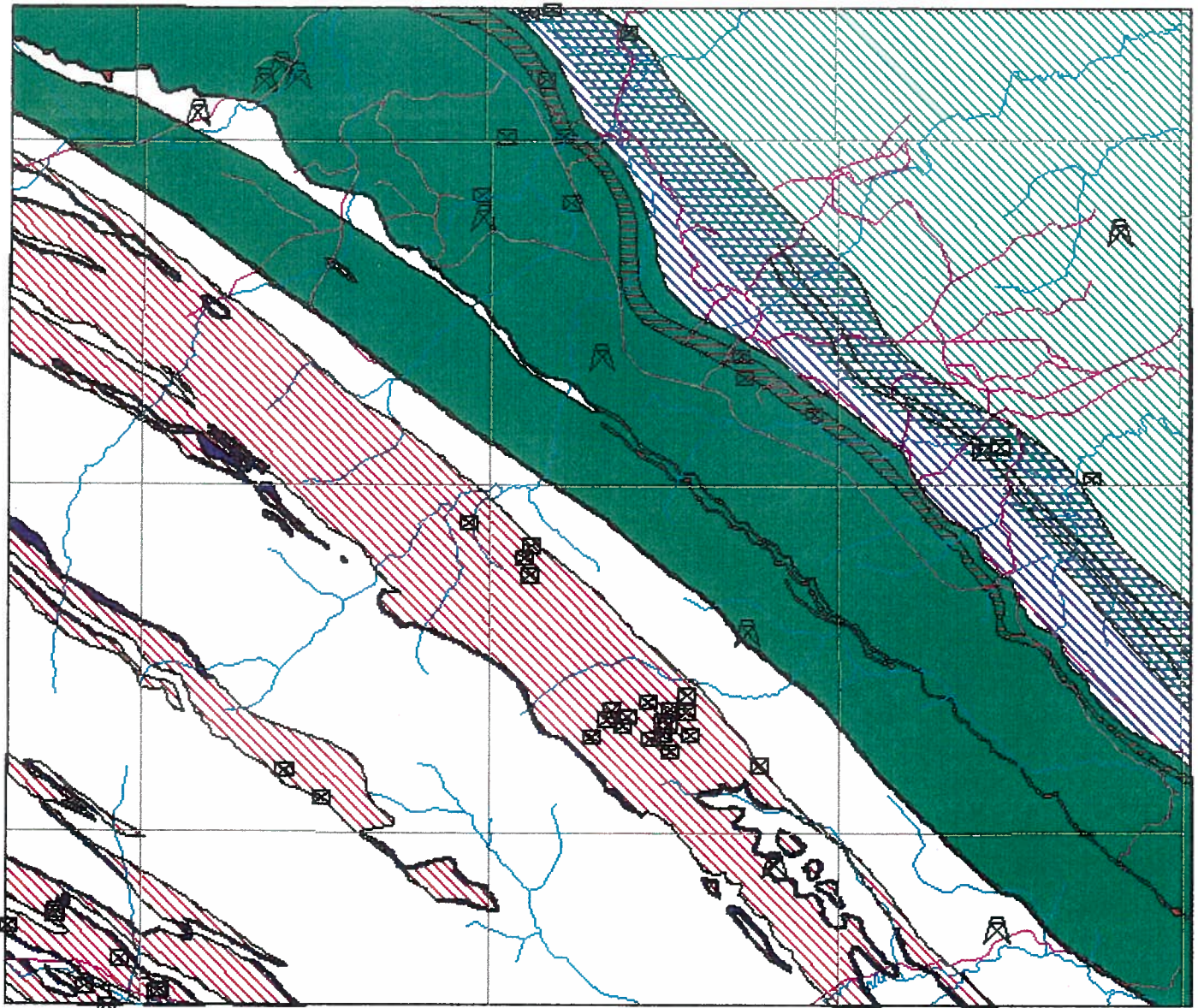


ALBERTA GEOLOGICAL SURVEY - COAL GEOLOGY

COAL COMPILATION PROJECT - MOBERLY CREEK

NTS 83E/9

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Coal Compilation Project
Open File Report: 1990-3
Coal Geology Section
Alberta Geological Survey

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Foreword

The prime objective of the pilot Coal Compilation Project (CCP) 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 set is intended to be a stand alone, unique product contributing to an overall synthesis of information. Maps generated will be at a regional or reconnaissance level. Collection of new data was limited. Data compiled and evaluated will be based on the following principal sources; Alberta Research Council/Alberta Geological Survey (ARC/AGS); Energy Resources Conservation Board (ERCB); Geological Survey of Canada (GSC/ISPG); and information from the coal industry sector. Industry cooperation and support is shown in the making available of unpublished corporate reports to the AGS. The availability of these reports is an essential ingredient for the success of this project.

The CCP will encompass some eighteen 1: 50 000 scale mapsheets to be completed over a three year period.

Custom maps and database searches can be obtained by contacting the Coal Geology 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 Center of the Energy Resources Conservation Board 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

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Executive Summary

The study area of mapsheet NTS 83E/9 (Moberly Creek) is located in west-central Alberta. The communities of Hinton (83F/5) and Grande Cache (83E/14) are the primary population centers near the study area. Much of the Regional mapsheet 83E/9 is located within the proposed Yellowhead North IRP. Willmore Wilderness Provincial Park, in part, located in the southwest half of the mapsheet, is located outside of the Yellowhead North IRP.

Within the mapsheet 83E/9, coal measures are deposited amid thick successions of sandstones, siltstones, shales and conglomerates. These coal-bearing sequences are part of the Lower Cretaceous Luscar Group, Upper Cretaceous Brazeau Formation and Paleocene Coalspur Formations.

The Luscar Group consists of sandstones, shales, conglomerates and coals, deposited predominantly in nonmarine environments. Strata of the Lower Cretaceous Luscar Group have been subjected to deformation which has produced northwesterly trending thrust faults and folds. As a result, the Luscar Group coal seams are now exposed in a series of northwest trending thrust sheets and associated folds. Often the coal seams have been further locally folded and faulted. Depending on the severity of these local structural complexities, and acknowledging a general discontinuity of coal outcrops in the Inner Foothills, coal seam correlations and evaluations can be extremely difficult. Several seams have been identified within the mapsheet. No correlations could be established for the Luscar Group coal seams. Individual seam thicknesses vary to a maximum of 10 meters.

The Upper Cretaceous Brazeau Formation and the Paleocene Coalspur Formation are located in a gentle monocline that trends in a northwesterly strike direction. Strata dip to the northeast, generally between 5 and 20 degrees. No other major structures were noted from the available outcrop or drillhole data.

The Brazeau Formation consists of nonmarine sandstones, conglomerates, shales and coals and lies conformably above the marine Wapiabi Formation. The Brazeau Formation is overlain by the Entrance Conglomerate (or an equivalent sandstone). In the upper 200 meters of the Brazeau Formation, coal seams have been identified. On the mapsheet, at least two Brazeau coal seams have been intersected in a limited number of drillholes.

The Coalspur Formation consists of nonmarine sandstones, siltstones, shales and coals and overlies the Entrance Conglomerate (or an equivalent sandstone). Within the mapsheet, as many as 12 coal seams have been identified within the Coalspur Formation. The seams have an average aggregate thickness of 17.5 meters and are contained within a 250+ meter-thick sedimentary sequence. It should be noted that some of the 'traditional' Coalspur coal zones (ie, Silkstone and Mynheer) have not been recognized within the mapsheet area. It is believed there is a stratigraphic interval of 400-450 meters from Seam 1 to the underlying Entrance Conglomerate.

A promising area for future work is the coal zone trend to the north of the Jarvis Lake Coal Field. Additional subsurface geological studies, including the construction of regional cross-sections and seam correlations, are needed in the eastern and northeastern regions of the map area. Structural geology studies are critical for an evaluation of the central and western areas.

Introduction

Objective

The objective of the pilot Coal Compilation Project (CCP) is to provide coal resource maps on a 1: 50 000 scale, which will

- o stimulate and support industry exploration programs, and
- o 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.

Each map set is intended to be a stand alone, unique product contributing to an overall synthesis of information. Maps generated will be at a regional or reconnaissance level. Collection of new data and/or actual time in the field will be limited. Data compilation and evaluation will be based on the following principal sources

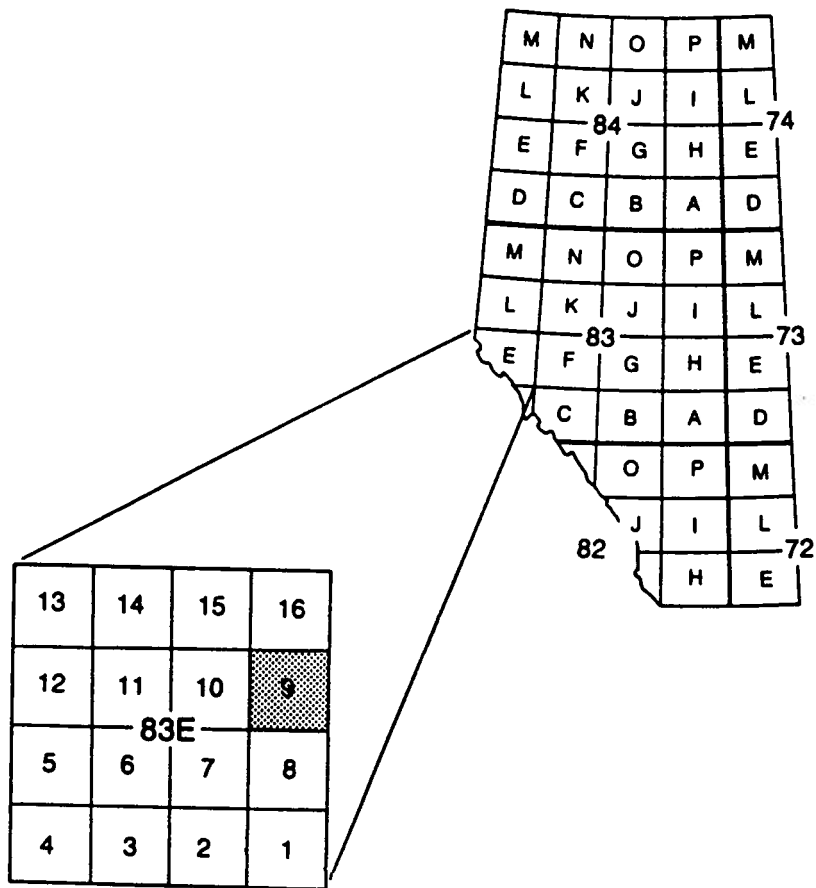
- o Alberta Research Council/Alberta Geological Survey (ARC/AGS)
- o Energy Resources Conservation Board (ERCB)
- o Geological Survey of Canada (GSC/ISPG)
- o cooperation from the coal industry sector.

The CCP will encompass some eighteen 1: 50 000 scale mapsheets to be completed over a three year period.

When completed, the CCP can be evaluated to determine if the project should be expanded province wide. As each map represents a complete product, the technical committee could monitor the progress of the research and react to changing priorities without being committed to spending funds more than one year in advance.

The fiscal year, 1989-90, was the first year of the CCP. The CCP focussed on the Hinton - Grande Cache Corridor and included four contiguous NTS mapsheets (see Figure 1). From

Figure 1. Coal Compilation - Moberly Creek NTS 83E/9: Location



southeast to northwest, they are 83F/5 (Entrance), **83E/9 (Moberly Creek)**, 83E/15 (Pierre Greys Lakes) and 83E/14 (Grande Cache).

For each mapsheet, a product has been generated that includes

- o a coal resource map (scale 1: 50 000)
- o 'snapshot' maps (scale 1: 250 000)
- o supplementary text.

Methodology and Discussion of GIS

Geographic Information Systems (GIS) which encompass spacial data storage, display and analysis by computer have been employed in the municipal, environmental and forestry sectors for many years. The term GIS has been applied to mainly surface or geographic studies and has not as a rule been extended to the 3rd dimension (depth) or temporal aspects (time). A Geoscience Information System (GSIS) goes beyond what is generally thought of as traditional GIS and is focused strongly on subsurface information. An essential feature of the Coal Compilation Project 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. In addition custom maps can be produced from the various data and graphic elements that have been entered into the information system.

Much of the present methodology, software and hardware used in this study is described in detail in Alberta Research Council, Open File report 1989-03A (Richardson et al., 1989). In general both digital and hard copy data or graphic elements are entered into a GIS software product (pcARC/INFO) where they can be analyzed, displayed or plotted to hardcopy.

During this first year of the CCP, substantial time was spent in

- o developing the hardcopy, product template, and
- o replicating the above template into the electronic medium of GIS.

Location and Access

The study area of mapsheet NTS 83E/9 (Moberly Creek) is located in west-central Alberta between Latitudes 53° 30' and 53° 45' North, and Longitudes 118° 00' and 118° 30' West (West of the 6th Meridian, between Townships 52 and 55 inclusive, and Ranges 1 to 4 inclusive).

The communities of Hinton (83F/5) and Grande Cache (83E/14) are the primary population centers near the study area.

Paved access to and within the area is provided by Highways No. 16 and 40 . Numerous all-weather, gravelled wellsite and logging roads also exist. Additional secondary seasonal access is provided by a network of roads, trails and seismic lines.

The area is serviced by the Canadian National Railway and the Alberta Resources Railway; the rail lines have the capacity to accomodate coal unit trains. Coal could be shipped to:

- o Ridley Island at Prince Rupert, B.C. located
 - o 1170 rail-kilometres from Hinton
 - o 1310 rail-kilometres from Grande Cache
- o Neptune Terminals at Vancouver, B.C. located
 - o 1010 rail-kilometres from Hinton
 - o 1150 rail-kilometres from Grande Cache.

Geological Setting

Within the mapsheet 83E/9, coal measures are deposited amid thick successions of sandstones, siltstones, shales and conglomerates. These coal-bearing sequences are part of the

- o Lower Cretaceous Luscar Group
- o Upper Cretaceous Brazeau Formation
- o Paleocene Coalspur Formation.

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

Stratigraphy of Coal-Bearing Units

Luscar Group

The Luscar Group consists of sandstones, shales, conglomerates and coals, deposited predominantly in nonmarine environments. The strata of the Group have been divided into four formations (Langenberg and McMechan, 1985), ie:

- o Cadomin Formation, a basal conglomerate
- o Gladstone Formation, predominantly nonmarine sandstones and shales
- o Moosebar Formation, marine shales and sandstones
- o Gates Formation, nonmarine sandstones, shales and coals.

Gates Formation

The Gates Formation can be divided into three members - the Torrens, Grande Cache and Mountain Park members. The Grande Cache Member contains the economic coal seams within the Luscar Group.

Several seams have been identified within the mapsheet. No correlations could be established for the Luscar Group coal seams. Individual seam thicknesses vary to a maximum of 10 meters.

Brazeau Formation

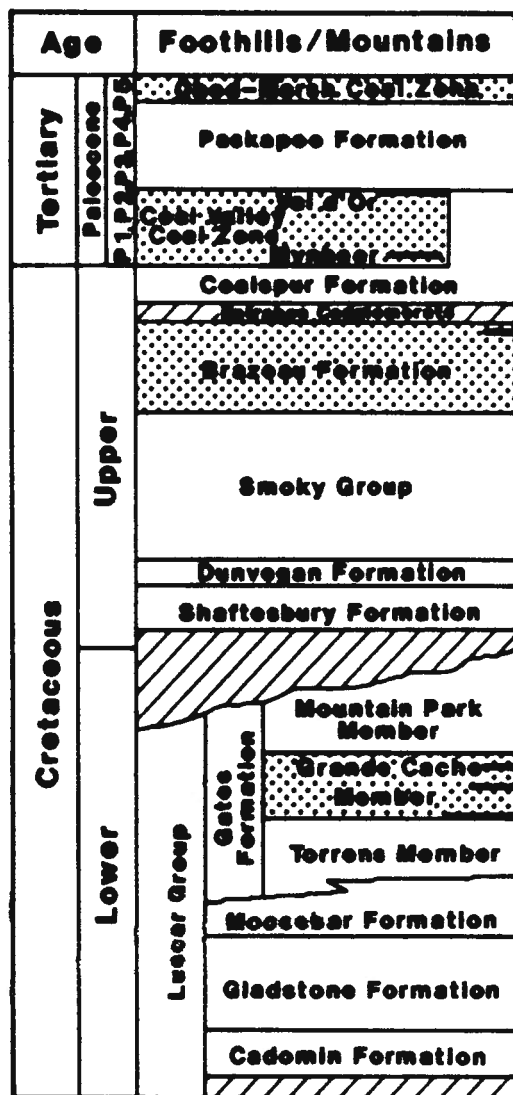
The Brazeau Formation consists of nonmarine sandstones, conglomerates, shales and coals and lies conformably above the marine Wapiabi Formation. Further, the Brazeau Formation is underlain by the Entrance Conglomerate (or an equivalent sandstone).

In the upper 200 meters of the Brazeau Formation, coal seams have been identified. On the mapsheet, at least two Brazeau coal seams have been intersected in a limited number of drillholes. In stratigraphically descending order, the following seams have been noted:




<u>SEAM</u>	<u>DESIGN</u>	<u>AVE COAL TH (m)</u>	<u>AVE INTERBURDEN (m)</u>	<u>REMARKS</u>
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0.9

Figure 2. Stratigraphic Nomenclature Adopted for the Coal Compilation Program (after McDonald et al., 1989)



LEGEND

-  Coal-bearing unit
-  Major seams
-  Hiatus or missing interval

Coal Valley Coal Zone	
Val d'Or	—
Arbour	—
McLeod	—
McPherson	—
Silkstone	—
Mynheer	—

0.6

Coalspur Formation

The Coalspur Formation consists of nonmarine sandstones, siltstones, shales and coals and overlies the Entrance Conglomerate (or an equivalent sandstone).

Within the mapsheet, as many as 12 coal seams have been identified within the Coalspur Formation. The seams have an average aggregate thickness of 17.5 meters and are contained within a 250+ meter-thick sedimentary sequence. Seam designations, originated at the industry level, have been modified and incorporated into this compilation. In stratigraphically descending order, the following seams have been noted:

<u>SEAM DESGNTN</u>	<u>AVE COAL TH (m)</u>	<u>AVE INTERBURDEN (m)</u>	<u>REMARKS</u>
7	0.7		
		30	
6	1.5		
		13	
5	1.3		
		84	
4	3.5		?...Val d'Or equivalent
		31	
3D	0.8		
		1	
3C	1.5		
		2	
3B	2.8		
		17	
3A	1.5		?...Arbour equivalent
		11	
MCLD	0.7		?...McLeod equivalent
		9	
2	1.0		?...McPherson equiv.
		20	
1	1.5		?...McPherson equiv.
		2	

1L

0.7

?...McPherson equiv.

It should be noted that some of the 'traditional' Coalspur coal zones (ie, Silkstone and Mynheer) have not been recognized within the mapsheet area. A detailed stratigraphic study is required to prove the merits of the above noted seam equivalencies. These seam correlations are preliminary.

It is believed that there is a stratigraphic interval of 400-450 meters from Seam 1 to the underlying Entrance Conglomerate.

Structure

Strata of the Lower Cretaceous Luscar Group have been subjected to deformation which has produced northwesterly trending thrust faults and folds. As a result, the Luscar Group coal seams are now exposed in a series of northwest trending thrust sheets. Often the coal seams have been further locally folded and faulted. Depending on the severity of these local structural complexities, and acknowledging a general discontinuity of coal outcrops in the Inner Foothills, coal seam correlations and evaluations can be extremely difficult.

The Upper Cretaceous Brazeau Formation and the Paleocene Coalspur Formation are located in a gentle monocline that trends in a northwesterly strike direction. Strata dip to the northeast, generally between 5 and 20 degrees. No other major structures were noted from the available outcrop or drillhole data.

Environmental Setting

Integrated Resource Plans (IRP's)

Much of the Regional mapsheet 83E/9 is located within the proposed Yellowhead North IRP. Willmore Wilderness Provincial Park, in part, located in the southwest half of the mapsheet, is located outside of the Yellowhead North IRP. A separate IRP, for the Willmore Wilderness Provincial Park area, may be undertaken at some time in the future.

In the May, 1989 edition of Planning in Progress (Volume 6, Number 2), the status of the Yellowhead North IRP was capsuled in the following statement...

'Initiation of this plan has been deferred. (Resource Planner: Tom Cottrell).'

There is no mention of the Yellowhead North IRP in the January, 1990 edition of Planning in Progress (Volume 7, Number 1).

See also Figure 3 for locations/outlines of IRP's in the surrounding vicinity.

Resource Management

Coal Dispositions

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

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

According to a recent (1989-05-19) Alberta Energy Coal Disposition Map of 83E/9, the following 2 companies are involved in one or more of the above activities

- o Dencoke Coal Limited
- o Seaton-Jordan & Associates Ltd.

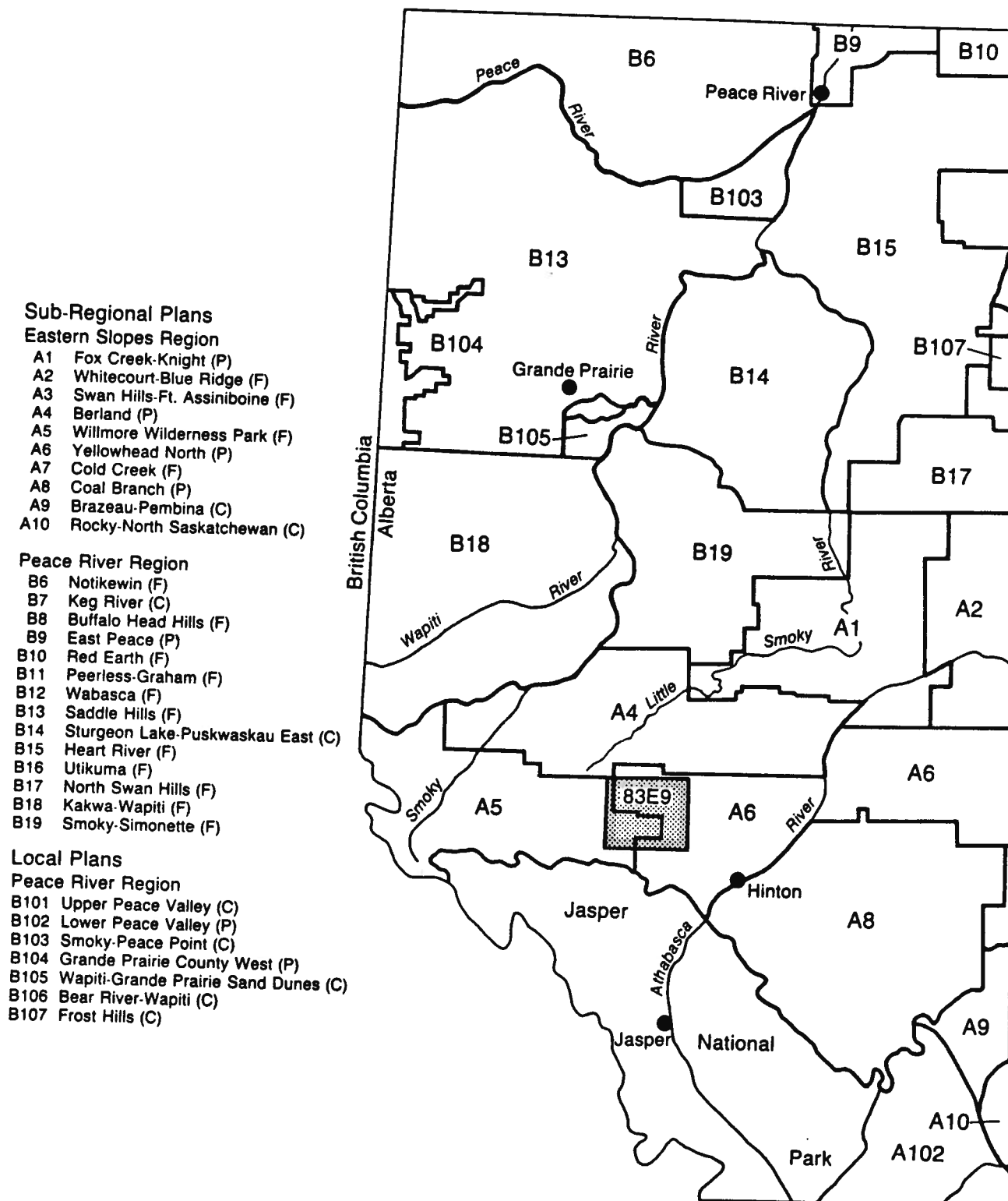
It should be noted that most of the corporate coal lease activity is concentrated on the first three categories.

Established Coal Resources and Reserves

Coal resources and reserves have been calculated by the ERCB (1989) for the whole of Alberta.

The present mapsheet contains the following coal fields:

Figure 3. Locations/Outlines of IRP's in the Surrounding Vicinity



- o Jarvis Lake (Foothills Region)
- o Moberly Lake (Mountain Region).

The Coal Field outlines are shown on the GIS plot.

Exploration History

Coal

Coal Adits

During 1969-70, McIntyre Mines Limited drove 7 adits on 6 sites in the Little Berland Area (Township 53, Range 2, W6th Meridian). Adit drivage totalled 329 metres.

The adit locations are shown on the GIS plot; it should be noted that these sites fall within the current boundaries of the Willmore Wilderness Park.

Coal Exploration Drillholes

Some 84 coal exploration holes have been drilled by 4 companies between 1970 and 1983. Of the holes drilled, 54 holes (64%) intersected coal as per the defined criteria (see Hughes et al., 1988); it follows that 30 holes (36%) did not intersect coal. Hole depths ranged from 14 to 451 meters in depth.

Coal exploration drilling activities were carried out by a number of companies. A summary follows

<u>COMPANY</u>	<u>NUMBER OF HOLES DRILLED</u>
Manalta Coal Limited	32
McIntyre Mines Limited	14
Shell Canada Resources Limited	6
Union Oil Company of Canada Limited	32

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

- o SITID; the assigned Site Identification Number within the AGS Coal Database
- o CAT_ID; the assigned Catalogue Identification Number within the ERCB Coal Hole File (April, 1989 version)
- o ORIG; the Original Identification Number of the Datapoint (ie, drillhole number)
- o EDITED; within the ERCB Coal Hole File, the equivalent to ORIG has been limited to 6 spaces; this, in some cases, has not been sufficient to record the ORIGINAL corporate assigned drillhole number; within the AGS Coal Database, ORIG has been allocated 11 spaces; a 'X' in the EDITED column identifies those drillholes whose ORIG's were truncated; drillholes listed in the ORIG column of the listing have been edited and now reflect the 'true' Original Identification Numbers.
- o NCinDH; a 'NC' in the column indicates that no coal thicker than 0.5m was intersected in the drillhole; this implies that thin coal seams less than 0.5m may be present.
- o M; Meridian
- o T; Township
- o R; Range
- o S; Section
- o RSEC; Reference Section
- o RCNR; Reference Corner
- o METN; Metres north or south from the reference corner
- o METE; metres east or west from the reference corner
- o ELEV; Ground or surface elevation of the datapoint (drillhole)

- o TD; Total depth of drillhole reported in metres
- o CORPNUM; the assigned Corporation Number within the AGS Coal Database
- o CPDT; completion date of the datapoint (drillhole); date coded as yymmdd
- o COMPANY; identifies the company that generated the datapoint (drillhole).

Oil and Gas Wells

Within the study area, 10 oil and gas wells have been drilled. Of the wells drilled,

- o 9 have been abandoned
- o 1 is a capped gaswell.

See Appendix 2 for additional data. The Appendix is based on queries from the ERCB oil and gas database (April, 1989 version).

Coal Occurrences

Coal Adits

Seven coal adits were driven within the mapsheet 83E/9. Adit locations have been identified on the GIS plot.

Thicknesses of the coal seams within the adits range from 2.8 to 6.7m.

Coal Exploration Drillholes

On both Appendix 1 and the map, coal exploration drillholes have been identified as either

- o coal thicker than 0.5m intersected in the drillhole
- o or
- o no coal thicker than 0.5m intersected in the drillhole.

Coal is defined as greater than 50% carbonaceous material by weight and more than 70% carbonaceous material by volume as estimated from geophysical logs. The exclusion of coal seams thinner than 0.5m is consistent with Hughes et al. (1988), who exclude seams thinner than 0.5m in resource determination.

Coal intersections, per coal exploration drillhole, have been included in Appendix 3. The listing includes

- o SITID; the AGS Coal Database identification number
- o CAT_ID; the ERCB catalogue identification number
- o ORIG; the original company-assigned drillhole number
- o M T R S ; Dominion Land Survey (DLS) information; ie, Meridian, Township, Range and Section
- o TOP DEPTH; depth to top of coal in meters
- o BOT DEPTH; depth to bottom of coal in meters
- o THICK; thickness of the coal seam in meters
- o SEAM; Correlated Coal Seam Name/Number (if known); a '0' indicates that the seam has not been correlated
- o MIN; Mineral Matter content of the coal (often a best-estimate from geophysical log interpretation); a '0' indicates that the mineral matter of the coal was not available and/or not derived.
- o REGOLITH; thickness, in meters, of the regolith
- o PIKNUM; the geological pick identification number as stored in the AGS Coal Database
- o REMARKS.

Coal Outcrops

Some forty two coal outcrops have been identified within the mapsheet 83E/9. Coal seam outcrop locations have been identified on the GIS plot. The maximum thickness of coal in outcrop is 10 meters.

Coal Quality Summary

Coal Rank

Within the Regional mapsheet 83E/9, the rank of the coal varies from

- o high volatile bituminous C in the Paleocene Coalspur Formation to
- o low volatile bituminous in the Lower Cretaceous Luscar Group.

Although coal of the Upper Cretaceous Brazeau Formation is known to be deposited within the mapsheet area, coal quality information was not available. The rank of said coal would likely be high volatile bituminous C.

Coal Adits

Seven adits, within the mapsheet 83E/9, have been sampled. Coal quality data generated from the samples include

- o 12 complete Proximate Analyses from 7 adits
- o 12 analyses of Sulphur from 7 adits
- o 12 analyses of Heating Value (air-dried basis) from 7 adits
- o 12 analyses of FSI (based on Size and Specific Gravity) from 7 adits
- o 10 analyses of Size Analysis (with determinations of Sulphur, Heating Value and Moisture) from 6 adits
- o 10 analyses of 'Weight % and Ash Distribution vs Size and Specific Gravity' from 6 adits

- o 10 analyses of 'Weight % and Volatile Matter Distribution vs Size and Specific Gravity' from 6 adits
- o 10 analyses 'Washability Data of Size Fractions' from 6 adits.

Coal Exploration Drillholes

Twenty two drillholes, within the mapsheet 83E/9, contain coal quality information. Thirteen are in the Luscar Group and nine are in the Coalspur Formation. Coal quality data generated includes

- o 204 complete Proximate Analyses from 21 drillholes
- o 113 analyses of Ash, Volatile Matter and Fixed Carbon from 11 drillholes
- o 179 analyses of Sulphur from 14 drillholes
- o 204 analyses of Heating Value (air-dried basis) from 21 drillholes
- o 113 analyses of Heating Value (dry basis) from 11 drillholes
- o 174 analyses of FSI from 13 drillholes.

Weighted averages of proximate analyses for the Luscar Group coals (raw) have been generated for thirteen of the drillholes. Results are presented in Appendix 4. The weighted average Volatile Matter (daf) values for the thirteen drillholes are presented on the GIS plot.

Because only moisture and ash values are available, no weighted averages of proximate analyses have been generated for the Paleocene Coalspur Formation coals.

Coal Outcrops

Twenty six outcrops, within the mapsheet 83E/9, have been sampled. Coal quality data generated from the samples include

- o 22 analyses of vitrinite reflectance from 16 outcrops; samples have been collected by the ARC/AGS and the GSC/ISPG between 1981 and 1989; reflectance values of the samples range between 0.78 and 1.87%.
- o 9 analyses of palynology from 9 outcrops; information is limited to location only.

Operating and Abandoned Coal Mines

There are no operating or abandoned coal mines within the Regional mapsheet 83E/9.

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 colored red indicate some potential for development. The remaining uncolored areas have no data available often because the coal, if present, is at depth under non coal-bearing rocks.

Coal Potential

Resources

The amount of data is too small for a quantitative evaluation of coal resources except in those limited areas with drilling. The ERCB (1989) provides estimates of in-place resources for the Moberly Creek and Jarvis Lake 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. In general where a sample has been collected and analyzed the coal has an inherent development potential.

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 both simple and complex with the possibility of structurally thickened seams. Consideration was given to infrastructural concerns related to site, environment and potential mining problems.

Data Availability

Very little coal data is available in the map area but where present the potential of the coal for development is strengthened. In general where a sample, drill hole, adit or outcrop is present the coal has an increased development potential. Some value was given to areas containing sediments that typically include coal.

Future Work

In general, from a coal resource/exploration point of view, the map area has been superficially examined. Additional coal quality data needs to be collected. Only two areas, the ERCB's Moberly Creek and Jarvis Lake Coal Fields have a good exploration database. North and south of the Moberly Creek Coal Field (and outside of Willmore Wilderness Park) little data is available and the coal development potential is uncertain. The Moberly Creek Coal Field, located inside the Park, needs additional study to provide information on adjacent areas since it now contains the best database on the local Luscar Coals. The Thoreau Creek area in the extreme SW portion of the map is geologically very important and appears to have good coal development. A promising area for future work is the coal zone trend located north of the Jarvis Lake Coal Field. Additional subsurface geological studies, including the construction of regional cross-sections and seam correlations, are needed in the eastern and northeastern regions of the map area. Structural geology studies are critical for an evaluation of the central and western areas.

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- o geological maps of approximate scale 1: 16 000.
- o geological sections of approximate scale 1: 2 400.

Outline identified as 3 on GIS plot.

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Appendix 1. 83E/9 - Coal Drillholes

 FILENAME: 83E9.GBM

NOTE: 1. 'ORIG' that has been edited...ie. ERCB Coal Hole File did not present 'true' original drillhole number;
 ORIG now represents 'true' original drillhole number.

2. No coal in drillhole as per criteria of Hughes, Mudry & Nikols in GSC Paper 88-21, 'A Standardized Coal Resource/ Reserve System for Canada'; geology picks have been modified from the AGS Coal Database April, 1989 version of the ERCB Coal Hole File. DWF 891206

SITID	CAT-ID	ORIG	EDITED(1)		NCINDH(2)		R	S	RSEC RCNR		METN	METE	ELEV	TD	CORPNUM		COMPANY
			V	Y	V	Y			V	Y							
1043996	459727	00000PC839	6	53	1	13	13	NE	-365.000	-270.000	1396.500	155.800	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1043999	351379	000BR-25-74	X	NC	6	53	1	21	21	NE	-502.900	-347.500	1356.400	62.200	66	741100	MANALTA COAL LTD.
1044000	351387	000BR-26-74	X	NC	6	53	1	21	21	NE	-682.800	-512.100	1356.400	68.300	66	741200	MANALTA COAL LTD.
1044001	351395	000BR-27-74	X	NC	6	53	1	21	21	NE	-856.500	-670.600	1371.600	77.400	66	741200	MANALTA COAL LTD.
1044002	351361	000BR-24-74	X	NC	6	53	1	22	22	NE	-103.600	-1588.000	1402.100	107.900	66	741100	MANALTA COAL LTD.
1044003	459750	00000PC8329	6	53	1	25	25	NE	-1472.000	-1538.000	1356.600	153.000	96	830200	UNION OIL COMPANY OF CANADA LIMITED		
1044004	459768	00000PC8317	6	53	1	25	25	NE	-1091.000	-1144.000	1359.000	134.100	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044005	459776	00000PC8316	6	53	1	25	25	NE	-1088.000	-1144.000	1358.800	153.000	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044006	459784	00000PC8318	NC	6	53	1	25	25	NE	-866.000	-927.000	1354.300	14.000	96	830100	UNION OIL COMPANY OF CANADA LIMITED	
1044007	459792	00000PC8319	NC	6	53	1	25	25	NE	-126.000	-148.000	1344.800	31.100	96	830100	UNION OIL COMPANY OF CANADA LIMITED	
1044008	351122	000BR-1-74	X	NC	6	53	1	27	27	NE	-259.100	-563.900	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044009	351171	000BR-6-74	X	NC	6	53	1	27	27	NE	-185.900	-225.600	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044010	351189	000BR-7-74	X	NC	6	53	1	27	27	NE	0.000	-54.900	1341.100	70.700	66	741000	MANALTA COAL LTD.
1044011	351197	000BR-8-74	X	NC	6	53	1	27	27	NE	-97.500	-146.300	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044012	351320	000BR-20-74	X	NC	6	53	1	27	27	NE	-725.400	-804.700	1341.100	62.200	66	741100	MANALTA COAL LTD.
1044013	351338	000BR-21-74	X	NC	6	53	1	27	27	NE	-1005.800	-1045.500	1341.100	55.500	66	741100	MANALTA COAL LTD.
1044014	351346	000BR-22-74	X	NC	6	53	1	27	27	NE	-1359.400	-1261.900	1371.600	68.300	66	741100	MANALTA COAL LTD.
1044015	351353	000BR-23-74	X	NC	6	53	1	27	27	NE	-1560.600	-1447.800	1383.800	62.200	66	741100	MANALTA COAL LTD.
1044016	459602	00000PC831	6	53	1	34	34	NE	-1588.000	-102.000	1344.500	153.600	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044017	351130	000BR-2-74	X	NC	6	53	1	35	35	NE	-1432.600	-1511.800	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044018	351148	000BR-3-74	X	NC	6	53	1	35	35	NE	-1423.400	-1496.600	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044019	351155	000BR-4-74	X	NC	6	53	1	35	35	NE	-1463.000	-1530.100	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044020	351163	000BR-5-74	X	NC	6	53	1	35	35	NE	-1530.100	-1594.100	1341.100	83.500	66	741000	MANALTA COAL LTD.
1044021	351205	000BR-9-74	X	NC	6	53	1	35	35	NE	-725.400	-883.900	1347.200	84.100	66	741000	MANALTA COAL LTD.
1044022	351213	0BR-10-74AB	X	NC	6	53	1	35	35	NE	-804.700	-964.700	1347.200	26.200	66	741000	MANALTA COAL LTD.
1044023	351221	0BR-10-74C	X	NC	6	53	1	35	35	NE	-804.700	-966.200	1347.200	77.400	66	741100	MANALTA COAL LTD.
1044024	351239	000BR-11-74	X	NC	6	53	1	35	35	NE	0.000	-240.800	1353.300	77.400	66	741100	MANALTA COAL LTD.
1044025	351247	000BR-12-74	X	NC	6	53	1	35	35	NE	-368.800	-563.900	1347.200	77.400	66	741100	MANALTA COAL LTD.
1044026	351254	000BR-13-74	X	NC	6	53	1	35	35	NE	-1079.000	-1191.800	1341.100	77.400	66	741100	MANALTA COAL LTD.
1044027	351262	000BR-14-74	X	NC	6	53	1	35	35	NE	-1353.300	-1432.600	1338.100	46.900	66	741100	MANALTA COAL LTD.
1044028	351270	000BR-15-74	X	NC	6	53	1	35	35	NE	-1240.500	-1335.000	1347.200	83.500	66	741100	MANALTA COAL LTD.
1044029	351288	000BR-16-74	X	NC	6	53	1	35	35	NE	-182.900	-402.300	1341.100	77.400	66	741100	MANALTA COAL LTD.
1044030	351296	000BR-17-74	X	NC	6	53	1	35	35	NE	-539.500	-725.400	1347.200	68.300	66	741100	MANALTA COAL LTD.
1044031	351304	000BR-18-74	X	NC	6	53	1	35	35	NE	-941.800	-1069.800	1341.100	59.100	66	741100	MANALTA COAL LTD.
1044032	351312	000BR-19-74	X	NC	6	53	1	35	35	NE	-1167.400	-1271.000	1341.100	83.500	66	741100	MANALTA COAL LTD.
1044033	459610	00000PC838	6	53	1	35	35	NE	-1145.000	-1340.000	1341.600	79.200	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044034	459628	00000PC832	6	53	1	35	35	NE	-1148.000	-1344.000	1341.600	153.600	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044035	459636	00000PC833	6	53	1	35	35	NE	-757.000	-1001.000	1358.300	159.100	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044036	459644	00000PC837	6	53	1	35	35	NE	-398.000	-681.000	1362.100	158.500	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044037	459651	00000PC834	6	53	1	35	35	NE	-395.000	-679.000	1362.000	159.100	96	830100	UNION OIL COMPANY OF CANADA LIMITED		
1044038	351411	000000LB-2	X	6	53	2	9	9	NE	-189.000	-324.900	1775.500	451.400	70	700500	MCINTYRE MINES LIMITED	

1044039	351429	00000000LB-3	X	6	53	2	9	9	NE	-542.800	-1303.900	1813.600	259.100	70	700500	MCINTYRE MINES LIMITED
1044040	351445	00000000LB-8	X	6	53	2	9	9	NE	-108.200	-666.900	1834.000	187.800	70	700700	MCINTYRE MINES LIMITED
1044041	351452	00000000LB-9	X	6	53	2	9	9	NE	-777.200	-248.700	1731.900	111.300	70	700700	MCINTYRE MINES LIMITED
1044042	351478	00000000LB-11	X	6	53	2	9	9	NE	-1115.000	-687.900	1811.700	242.600	70	700700	MCINTYRE MINES LIMITED
1044043	351460	00000000LB-10	X	NC	6	53	2	10	NE	-645.000	-1140.900	1697.400	84.100	70	700700	MCINTYRE MINES LIMITED
1044044	351403	00000000LB-1	X	6	53	2	15	15	NE	-1275.600	-1518.500	1760.200	451.100	70	700400	MCINTYRE MINES LIMITED
1044045	351437	00000000LB-7	X	6	53	2	15	15	NE	-1597.800	-1450.500	1836.400	384.000	70	700600	MCINTYRE MINES LIMITED
1044046	351486	00000000LB-13	X	6	53	2	16	16	NE	-1467.300	-1403.900	1810.200	226.500	70	700700	MCINTYRE MINES LIMITED
1044047	369094	00000000LB-12	X	6	53	2	16	16	NE	-1374.600	-1375.600	1810.500	273.100	70	700700	MCINTYRE MINES LIMITED
1044048	351494	00000000LB-14	X	6	53	2	19	19	NE	-232.600	-968.300	1839.500	432.800	70	700800	MCINTYRE MINES LIMITED
1044049	351510	00000000LB-5	X	6	53	3	24	24	NE	-763.800	-217.600	1805.900	306.000	70	700500	MCINTYRE MINES LIMITED
1044050	351502	00000000LB-4	X	6	53	3	25	25	NE	-548.900	-620.900	1618.500	209.100	70	700500	MCINTYRE MINES LIMITED
1044051	351536	000BR-28-74	X	NC	6	54	1	1	NE	-1255.800	-1536.200	1328.900	75.600	66	741200	MANALTA COAL LTD.
1044052	351544	000BR-29-74	X	NC	6	54	1	1	NE	-883.900	-1207.000	1341.100	73.200	66	741200	MANALTA COAL LTD.
1044053	351551	000BR-30-74	X	NC	6	54	1	1	NE	-506.000	-883.900	1335.000	77.400	66	741200	MANALTA COAL LTD.
1044054	351569	000BR-31-74	X	NC	6	54	1	1	NE	-176.800	-563.900	1335.000	71.300	66	741200	MANALTA COAL LTD.
1044055	459677	000000PC836	NC	6	54	1	1	1	NE	-1168.000	-1547.000	1353.700	153.300	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044056	459669	000000PC835		6	54	1	2	2	NE	-1589.000	-292.000	1378.500	153.300	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044057	459685	000000PC8328		6	54	1	3	3	NE	-1492.000	-1033.000	1346.100	153.000	96	830200	UNION OIL COMPANY OF CANADA LIMITED
1044058	459693	000000PC8327		6	54	1	3	3	NE	-1143.000	-677.000	1343.000	109.700	96	830200	UNION OIL COMPANY OF CANADA LIMITED
1044059	459701	000000PC8325		6	54	1	3	3	NE	-1146.000	-678.000	1342.900	153.000	96	830200	UNION OIL COMPANY OF CANADA LIMITED
1044060	459719	000000PC8326		6	54	1	3	3	NE	-743.000	-262.000	1343.000	153.000	96	830200	UNION OIL COMPANY OF CANADA LIMITED
1044061	459818	000000PC8312		6	54	1	4	4	NE	-125.000	-1245.000	1361.600	153.000	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044062	459826	000000PC8315		6	54	1	9	9	NE	-1326.000	-889.000	1388.400	103.600	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044063	459834	000000PC8311		6	54	1	9	9	NE	-1328.000	-884.000	1388.400	153.300	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044064	459842	000000PC8314		6	54	1	9	9	NE	-966.000	-568.000	1461.400	91.400	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044065	459859	000000PC8313		6	54	1	9	9	NE	-969.000	-564.000	1460.800	214.000	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044066	459909	000000PC8332		6	54	1	19	19	NE	-695.000	-1525.000	1432.300	136.200	96	830200	UNION OIL COMPANY OF CANADA LIMITED
1044067	459917	000000PC8323		6	54	1	19	19	NE	-253.000	-1179.000	1408.600	153.000	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044068	351528	00000007432	NC	6	54	1	20	20	NE	-914.400	-213.400	1423.400	151.200	96	740200	UNION OIL COMPANY OF CANADA LIMITED
1044069	459867	000000PC8320	NC	6	54	2	13	13	NE	-978.000	-1313.000	1544.900	153.300	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044070	459875	000000PC8321		6	54	2	13	13	NE	-385.000	-832.000	1532.300	153.300	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044071	351577	00000000187		6	54	2	21	21	NE	-784.600	-1175.000	1368.600	137.500	89	740200	SHELL CANADA RESOURCES LIMITED
1044072	459883	000000PC8324		6	54	2	24	24	NE	-1206.000	-211.000	1443.700	79.000	96	830200	UNION OIL COMPANY OF CANADA LIMITED
1044073	459891	000000PC8322		6	54	2	24	24	NE	-1201.000	-206.000	1443.200	153.000	96	830100	UNION OIL COMPANY OF CANADA LIMITED
1044074	351585	00000000186		6	54	2	28	28	NE	-1062.200	-1030.200	1386.800	137.200	89	740200	SHELL CANADA RESOURCES LIMITED
1044075	351593	00000000185	NC	6	54	2	33	33	NE	-1022.600	-419.100	1352.400	137.200	89	740200	SHELL CANADA RESOURCES LIMITED
1044076	351601	00000007442	NC	6	54	2	36	36	NE	-137.200	-731.500	1490.500	137.200	96	740200	UNION OIL COMPANY OF CANADA LIMITED
1044077	351619	00000000006		6	54	3	2	2	NE	-450.500	-1436.800	1714.500	318.500	70	700600	MCINTYRE MINES LIMITED
1044078	351627	00000000184		6	55	2	4	4	NE	-1516.700	-1351.800	1379.200	137.200	89	740200	SHELL CANADA RESOURCES LIMITED
1044079	351635	00000000183		6	55	2	9	9	NE	-1154.900	-708.700	1333.500	118.900	89	740200	SHELL CANADA RESOURCES LIMITED
1044080	351643	00000000182	NC	6	55	2	10	10	NE	-993.300	-655.000	1339.600	102.100	89	740200	SHELL CANADA RESOURCES LIMITED
1044081	351650	00000007444	NC	6	55	2	13	13	NE	-1158.200	-152.400	1354.800	135.600	96	740300	UNION OIL COMPANY OF CANADA LIMITED

Appendix 2. 83E/9 - Oil and Gas Wells; Status and Formation Tops

Site ID: 82772

Source ID: 00/07-28-052-01W6/0

Latitude: 53.518921

Well Length:

4468.000

Longitude: 118.082265

KB Elevation: 1393.900

Well Name: AMOCO ET AL SOLOMON 7-28-52-1

Staus: Abandoned

Depth Meters	Depth Feet	Horizon Name	
1028.000	3372.704	DUNVEGAN FM	DUNV
1360.000	4461.942	SHAFTESBURY FM	SHFT
1515.000	4970.473	MOUNTAIN PARK FM	MTN PK
1559.000	5114.830	LUSCAR FM	LUSK
2085.000	6840.551	FAULT	FLT
2085.100	6840.880	LUSCAR FM	LUSK
2532.500	8308.728	CADOMIN FM	CADM
2549.000	8362.861	NIKASSIN FM	NIKA
2725.000	8940.289	FERNIE GRP	FERN
2977.000	9767.061	NORDEGG MBR	NORD
3006.000	9862.205	TRIASSIC SYSTEM	TRIA SYS
3166.500	10388.780	FAULT	FLT
3166.600	10389.108	NORDEGG MBR	NORD
3169.500	10398.622	TRIASSIC SYSTEM	TRIA SYS
3206.000	10518.373	FAULT	FLT
3206.100	10518.701	NORDEGG MBR	NORD
3219.000	10561.024	TRIASSIC SYSTEM	TRIA SYS
3400.000	11154.856	MISSISSIPPIAN SYSTEM	MISS SYS
3568.000	11706.037	PEKISKO FM	PEK
3630.000	11909.449	BANFF FM	BNFF
3811.000	12503.281	EXSHAW FM	EX
3814.000	12513.124	WABAMUN GRP	WAB
4033.000	13231.628	WINTERBURN GRP	WINT
4165.000	13664.698	FAULT	FLT
4165.100	13665.027	TRIASSIC SYSTEM	TRIA SYS
4339.000	14235.564	MISSISSIPPIAN SYSTEM	MISS SYS

Site ID: 82773

Source ID: 00/09-35-052-02W6/0

Latitude: 53.534529

Well Length:

1230.800

Longitude: 118.176246

KB Elevation: 1629.800

Well Name: TRIAD WILDHAY 9-35

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
404.500	1327.100	FERNIE GRP	FERN
645.300	2117.126	NORDEGG MBR	NORD
663.900	2178.150	WHITEHORSE FM	WTHR
691.000	2267.061	SULPHUR MOUNTAIN FM	SUL MT
815.000	2673.885	RUNDLE GRP	RUND
922.600	3026.903	FAULT	FLT
922.600	3026.903	NORDEGG MBR	NORD
972.600	3190.945	FAULT	FLT
972.600	3190.945	WHITEHORSE FM	WTHR
998.200	3274.935	FAULT	FLT
998.200	3274.935	SULPHUR MOUNTAIN FM	SUL MT
1142.400	3748.032	FAULT	FLT
1142.400	3748.032	RUNDLE GRP	RUND

Site ID: 82774

Source ID: 00/09-35-052-02W6/2

Latitude: 53.534529

Well Length:

2373.500

Longitude: 118.176246

KB Elevation: 1629.800

Well Name: TRIAD WILDHAY 9-35

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
404.500	1327.100	FERNIE GRP	FERN
645.300	2117.126	NORDEGG MBR	NORD
663.900	2178.150	WHITEHORSE FM	WTHR
691.000	2267.061	SULPHUR MOUNTAIN FM	SUL MT
815.000	2673.885	RUNDLE GRP	RUND
922.600	3026.903	FAULT	FLT
922.600	3026.903	NORDEGG MBR	NORD
972.600	3190.945	FAULT	FLT
972.600	3190.945	WHITEHORSE FM	WTHR
998.200	3274.935	FAULT	FLT
998.200	3274.935	SULPHUR MOUNTAIN FM	SUL MT
1142.400	3748.032	FAULT	FLT
1142.400	3748.032	RUNDLE GRP	RUND
1415.200	4643.044	BANFF FM	BNFF
1617.000	5305.118	EXSHAW FM	EX
1618.800	5311.024	PALLISER FM	PALL
1855.000	6085.958	ALEXO FM	ALEX
1959.300	6428.150	MOUNT HAWK FM	MT HK
2076.300	6812.008	FAULT	FLT
2076.300	6812.008	FERNIE GRP	FERN
2140.900	7023.950	DEVONIAN SYSTEM	DEV SYS
2149.400	7051.837	FAULT	FLT
2149.400	7051.837	NIKANASSIN FM	NIKA
2189.400	7183.071	DEVONIAN SYSTEM	DEV SYS
2245.500	7367.126	FAULT	FLT
2245.500	7367.126	LUSCAR FM	LUSK
2254.300	7395.998	CADOMIN FM	CADM
2268.900	7443.897	NIKANASSIN FM	NIKA

Site ID: 83979

Source ID: 00/11-23-053-02W6/0

Latitude: 53.593156

Well Length:

4276.300

Longitude: 118.188006

KB Elevation: 1722.100

Well Name: QUASAR ET AL MOBERLY 11-23-53-2

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
3.000	9.843	BRAZEAU FM	BRAZ
220.700	724.081	WAPIABI FM	WPBI
1487.700	4880.905	BADHEART FM	BADH
1657.200	5437.008	CARDIUM SD	CARD SD
1767.800	5799.869	BLACKSTONE FM	BKST
2049.800	6725.066	DUNVEGAN FM	DUNV
2652.100	8701.116	BLACKSTONE FM	BKST
2652.100	8701.116	FAULT	FLT
2805.400	9204.068	DUNVEGAN FM	DUNV
3020.000	9908.137	BASE FISH SCALES ZONE	BFSC
3054.100	10020.014	MOUNTAIN PARK FM	MTN PK
3738.400	12265.092	FAULT	FLT
3738.700	12266.076	MOUNTAIN PARK FM	MTN PK
3929.800	12893.045	CADOMIN FM	CADM
3959.400	12990.157	NIKANASSIN FM	NIKA
3974.900	13041.011	FAULT	FLT
3974.900	13041.011	MOUNTAIN PARK FM	MTN PK
3978.200	13051.838	CADOMIN FM	CADM
4067.600	13345.146	NIKANASSIN FM	NIKA
4099.300	13449.146	FAULT	FLT
4099.600	13450.132	CADOMIN FM	CADM
4163.300	13659.120	CADOMIN FM	CADM
4163.300	13659.120	FAULT	FLT
4212.300	13819.882	NIKANASSIN FM	NIKA
4255.300	13960.958	CADOMIN FM	CADM
4255.300	13960.958	FAULT	FLT

Site ID: 85302

Source ID: 00/07-26-054-01W6/0

Latitude: 53.692767

Well Length:

3886.000

Longitude: 118.030065

KB Elevation: 1375.700

Well Name: SHELL ENTRANCE 8-26-54-1

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
2431.000	7975.722	WAPIABI FM	WPBI
2566.000	8418.636	COLORADO GRP	COLO
2686.000	8812.336	BADHEART FM	BADH
2765.500	9073.163	CARDIUM FM	CARD
2811.800	9225.066	CARDIUM SD	CARD SD
2832.500	9292.979	FAULT	FLT
2832.600	9293.308	CARDIUM FM	CARD
2865.000	9399.606	CARDIUM SD	CARD SD
2897.400	9505.905	BLACKSTONE FM	BKST
3056.800	10028.872	SECOND WHITE SPECKLED S	H2WS
3281.000	10764.437	DUNVEGAN FM	DUNV
3360.000	11023.622	SHAFTESBURY FM	SHFT
3420.800	11223.098	BASE FISH SCALES ZONE	BFSC
3476.000	11404.200	VIKING FM	VIK
3489.400	11448.163	VIKING SANDSTONE	VIK SS
3533.000	11591.208	JOLI FOU FM	JOLI
3542.000	11620.735	MANNVILLE GRP	MANN
3840.500	12600.066	GETHING FM	GETH
3886.000	12749.345	TOTAL DEPTH	TD

Site ID: 139692

Source ID: 00/08-26-054-01W6/2

Latitude: 53.692767

Well Length:

5551.000

Longitude: 118.030065

KB Elevation: 1375.700

Well Name: SHELL ENTRANCE 8-26-54-1

Status: Abandoned

Note: Indented data lines represent true vertical depths;
Aligned data lines represent as-drilled depths.

Depth Meters	Depth Feet	Horizon Name	
2431.000	7975.722	WAPIABI FM	WPBI
2566.000	8418.636	COLORADO GRP	COLO
2686.000	8812.336	BADHEART FM	BADH
2765.500	9073.163	CARDIUM FM	CARD
2811.800	9225.066	CARDIUM SD	CARD SD
2832.500	9292.979	FAULT	FLT
2832.600	9293.308	CARDIUM FM	CARD
2865.000	9399.606	CARDIUM SD	CARD SD
2897.400	9505.905	BLACKSTONE FM	BKST
3056.800	10028.872	SECOND WHITE SPECKLED S	H2WS
3281.000	10764.437	DUNVEGAN FM	DUNV
3360.000	11023.622	SHAFTESBURY FM	SHFT
3420.800	11223.098	BASE FISH SCALES ZONE	BFSC
3476.000	11404.200	VIKING FM	VIK
3489.000	11446.851	VIKING SANDSTONE	VIK SS
3489.400	11448.163	VIKING SANDSTONE	VIK SS
3533.000	11591.208	JOLI FOU FM	JOLI
3542.000	11620.735	BLAIRMORE GRP	BL
3542.000	11620.735	MANNVILLE GRP	MANN
3839.200	12595.801	GETHING FM	GETH
3840.500	12600.066	GETHING FM	GETH
3975.800	13043.964	CADOMIN FM	CADM
3978.400	13052.493	CADOMIN FM	CADM
4006.000	13143.045	NIKANASSIN FM	NIKA
4009.000	13152.888	NIKANASSIN FM	NIKA
4132.100	13556.760	FERNIE GRP	FERN
4137.000	13572.835	FERNIE GRP	FERN
4212.200	13819.555	NORDEGG MBR	NORD
4218.300	13839.566	NORDEGG MBR	NORD
4239.300	13908.465	TRIASSIC SYSTEM	TRIA SYS
4245.700	13929.463	TRIASSIC SYSTEM	TRIA SYS
4398.400	14430.446	DEBOLT FM	DBLT
4406.000	14455.381	DEBOLT FM	DBLT
4431.300	14538.386	SHUNDA FM	SHUN
4439.000	14563.648	SHUNDA FM	SHUN
4567.100	14983.925	PEKISKO FM	PEK
4575.200	15010.500	PEKISKO FM	PEK
4616.600	15146.326	BANFF FM	BNFF
4624.800	15173.229	BANFF FM	BNFF
4796.500	15736.549	EXSHAW FM	EX

4798.500	15743.110	WABAMUN GRP	WAB
4805.000	15764.437	EXSHAW FM	EX
4807.000	15770.998	WABAMUN GRP	WAB
5016.300	16457.678	WINTERBURN GRP	WINT
5025.000	16486.221	WINTERBURN GRP	WINT
5068.300	16628.281	CALMAR FM	CALM
5077.000	16656.824	CALMAR FM	CALM
5081.800	16672.572	NISKU FM	NIS
5090.500	16701.115	NISKU FM	NIS
5147.700	16888.781	IRETON FM	IRE
5151.500	16901.248	LEDUC FM	LED
5156.500	16917.652	IRETON FM	IRE
5160.300	16930.117	LEDUC FM	LED
5469.200	17943.570	BEAVERHILL LAKE FM	BH LK
5478.400	17973.754	BEAVERHILL LAKE FM	BH LK
5480.200	17979.660	SWAN HILLS MBR	SW HL
5489.400	18009.844	SWAN HILLS MBR	SW HL
5541.800	18181.758	TOTAL DEPTH	TD
5551.000	18211.943	TOTAL DEPTH	TD

Site ID: 85304

Source ID: 00/08-17-054-02W6/0

Latitude: 53.662308

Well Length:

2584.000

Longitude: 118.250269

KB Elevation: 1524.100

Well Name: PCP ANG HOME CABINCR 8-17-54-2

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
505.000	1656.824	WAPIABI FM	WPBI
1045.500	3430.118	BADHEART FM	BADH
1187.000	3894.357	CARDIUM FM	CARD
1239.000	4064.961	CARDIUM SD	CARD SD
1271.500	4171.588	BLACKSTONE FM	BKST
1320.000	4330.709	FAULT	FLT
1320.300	4331.693	BADHEART FM	BADH
1482.000	4862.205	CARDIUM FM	CARD
1523.000	4996.719	CARDIUM SD	CARD SD
1579.500	5182.087	FAULT	FLT
1579.800	5183.071	CARDIUM SD	CARD SD
1610.000	5282.152	BLACKSTONE FM	BKST
1650.500	5415.026	FAULT	FLT
1650.800	5416.011	CARDIUM SD	CARD SD
1740.000	5708.662	FAULT	FLT
1740.300	5709.646	BLACKSTONE FM	BKST
2140.000	7020.998	FAULT	FLT
2140.300	7021.982	BLACKSTONE FM	BKST

Site ID: 146572

Source ID: 00/10-25-054-03W6/0

Latitude: 53.696642

Well Length:

900.000

Longitude: 118.300312

KB Elevation: 1478.900

Well Name: CANHUNTER ET AL CABINCK 10-25-54-3

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
525.000	1722.441	WAPIABI FM	WPBI
621.000	2037.402	CHINOOK MBR	CHNK
900.000	2952.756	TOTAL DEPTH	TD

Site ID: 87514

Source ID: 00/09-06-055-03W6/0

Latitude: 53.723499

Well Length: 274.300

Longitude: 118.420929

KB Elevation: 1467.000

Well Name: BAYSEL BERLAND RIVER 9-6

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
217.900	714.895	BADHEART FM	BADH

Site ID: 87515 Source ID: 00/02-09-055-03W6/0

Latitude: 53.731750 Well Length: 690.700
Longitude: 118.379338
KB Elevation: 1419.100

Well Name: DOME ET AL CABIN CREEK 2-9-55-3

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
424.600	1393.045	SOLOMON MBR	SOLO
463.600	1520.997	WAPIABI FM	WPBI

Site ID: 87516 Source ID: 00/04-09-055-03W6/0

Latitude: 53.730767 Well Length: 5282.500
Longitude: 118.392578
KB Elevation: 1446.900

Well Name: SHELL CABIN CREEK 4-9-55-3

Status: Capped Gaswell

Note: Indented data lines represent true vertical depths;
Aligned data lines represent as-drilled depth.

Depth Meters	Depth Feet	Horizon Name	
629.100	2063.976	WAPIABI FM	WPBI
629.500	2065.289	WAPIABI FM	WPBI
816.900	2680.118	BADHEART FM	BADH
817.300	2681.430	BADHEART FM	BADH
909.900	2985.236	CARDIUM FM	CARD
910.300	2986.549	CARDIUM FM	CARD
957.600	3141.732	CARDIUM SD	CARD SD
958.000	3143.045	CARDIUM SD	CARD SD
997.100	3271.325	KASKAPAU FM	KPAU
997.500	3272.638	KASKAPAU FM	KPAU
1714.700	5625.656	DUNVEGAN FM	DUNV
1716.000	5629.921	DUNVEGAN FM	DUNV
1787.400	5864.173	SHAFTESBURY FM	SHFT
1788.500	5867.782	SHAFTESBURY FM	SHFT
1970.600	6465.223	FAULT	FLT
1970.700	6465.551	DUNVEGAN FM	DUNV
1972.000	6469.816	FAULT	FLT
1972.100	6470.145	DUNVEGAN FM	DUNV
2006.000	6581.365	SHAFTESBURY FM	SHFT
2007.500	6586.286	SHAFTESBURY FM	SHFT
2352.900	7719.488	MOUNTAIN PARK FM	MTN PK
2355.000	7726.378	MOUNTAIN PARK FM	MTN PK
2447.800	8030.840	LUSCAR FM	LUSK
2450.000	8038.058	LUSCAR FM	LUSK
2802.100	9193.242	FAULT	FLT
2802.200	9193.569	LUSCAR FM	LUSK
2805.000	9202.756	FAULT	FLT
2805.100	9203.085	LUSCAR FM	LUSK
2917.700	9572.507	FAULT	FLT
2917.800	9572.835	LUSCAR FM	LUSK
2921.000	9583.334	FAULT	FLT
2921.100	9583.662	LUSCAR FM	LUSK

3242.900	10639.436	FAULT	FLT
3243.000	10639.764	MOUNTAIN PARK FM	MTN PK
3247.000	10652.888	FAULT	FLT
3247.100	10653.216	MOUNTAIN PARK FM	MTN PK
3279.900	10760.827	LUSCAR FM	LUSK
3284.000	10774.278	LUSCAR FM	LUSK
3536.500	11602.690	CADOMIN FM	CADM
3542.300	11621.720	CADOMIN FM	CADM
3550.200	11647.638	FAULT	FLT
3550.300	11647.967	LUSCAR FM	LUSK
3556.000	11666.667	FAULT	FLT
3556.100	11666.995	LUSCAR FM	LUSK
3571.900	11718.832	CADOMIN FM	CADM
3578.000	11738.846	CADOMIN FM	CADM
3594.900	11794.291	NIKANASSIN FM	NIKA
3601.500	11815.945	NIKANASSIN FM	NIKA
3721.700	12210.302	FERNIE GRP	FERN
3731.000	12240.814	FERNIE GRP	FERN
3758.400	12330.709	NORDEGG MBR	NORD
3769.000	12365.486	NORDEGG MBR	NORD
3781.400	12406.168	CHARLIE LAKE FM	CH LK
3793.000	12444.227	CHARLIE LAKE FM	CH LK
3796.300	12455.053	HALFWAY FM	HFWD
3803.700	12479.331	DOIG FM	DOIG
3808.500	12495.079	HALFWAY FM	HFWD
3809.900	12499.672	MONTNEY FM	MONT
3816.300	12520.670	DOIG FM	DOIG
3824.800	12548.557	MONTNEY FM	MONT
3998.000	13116.798	BELLOY FM	BELL
4013.700	13168.308	DEBOLT FM	DBLT
4019.000	13185.696	BELLOY FM	BELL
4035.700	13240.485	DEBOLT FM	DBLT
4097.700	13443.898	SHUNDA FM	SHUN
4125.200	13534.122	SHUNDA FM	SHUN
4149.100	13612.533	FAULT	FLT
4149.200	13612.862	DEBOLT FM	DBLT
4179.000	13710.630	FAULT	FLT
4179.100	13710.959	DEBOLT FM	DBLT
4238.100	13904.528	SHUNDA FM	SHUN
4271.500	14014.108	SHUNDA FM	SHUN
4330.500	14207.678	PEKISKO FM	PEK
4365.500	14322.507	PEKISKO FM	PEK
4398.600	14431.104	BANFF FM	BNFF
4434.500	14548.885	BANFF FM	BNFF
4457.600	14624.673	FAULT	FLT
4457.700	14625.001	FERNIE GRP	FERN
4464.900	14648.622	NORDEGG MBR	NORD
4484.500	14712.927	CHARLIE LAKE FM	CH LK
4494.000	14744.095	FAULT	FLT
4494.100	14744.424	FERNIE GRP	FERN
4501.500	14768.701	NORDEGG MBR	NORD
4506.100	14783.793	HALFWAY FM	HFWD
4513.500	14808.071	DOIG FM	DOIG
4521.200	14833.334	CHARLIE LAKE FM	CH LK
4525.500	14847.441	MONTNEY FM	MONT
4543.000	14904.856	HALFWAY FM	HFWD
4550.300	14928.806	DOIG FM	DOIG
4562.300	14968.176	MONTNEY FM	MONT
4730.000	15518.373	BELLOY FM	BELL
4749.800	15583.333	DEBOLT FM	DBLT
4768.000	15643.045	BELLOY FM	BELL

4788.000	15708.662	DEBOLT FM	DBLT
4863.700	15957.022	SHUNDA FM	SHUN
4908.500	16104.003	SHUNDA FM	SHUN
4969.700	16304.791	PEKISKO FM	PEK
5008.700	16432.744	PEKISKO FM	PEK
5013.900	16449.803	BANFF FM	BNFF
5053.000	16578.084	BANFF FM	BNFF

Site ID: 87517 Source ID: 00/06-09-055-03W6/0

Latitude: 53.735283 Well Length: 3267.800
 Longitude: 118.386060
 KB Elevation: 1461.800

Well Name: DOME ET AL CABIN CREEK 6-9-55-3

Status: Abandoned

Depth Meters	Depth Feet	Horizon Name	
530.400	1740.158	SOLOMON MBR	SOLO
542.500	1779.856	WAPIABI FM	WPBI
874.500	2869.094	BADHEART FM	BADH
969.300	3180.118	CARDIUM FM	CARD
1001.300	3285.105	CARDIUM SD	CARD SD
1070.200	3511.155	BLACKSTONE FM	BKST
1122.000	3681.103	BLACKSTONE FM	BKST
1152.400	3780.840	CARDIUM SD	CARD SD
1234.400	4049.869	CARDIUM FM	CARD
1258.800	4129.921	FAULT	FLT
1258.800	4129.921	WAPIABI FM	WPBI
1298.400	4259.843	CARDIUM FM	CARD
1348.100	4422.900	CARDIUM SD	CARD SD
1388.700	4556.103	BLACKSTONE FM	BKST
1554.500	5100.066	FAULT	FLT
1554.500	5100.066	WAPIABI FM	WPBI
1990.300	6529.856	CARDIUM FM	CARD
2034.200	6673.885	CARDIUM SD	CARD SD
2072.600	6799.869	BLACKSTONE FM	BKST
2475.000	8120.079	BLAIRMORE GRP	BL
3228.700	10592.848	CADOMIN FM	CADM

Appendix 3. 83E/9 - Coal Intersections of the Coal Drillholes

 CURRENT FILENAME: 83E9_PX.DAT
 ORIGINAL FILENAME: [agscdb.regional]P_B.DAT 890824
 MAPSHEET: NTS 83E/9
 NOTE: Geology picks have been modified from the AGS Coal Database April, 1989 version of the ERCB Coal Hole File.
 See GSC Paper 88-21 (Hughes, Mudry & Nikols) for the details of criteria. DWF 891204

 LEGEND:
 MCLD: MCLEOD
 DLO: DRILLER'S LOG ONLY
 KBZ: BRAZEAU

SITID	CAT_ID	ORIG	M	T	R	S	TOP DEPTH	BOT DEPTH	THICK	SEAM	MIN	REGOLITH	PIKNUM	REMARKS
459743	PC8310	6	53	1	13	32.700	34.500	1.800		3D	0			
459743	PC8310	6	53	1	13	36.700	38.300	1.600		3C	0			
459743	PC8310	6	53	1	13	46.500	49.000	2.500		3B	0			
459743	PC8310	6	53	1	13	65.100	67.000	1.900		3A	0			
459743	PC8310	6	53	1	13	72.700	73.500	0.800		MCLD	0			
459743	PC8310	6	53	1	13	97.600	100.000	2.400		1	0			
459735	PC8331	6	53	1	13	32.700	33.800	1.100		3D	0			
459735	PC8331	6	53	1	13	36.300	38.000	1.700		3C	0			
459735	PC8331	6	53	1	13	46.000	48.700	2.500		3B	0			
459735	PC8331	6	53	1	13	64.300	66.300	2.000		3A	0			
459735	PC8331	6	53	1	13	72.000	72.900	0.900		MCLD	0			
459735	PC8331	6	53	1	13	96.900	99.300	2.400		1	0			
459727	PC839	6	53	1	13	60.500	62.700	2.200		1	0	40.800		
1044000	351387	BR-26-74	6	53	1	19.480	19.990	0.510		KBZ	0	4.000		DLO
1044000	351387	BR-26-74	6	53	1	47.400	47.980	0.580		KBZ	0	4.000		DLO
1044003	459750	PC8329	6	53	1	40.450	41.400	0.950		3D	0	17.000		
1044003	459750	PC8329	6	53	1	42.700	44.450	1.750		3C	0	17.000		
1044003	459750	PC8329	6	53	1	47.900	50.800	2.900		3B	0	17.000		
1044003	459750	PC8329	6	53	1	62.700	65.200	2.500		3A	0	17.000		
1044003	459750	PC8329	6	53	1	70.900	71.950	1.050		MCLD	0	17.000		
1044004	459768	PC8317	6	53	1	97.450	99.200	1.750		1	0	17.000		
1044004	459768	PC8317	6	53	1	56.250	57.900	1.650		4	0	8.000		
1044004	459768	PC8317	6	53	1	63.200	64.000	0.800		4	0	8.000		
1044004	459768	PC8317	6	53	1	65.300	68.900	3.600		4	0	8.000		
1044004	459768	PC8317	6	53	1	103.300	103.900	0.600		3D	40	8.000		
1044004	459768	PC8317	6	53	1	105.350	107.000	1.650		3C	0	8.000		
1044004	459768	PC8317	6	53	1	109.850	113.000	3.150		3B	0	8.000		
1044004	459768	PC8317	6	53	1	126.600	128.400	1.800		3A	0	8.000		
1044005	459776	PC8316	6	53	1	56.300	57.700	1.400		4	0	8.000		
1044005	459776	PC8316	6	53	1	63.150	63.950	0.800		4	0	8.000		
1044005	459776	PC8316	6	53	1	65.300	68.700	3.400		4	0	8.000		
1044005	459776	PC8316	6	53	1	103.550	104.150	0.600		3D	45	8.000		
1044005	459776	PC8316	6	53	1	105.400	107.000	1.600		3C	0	8.000		
1044005	459776	PC8316	6	53	1	109.550	112.700	3.150		3B	0	8.000		
1044005	459776	PC8316	6	53	1	126.500	128.400	1.900		3A	0	8.000		
1044005	459776	PC8316	6	53	1	134.800	135.850	1.050		MCLD	0	8.000		
1044009	351171	000746	6	53	1	47.240	48.620	1.380		1	0	14.000		DLO
1044010	351189	000747	6	53	1	20.270	21.430	1.160		3A	0	15.000		DLO
1044010	351189	000747	6	53	1	30.570	31.210	0.640		MCLD	0	15.000		DLO
1044016	459602	PC831	6	53	1	24.500	26.000	1.500		3A	0	14.000		
1044016	459602	PC831	6	53	1	34.700	35.500	0.800		MCLD	30	14.000		

1044040	351445	LB-8	6	53	2	9	44.960	46.330	1.370	0	0	0	3.000	314492
1044040	351445	LB-8	6	53	2	9	59.740	60.350	0.610	0	0	0	3.000	314493
1044040	351445	LB-8	6	53	2	9	107.750	115.520	7.770	0	0	0	3.000	314496
1044041	351452	LB-9	6	53	2	9	15.540	22.100	6.560	0	0	0	7.000	314497
1044042	351478	LB-11	6	53	2	9	75.440	76.660	1.220	0	0	0	5.000	314498
1044042	351478	LB-11	6	53	2	9	80.160	82.300	2.140	0	0	0	5.000	314499
1044042	351478	LB-11	6	53	2	9	85.800	86.870	1.070	0	0	0	5.000	314500
1044042	351478	LB-11	6	53	2	9	93.570	95.400	1.830	0	0	0	5.000	314501
1044042	351478	LB-11	6	53	2	9	117.350	118.570	1.220	0	0	0	5.000	314503
1044042	351478	LB-11	6	53	2	9	170.230	171.300	1.070	0	0	0	5.000	314507
1044042	351478	LB-11	6	53	2	9	177.390	178.160	0.770	0	0	0	5.000	314508
1044042	351478	LB-11	6	53	2	9	206.650	209.090	2.440	0	0	0	5.000	314510
1044044	351403	LB-1	6	53	2	15	89.150	89.920	0.770	0	0	0	3.000	314511
1044044	351403	LB-1	6	53	2	15	167.640	169.470	1.830	0	0	0	3.000	314512
1044044	351403	LB-1	6	53	2	15	214.120	216.410	2.290	0	0	0	3.000	314513
1044044	351403	LB-1	6	53	2	15	318.820	331.320	12.500	0	0	0	3.000	314521
1044045	351437	LB-7	6	53	2	15	67.060	69.490	2.430	0	0	0	3.000	314526
1044045	351437	LB-7	6	53	2	15	102.720	103.630	0.910	0	0	0	3.000	314527
1044045	351437	LB-7	6	53	2	15	127.100	127.710	0.610	0	0	0	3.000	314530
1044045	351437	LB-7	6	53	2	15	148.910	142.950	4.650	0	0	0	3.000	0
1044045	351437	LB-7	6	53	2	15	138.380	149.810	2.900	0	0	0	3.000	314536
1044045	351437	LB-7	6	53	2	15	189.590	192.810	2.590	0	0	0	3.000	314537
1044045	351437	LB-7	6	53	2	15	200.560	201.170	0.610	0	0	0	3.000	314538
1044045	351437	LB-7	6	53	2	15	213.970	215.800	1.830	0	0	0	3.000	314544
1044045	351437	LB-7	6	53	2	15	341.380	349.910	8.530	0	0	0	3.000	314545
1044046	351486	LB-13	6	53	2	16	34.290	37.190	2.900	0	0	0	7.000	314545
1044046	351486	LB-13	6	53	2	16	57.360	58.220	0.860	0	0	0	7.000	314546
1044046	351486	LB-13	6	53	2	16	59.740	60.500	0.760	0	0	0	7.000	314547
1044046	351486	LB-13	6	53	2	16	68.280	69.190	0.910	0	0	0	7.000	314548
1044046	351486	LB-13	6	53	2	16	79.250	80.560	1.310	0	0	0	7.000	314549
1044046	351486	LB-13	6	53	2	16	94.490	95.650	1.160	0	0	0	7.000	314550
1044046	351486	LB-13	6	53	2	16	141.580	154.530	12.950	0	0	0	7.000	314551
1044047	369694	LB-12	6	53	2	16	19.810	20.730	0.920	0	0	0	5.000	314552
1044047	369694	LB-12	6	53	2	16	35.660	36.580	0.920	0	0	0	5.000	314553
1044047	369694	LB-12	6	53	2	16	163.680	185.010	21.330	0	0	0	5.000	314557
1044047	369694	LB-12	6	53	2	16	214.180	215.490	1.310	0	0	0	5.000	314559
1044047	369694	LB-12	6	53	2	16	222.410	236.100	13.690	0	0	0	5.000	314560
1044048	351494	LB-14	6	53	2	19	117.040	117.650	0.610	0	0	0	9.000	314562
1044048	351494	LB-14	6	53	2	19	124.050	126.800	2.750	0	0	0	9.000	314563
1044048	351494	LB-14	6	53	2	19	157.280	166.120	8.840	0	0	0	9.000	314564
1044048	351494	LB-14	6	53	2	19	172.970	190.500	17.530	0	0	0	9.000	314565
1044048	351494	LB-14	6	53	2	19	208.330	209.090	0.760	0	0	0	9.000	314566
1044048	351494	LB-14	6	53	2	19	215.490	216.100	0.610	0	0	0	9.000	314567
1044048	351494	LB-14	6	53	2	19	246.580	247.500	0.920	0	0	0	9.000	314568
1044048	351494	LB-14	6	53	2	19	266.400	267.000	0.600	0	0	0	9.000	314571
1044048	351494	LB-14	6	53	2	19	286.050	286.970	0.920	0	0	0	9.000	314572
1044048	351494	LB-14	6	53	2	19	360.880	363.320	2.440	0	0	0	9.000	0
1044049	351510	LB-5	6	53	3	24	48.770	49.380	0.610	0	0	0	3.000	314580
1044049	351510	LB-5	6	53	3	24	81.530	82.140	0.610	0	0	0	3.000	314582
1044049	351510	LB-5	6	53	3	24	201.170	206.960	5.790	0	0	0	3.000	314583
1044049	351510	LB-5	6	53	3	24	240.790	241.550	0.760	0	0	0	3.000	314586
1044049	351510	LB-5	6	53	3	24	256.640	262.130	5.490	0	0	0	3.000	314588
1044049	351510	LB-5	6	53	3	24	284.680	286.050	1.370	0	0	0	3.000	314589
1044050	351502	LB-4	6	53	3	25	51.820	54.560	2.740	0	0	0	7.000	314594
1044050	351502	LB-4	6	53	3	25	57.300	62.180	4.880	0	0	0	7.000	314595
1044056	459669	PC835	6	54	1	2	86.950	87.600	0.650	0	0	0	7.000	0
1044056	459669	PC835	6	54	1	2	114.500	115.100	0.600	0	0	0	7.000	0
1044056	459669	PC835	6	54	1	2	117.700	119.200	1.500	0	0	0	7.000	0
1044056	459669	PC835	6	54	1	2	121.900	122.450	0.550	0	0	0	7.000	0
1044056	459669	PC835	6	54	1	2	133.800	135.050	1.200	0	0	0	7.000	0
1044057	459685	PC8328	6	54	1	3	10.250	13.900	3.650	0	0	0	6.000	0

1044057	459685	PC8328	6	54	1	3	43.050	43.700	0.650	3D	0	6.000	0	0
1044057	459685	PC8328	6	54	1	3	44.050	45.500	1.450	3C	0	6.000	0	0
1044057	459685	PC8328	6	54	1	3	48.000	50.900	2.900	3B	0	6.000	0	0
1044057	459685	PC8328	6	54	1	3	69.950	70.450	0.500	3A	0	6.000	0	0
1044058	459693	PC8327	6	54	1	3	64.200	67.400	3.200	4	0	10.000	0	0
1044058	459693	PC8327	6	54	1	3	96.150	96.650	0.500	3D	0	10.000	0	0
1044058	459693	PC8327	6	54	1	3	97.000	98.300	1.300	3C	0	10.000	0	0
1044058	459693	PC8327	6	54	1	3	100.150	102.900	2.750	3B	0	10.000	0	0
1044059	459701	PC8325	6	54	1	3	63.550	67.050	3.500	4	0	10.000	0	0
1044059	459701	PC8325	6	54	1	3	95.850	96.300	0.450	3D	50	10.000	0	0
1044059	459701	PC8325	6	54	1	3	96.650	97.900	1.250	3C	0	10.000	0	0
1044059	459701	PC8325	6	54	1	3	99.800	102.500	2.700	3B	0	10.000	0	0
1044059	459701	PC8325	6	54	1	3	121.800	122.300	0.500	3A	0	10.000	0	0
1044059	459701	PC8325	6	54	1	3	129.200	129.650	0.450	MCLD	30	10.000	0	0
1044060	459719	PC8326	6	54	1	3	24.400	26.200	1.800	6	0	10.000	0	0
1044060	459719	PC8326	6	54	1	3	30.250	30.800	0.550	0	0	10.000	0	0
1044060	459719	PC8326	6	54	1	3	40.750	42.300	1.550	5	0	10.000	0	0
1044060	459719	PC8326	6	54	1	3	126.950	129.600	2.650	4	0	10.000	0	0
1044061	459818	PC8312	6	54	1	4	20.300	21.800	1.500	3A	0	6.000	0	0
1044061	459818	PC8312	6	54	1	4	35.700	36.200	0.500	0	0	6.000	314774	0
1044061	459818	PC8312	6	54	1	4	51.150	51.650	0.500	MCLD	0	6.000	0	0
1044061	459818	PC8312	6	54	1	4	56.700	57.200	0.500	2	0	6.000	0	0
1044061	459818	PC8312	6	54	1	4	80.750	81.300	0.550	1	0	6.000	0	0
1044062	459826	PC8315	6	54	1	9	58.950	61.500	2.550	4	0	6.000	0	0
1044062	459826	PC8315	6	54	1	9	90.750	92.000	1.250	3C	0	6.000	0	0
1044062	459826	PC8315	6	54	1	9	92.900	95.650	2.750	3B	0	6.000	0	0
1044063	459834	PC8311	6	54	1	9	58.500	61.600	3.100	4	0	6.000	0	0
1044063	459834	PC8311	6	54	1	9	90.350	91.650	1.300	3C	0	6.000	0	0
1044063	459834	PC8311	6	54	1	9	92.500	95.300	2.800	3B	0	6.000	0	0
1044063	459834	PC8311	6	54	1	9	114.900	116.200	1.300	3A	0	6.000	0	0
1044063	459834	PC8311	6	54	1	9	135.600	136.650	1.050	2	0	6.000	0	0
1044063	459834	PC8311	6	54	1	9	149.950	150.400	0.450	0	0	6.000	314837	0
1044064	459842	PC8314	6	54	1	9	29.850	30.500	0.650	0	0	12.000	0	0
1044064	459842	PC8314	6	54	1	9	79.150	80.500	1.350	6	0	12.000	0	0
1044065	459859	PC8313	6	54	1	9	29.100	29.750	0.650	0	0	12.000	0	0
1044065	459859	PC8313	6	54	1	9	78.350	79.850	1.500	6	0	12.000	0	0
1044065	459859	PC8313	6	54	1	9	94.800	96.350	1.550	5	0	12.000	0	0
1044065	459859	PC8313	6	54	1	9	183.400	185.700	2.300	4	0	12.000	0	0
1044066	459909	PC8332	6	54	1	19	28.000	28.850	0.850	0	0	3.000	0	0
1044066	459909	PC8332	6	54	1	19	41.550	42.500	0.950	0	0	3.000	0	0
1044066	459909	PC8332	6	54	1	19	89.600	93.200	3.600	4	0	3.000	0	0
1044066	459909	PC8332	6	54	1	19	115.350	116.500	1.150	0	0	3.000	0	0
1044066	459909	PC8332	6	54	1	19	124.550	125.550	1.000	3C	0	3.000	0	0
1044066	459909	PC8332	6	54	1	19	126.050	128.800	2.750	3B	0	3.000	0	0
1044067	459917	PC8323	6	54	1	19	31.150	32.100	0.950	6	0	3.000	0	0
1044067	459917	PC8323	6	54	1	19	69.350	70.500	1.150	0	0	3.000	0	0
1044067	459917	PC8323	6	54	1	19	84.500	85.300	0.800	0	0	3.000	0	0
1044067	459917	PC8323	6	54	1	19	135.500	138.850	3.350	4	0	3.000	0	0
1044070	459875	PC8321	6	54	2	13	29.000	30.900	1.900	1	0	12.000	0	0
1044070	459875	PC8321	6	54	2	13	33.000	33.650	0.650	1L	0	12.000	0	0
1044071	351577	00187	6	54	2	21	93.880	95.400	1.520	KBZ	0	0.000	0	0
1044072	459883	PC8324	6	54	2	24	4.550	7.900	3.350	4	0	3.000	0	0
1044072	459883	PC8324	6	54	2	24	42.500	43.000	0.500	3C	35	3.000	0	0
1044072	459883	PC8324	6	54	2	24	43.500	46.400	2.900	3B	0	3.000	0	0
1044072	459883	PC8324	6	54	2	24	69.300	71.000	1.700	3A	0	3.000	0	0
1044073	459891	PC8322	6	54	2	24	5.300	9.250	3.900	4	0	3.000	0	0
1044073	459891	PC8322	6	54	2	24	44.300	47.250	2.950	3B	0	3.000	0	0
1044073	459891	PC8322	6	54	2	24	70.300	71.950	1.650	3A	0	3.000	0	0
1044073	459891	PC8322	6	54	2	24	92.000	92.500	0.500	MCLD	0	3.000	0	0
1044073	459891	PC8322	6	54	2	24	106.000	107.400	1.400	2	0	3.000	0	0
1044073	459891	PC8322	6	54	2	24	124.450	126.000	1.550	1	0	3.000	0	0

1044073	459891	PC8322	6	54	2	24	128.350	129.050	0.700	1L	0	0	3.000	0
1044074	351585	000186	6	54	2	28	17.830	18.440	0.610	KBZ	0	0	0.000	0
1044074	351585	000186	6	54	2	28	27.740	28.350	0.610	KBZ	0	0	0.000	0
1044077	351619	000006	6	54	3	2	49.830	51.050	1.220	0	0	0	3.000	315002
1044077	351619	000006	6	54	3	2	57.610	58.220	0.610	0	0	0	3.000	315003
1044077	351619	000006	6	54	3	2	99.060	100.890	1.830	0	0	0	3.000	315004
1044077	351619	000006	6	54	3	2	140.670	141.430	0.760	0	0	0	3.000	315006
1044077	351619	000006	6	54	3	2	160.930	162.460	1.530	0	0	0	3.000	315007
1044077	351619	000006	6	54	3	2	163.070	163.680	0.610	0	0	0	3.000	315008
1044077	351619	000006	6	54	3	2	172.210	174.040	1.830	0	0	0	3.000	315011
1044077	351619	000006	6	54	3	2	267.460	272.490	5.030	0	0	0	3.000	0
1044078	351627	000184	6	55	2	4	113.080	113.690	0.610	0	0	0	0.000	0
1044078	351627	000184	6	55	2	4	114.600	115.060	0.460	0	0	0	0.000	0
1044079	351635	000183	6	55	2	9	90.370	90.980	0.610	0	0	0	0.000	0