	NIKANASSIN FM	NIKA
3901.000	12798.557	FAULT	FLT
3901.300	12799.541	LUSCAR FM	LUSK
3904.700	12810.695	FERNIE GRP	FERN
3930.000	12893.701	CADOMIN FM	CADM
3950.000	12959.318	NIKANASSIN FM	NIKA
3996.200	13110.893	ROCK CREEK MBR	RKCK
3998.500	13118.438	FERNIE GRP	FERN
4061.900	13326.443	NORDEGG MBR	NORD
4094.500	13433.399	TRIASSIC SYSTEM	TRIA SYS
4096.500	13439.961	ROCK CREEK MBR	RKCK
4160.900	13651.247	FAULT	FLT
4161.200	13652.232	TRIASSIC SYSTEM	TRIA SYS
4164.000	13661.418	NORDEGG MBR	NORD
4197.700	13771.982	TRIASSIC SYSTEM	TRIA SYS
4217.400	13836.614	TURNER VALLEY FM	TV
4263.500	13987.861	FAULT	FLT
4263.800	13988.845	TRIASSIC SYSTEM	TRIA SYS
4293.200	14085.303	TOTAL DEPTH	TD
4325.000	14189.633	TURNER VALLEY FM	TV
4402.000	14442.258	TOTAL DEPTH	TD

Appendix 3. 83C/15 - Coal Intersections of the Coal Drillholes

title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr
 title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr

title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr
 title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr

title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr
 title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr

title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr
 title cat_id m typ ty 0 to re meta meta nro orig
 102220 21217 5 4 20 4 5 SE -1001.0-271.4 20415 000001
 CONSOLIDATION COAL COMPANY OF CANAD 34
 slow to dep_log resp epst epst dtd qual
 1532.3 61.5 61.5 11.5 70100 000100 0
 plstyp plstam dep chss thck seamn min
 1 131400 20.10 20.10 20.24 0.75 0 25 UNDEFINED
 em_rnr

1 12272 51.51 15.15 0.19 15 15 0820 C1
 12273 51.51 15.15 0.21 0 25 UNDEFINED
 12274 102.21 102.21 0.21 0 25 UNDEFINED

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 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

slav vd dep_log topo opst doid qual
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 12276 15.45 15.45 0.21 0 25 UNDEFINED
 12277 15.45 15.45 0.21 0 25 UNDEFINED
 12278 15.45 15.45 0.21 0 25 UNDEFINED

altid out_id m top 79 0 70 70 mean memo mto orig
 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

slav vd dep_log topo opst doid qual
 1272.5 115.0 100.5 5.1 011000 011100 0
 phstyp plnum deep chaso thlck wssmo mla
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 12280 15.45 15.45 0.21 0 25 UNDEFINED
 12281 15.45 15.45 0.21 0 25 UNDEFINED
 12282 15.45 15.45 0.21 0 25 UNDEFINED

1 12283 51.51 15.15 0.19 15 15 0820 C1
 12284 51.51 15.15 0.21 0 25 UNDEFINED
 12285 102.21 102.21 0.21 0 25 UNDEFINED

altid out_id m top 79 0 70 70 mean memo mto orig
 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

slav vd dep_log topo opst doid qual
 1272.5 115.0 100.5 5.1 011000 011100 0
 phstyp plnum deep chaso thlck wssmo mla
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 12287 15.45 15.45 0.21 0 25 UNDEFINED
 12288 15.45 15.45 0.21 0 25 UNDEFINED
 12289 15.45 15.45 0.21 0 25 UNDEFINED

altid out_id m top 79 0 70 70 mean memo mto orig
 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

slav vd dep_log topo opst doid qual
 1272.5 115.0 100.5 5.1 011000 011100 0
 phstyp plnum deep chaso thlck wssmo mla
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 12291 15.45 15.45 0.21 0 25 UNDEFINED
 12292 15.45 15.45 0.21 0 25 UNDEFINED
 12293 15.45 15.45 0.21 0 25 UNDEFINED

1 12294 51.51 15.15 0.19 15 15 0820 C1
 12295 51.51 15.15 0.21 0 25 UNDEFINED
 12296 102.21 102.21 0.21 0 25 UNDEFINED

altid out_id m top 79 0 70 70 mean memo mto orig
 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

slav vd dep_log topo opst doid qual
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 phstyp plnum deep chaso thlck wssmo mla
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 12299 15.45 15.45 0.21 0 25 UNDEFINED
 12300 15.45 15.45 0.21 0 25 UNDEFINED

altid out_id m top 79 0 70 70 mean memo mto orig
 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

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 12303 15.45 15.45 0.21 0 25 UNDEFINED
 12304 15.45 15.45 0.21 0 25 UNDEFINED

1 12305 51.51 15.15 0.19 15 15 0820 C1
 12306 51.51 15.15 0.21 0 25 UNDEFINED
 12307 102.21 102.21 0.21 0 25 UNDEFINED

altid out_id m top 79 0 70 70 mean memo mto orig
 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

slav vd dep_log topo opst doid qual
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 phstyp plnum deep chaso thlck wssmo mla
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 12311 15.45 15.45 0.21 0 25 UNDEFINED

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 102533 02464 5 46 10 10 10 ME -1271.0-021.0 02415 02400 7
 LENDC TESTING LBN.

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 phstyp plnum deep chaso thlck wssmo mla
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 12313 15.45 15.45 0.21 0 25 UNDEFINED
 12314 15.45 15.45 0.21 0 25 UNDEFINED
 12315 15.45 15.45 0.21 0 25 UNDEFINED

altid	cat_id	top	ty	z	to	mech	meto	mea	orig
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LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
12010	41.0	57.2	12.2	00100	01110	0			
paltyp altam									
12010	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12010	41.0	57.2	12.2	00100	01110	0			
altid cat_id top ty z to mech meto mea orig									
12010	41010	5	16	16	22	ME	-189.0-111.0	0215	00010
LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
12010	41.0	57.2	12.2	00100	01110	0			
paltyp altam									
12010	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12010	41.0	57.2	12.2	00100	01110	0			

altid	cat_id	top	ty	z	to	mech	meto	mea	orig
12011	41011	5	16	16	22	ME	-220.0-111.0	0215	00011
LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
12011	41.0	57.2	12.2	00100	01110	0			
paltyp altam									
12011	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12011	41.0	57.2	12.2	00100	01110	0			
altid cat_id top ty z to mech meto mea orig									
12011	41011	5	16	16	22	ME	-220.0-111.0	0215	00011
LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
12011	41.0	57.2	12.2	00100	01110	0			
paltyp altam									
12011	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12011	41.0	57.2	12.2	00100	01110	0			

altid	cat_id	top	ty	z	to	mech	meto	mea	orig
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LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
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paltyp altam									
12012	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12012	41.0	57.2	12.2	00100	01110	0			
altid cat_id top ty z to mech meto mea orig									
12012	41012	5	16	16	22	ME	-189.0-111.0	0215	00012
LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
12012	41.0	57.2	12.2	00100	01110	0			
paltyp altam									
12012	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12012	41.0	57.2	12.2	00100	01110	0			

altid	cat_id	top	ty	z	to	mech	meto	mea	orig
12013	41013	5	16	16	22	ME	-189.0-111.0	0215	00013
LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
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paltyp altam									
12013	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12013	41.0	57.2	12.2	00100	01110	0			
altid cat_id top ty z to mech meto mea orig									
12013	41013	5	16	16	22	ME	-189.0-111.0	0215	00013
LEWCO TESTING LTD.									
altw	td	deg	log	range	epct	azim	azim	qual	
12013	41.0	57.2	12.2	00100	01110	0			
paltyp altam									
12013	41.0	57.2	12.2	00100	01110	0			
cm_mtr									
12013	41.0	57.2	12.2	00100	01110	0			

Table with multiple columns containing data for 'ent_mtr'. Includes rows for '132250 41.0 68.7 3.5 688200 010000 #', '132250 41.0 68.7 3.5 688200 010000 #', and '132250 41.0 68.7 3.5 688200 010000 #'. The right side of the table shows various 'ent_mtr' values such as '132250 41.0 68.7 3.5 688200 010000 #'. The label 'ent_mtr' is printed vertically on the right side.

Table with multiple columns containing data for 'ent_mtr'. Includes rows for '132250 41.0 68.7 3.5 688200 010000 #', '132250 41.0 68.7 3.5 688200 010000 #', and '132250 41.0 68.7 3.5 688200 010000 #'. The right side of the table shows various 'ent_mtr' values such as '132250 41.0 68.7 3.5 688200 010000 #'. The label 'ent_mtr' is printed vertically on the right side.

Table with multiple columns containing data for 'ent_mtr'. Includes rows for '132250 41.0 68.7 3.5 688200 010000 #', '132250 41.0 68.7 3.5 688200 010000 #', and '132250 41.0 68.7 3.5 688200 010000 #'. The right side of the table shows various 'ent_mtr' values such as '132250 41.0 68.7 3.5 688200 010000 #'. The label 'ent_mtr' is printed vertically on the right side.

Table with multiple columns containing data for 'ent_mtr'. Includes rows for '132250 41.0 68.7 3.5 688200 010000 #', '132250 41.0 68.7 3.5 688200 010000 #', and '132250 41.0 68.7 3.5 688200 010000 #'. The right side of the table shows various 'ent_mtr' values such as '132250 41.0 68.7 3.5 688200 010000 #'. The label 'ent_mtr' is printed vertically on the right side.

131275	131276	131277	131278	131279	131280	131281	131282	131283	131284	131285	131286	131287	131288	131289	131290	131291	131292	131293	131294	131295	131296	131297	131298	131299	131300
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131353	131354	131355	131356	131357	131358	131359	131360	131361	131362	131363	131364	131365	131366	131367	131368	131369	131370	131371	131372	131373	131374	131375	131376	131377	131378
131353	131354	131355	131356	131357	131358	131359	131360	131361	131362	131363	131364	131365	131366	131367	131368	131369	131370	131371	131372	131373	131374	131375	131376	131377	131378
131353	131354	131355	131356	131357	131358	131359	131360	131361	131362	131363	131364	131365	131366	131367	131368	131369	131370	131371	131372	131373	131374	131375	131376	131377	131378

Table with columns: acct, acct_id, top, pg, n, to, cc, mesh, memo, mcr, orig, LENO, TESTING, LTN, etc. Includes sub-tables for pldtyp, phnum, and emp_msr.

Table with columns: acct, acct_id, top, pg, n, to, cc, mesh, memo, mcr, orig, LENO, TESTING, LTN, etc. Includes sub-tables for pldtyp, phnum, and emp_msr.

Table with columns: acct, acct_id, top, pg, n, to, cc, mesh, memo, mcr, orig, LENO, TESTING, LTN, etc. Includes sub-tables for pldtyp, phnum, and emp_msr.

Table with columns: acct, acct_id, top, pg, n, to, cc, mesh, memo, mcr, orig, LENO, TESTING, LTN, etc. Includes sub-tables for pldtyp, phnum, and emp_msr.

Appendix 4. 83C/15 - Palynological Analysis of AGS Samples Collected in 1993

**PALYNOLOGICAL ANALYSIS OF
SAMPLES FROM THE COAL VALLEY
AREA, ALBERTA**

by
G. Dolby

Project 93.10
October 1993

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T6H 5X2

Prepared by:
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T3E 6H6

Polynology Samples '93 ... Coal Completion Project

RC93-1A ; 537 540E 5 859 532 N ; 83C/16

RC93-5 ; 536 400E 5 859 780 N ; 83C/16

RC93-6 ; 534 662E 5 859 815 N ; 83C/16

RC93-7 ; 529 102E 5 870 587 N ; 83C/15

RC93-8 ; 528 185E 5 871 565 N ; 83C/15

CONTENTS

SECTION 1	INTRODUCTION.....	Page 2
SECTION 2	RESULTS.....	3

Five samples from the Coal Valley area of Alberta were processed for palynological analysis. Most yielded rich assemblages but RC93-6 was relatively poor. Four of the samples are clearly Maastrichtian in age but the result for RC93-1A is equivocal despite the fact that the sample is from the Coalspur Beds of Palaeocene age. The results are summarised below and described in detail in Section 2.

Sample	Age
RC93-1A	Palaeocene
RC93-5	early Maastrichtian
RC93-6	early Maastrichtian
RC93-7	early Maastrichtian
RC93-8	early Maastrichtian

SECTION 2

RESULTS

SAMPLE: RC93-1A
Age: Palaeocene, on field evidence

Remarks

This sample comes from the Palaeocene Coalspur Beds but the assemblage recovered is unusual. It lacks the Palaeocene angiosperm pollen association which is normally found in these beds but it contains several typically Cretaceous spore species such as *Foraminisporis wonthaggiensis*, *Cicatricosisporites* spp., *Eucommiidites minor* and *Tigrisporites* sp. which were presumably reworked.

Algal cysts of the *Schizosporis* type are abundant but have little stratigraphic value. They occur in the Cretaceous but a "spike" in their abundance has been observed in the basal Palaeocene in some western Canadian localities. This is obviously a response to the environment.

Despite the excellent recovery, there are insufficient data to confirm the age.

Significant species

Schizosporis spp. (A)
Cyathidites spp. (A)
Cicatricosisporites spp.
Tigrisporites sp.

Bisaccate pollen (A)
Lycopodiumsporites sp.
Eucommiidites minor
Angiosperm pollen (R)

SAMPLES: RC9-5, 6, 7, 8
Age: Late Cretaceous, early Maastrichtian

Remarks

All four samples contain angiosperm pollen species typical of the Maastrichtian. The species variants recorded are usually found in the early Maastrichtian. No late Maastrichtian forms are present.

Sample RC93-5 contains abundant *Foraminisporis wonthaggiensis* and *Balmeisporites* spp. with small numbers of *Aquilapollenites amplus* and *A. augustus*. Rare brackish or freshwater microplankton are also present.

Sample RC93-6 is dominated by fusinite and palynomorphs are rare. A specimen of *A. funkhouserii* confirms the age.

Sample RC93-7 yielded numerous early Maastrichtian variants of *Pulcheripollenites krempii* and *Manicorpus* sp. as well as *A. quadrilobus*.

Sample RC93-8 contained numerous *Aquilapollenites* species including *A. aff. amplus*, *A. cf. quadrilobus*, *A. funkhouserii* and *A. cf. stelkii*. *Siberiapollis* sp. also confirms the early Maastrichtian age since this species does not range into the late Maastrichtian.

Significant species

RC93-5	<i>Aequitriradites spinulosus</i> <i>Foraminisporis wonthaggiensis</i> (A) <i>Eucommiidites minor</i> <i>Aquilapollenites amplus</i> <i>Pulcheripollenites krempii</i> <i>Tetranguladinium</i> sp.	<i>Cicatricosisporites</i> spp. <i>Balmeisporites</i> spp. (A) <i>Schizosporis</i> spp. (R) <i>A. augustus</i> <i>Cranwellia</i> sp. Dinocyst fragments
RC93-6	<i>Aquilapollenites funkhouserii</i>	<i>Balmeisporites</i> sp.
RC93-7	<i>Pulcheripollenites krempii</i> <i>Manicorpus</i> spp. <i>Schizosporis</i> spp.	<i>Orbiculapollis</i> aff. <i>globosus</i> <i>Aquilapollenites quadrilobus</i> <i>Foraminisporis wonthaggiensis</i>
RC93-8	<i>Aquilapollenites</i> aff. <i>amplus</i> <i>A. funkhouserii</i> <i>Siberiapollis</i> sp.	<i>A. cf. quadrilobus</i> <i>A. cf. stelkii</i>