

**ALBERTA GEOLOGICAL SURVEY - COAL GEOLOGY**

**COAL COMPILATION PROJECT - BOLTON CREEK**

**NTS 83L/2**

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**Coal Compilation Project  
Open File Report: 1991-8  
Coal Geology Section  
Alberta Geological Survey**

**ALBERTA  
RESEARCH  
COUNCIL**

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## Foreword

The prime objective of the three year pilot Coal Compilation Project (CCP), initiated in the 1989/90 fiscal year, 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 can be at a regional or reconnaissance level. Collection of new data has been limited. Data compiled and evaluated has been 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 Industry has cooperated and supported the CCP by providing unpublished corporate reports to the AGS. The availability of these reports has been an essential component toward the success of this project.

The CCP may encompass up to eighteen 1: 50 000 scale mapsheets, to be completed over the three year period. Nine mapsheets have been completed to date, four during the 1989/90 fiscal year and an additional five during the past 1990/91 fiscal year.

Custom maps and database searches can be obtained by contacting the Coal Geology Section, Alberta Geological Survey, Alberta Research Council. Raw coal exploration data<sup>1</sup> 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.

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

### **Acknowledgments**

The project was funded by the Alberta Department of Energy and the Alberta Research Council. The Alberta Geological Survey Coal Technical Advisory Sub-Committee provided valuable guidance for the project. Mike Dawson of the Geological Survey of Canada (GSC/ISPG) provided significant Upper Cretaceous/Tertiary coal subcrop information as well as trench logs and analytical data from said trenches. Esso Resources Canada Limited, Smoky River Coal Limited and Union Oil Company of Canada are thanked for making unpublished reports/data available to the Alberta Geological Survey. D. Goulet assisted with map digitization and data entry.

## Introduction

### Objective

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

- 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 was intended to be a stand alone, unique product contributing to an overall synthesis of information. Maps generated would be at a regional or reconnaissance level. Collection of new data and/or actual time in the field has been limited. Data compilation and evaluation has been 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 may encompass up to eighteen 1: 50 000 scale mapsheets, to be completed over a three year pilot period. Nine mapsheets have been completed to date, four during the 1989/90 fiscal year and an additional five during the past 1990/91 fiscal year. At the end of the three year period, the CCP should be evaluated to determine if the project should be expanded and/or continued. As each map represents a complete product, the Coal Technical Advisory Subcommittee would be able to monitor the progress of the research and react to changing priorities without being committed to spending funds more than one year in advance.

Four contiguous NTS mapsheets<sup>2</sup>, located within the Hinton - Grande Cache corridor, were completed during the first fiscal year (1989/90) of the CCP. During the past fiscal year (1990/91), an additional five, but still contiguous, NTS mapsheets were completed in the Grande Cache - Musreau Lake area (see Figure 1). From southeast to northwest (to north), the mapsheets are identified as 83E/16 (Donald Flats), 83L/2 (Bolton Creek), 83L/3 (Copton Creek), 83L/7 (Prairie Creek) and 83L/10 (Cutbank River).

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 CCP is the use of cost effective 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.

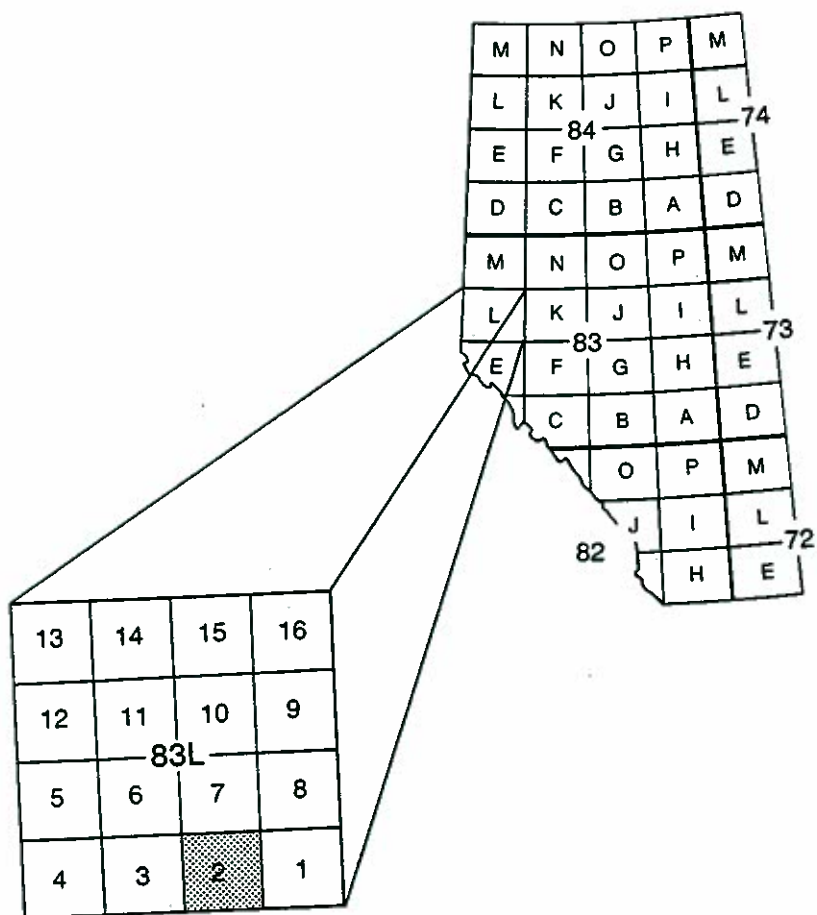
Much of the present methodology, software and hardware used in this study is described in detail in the Alberta Research Council, Open File Report 1989-03A (Richardson et al, 1989). In general both digital and hard copy data or graphic elements are entered into a GIS software product (pcARC/INFO) where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

During the initial year of the CCP, substantial time was spent in

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<sup>2</sup>From southeast to northwest, the mapsheets are identified as 83F/5 (Entrance), 83E/9 (Moberly Creek), 83E/15 (Pierre Greys Lakes) and 83E/14 (Grande Cache).

**Figure 1. Coal Compilation Project - Bolton Creek NTS 83L/2 : Location**



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

During the past year, much of the original design work was utilized where appropriate. There were numerous, additional design problems, not encountered in the initial year's work, which also had to be resolved. These 'new' design difficulties consumed significantly more time than was initially anticipated. As a net result, expectations of the number of CCP mapsheets generated during the fiscal year fell somewhat short of expectations.

The mapsheets completed to date have each provided their own unique design difficulties, a situation which appears to be more the norm rather than the exception. If, as expected, this pattern continues into the third year of the CCP, the number of mapsheets to be generated should be adjusted downward to reflect, and acknowledge, time spent in resolving these unique design problems.

### Location and Access

The study area of mapsheet NTS 83L/2 (Bolton Creek) is located in west-central Alberta between Latitudes  $54^{\circ} 00'$  and  $54^{\circ} 15'$  North, and Longitudes  $118^{\circ} 30'$  and  $119^{\circ} 00'$  West (between Townships 58 and 61 inclusive, and Ranges 4 to 7 inclusive, West of the 6<sup>th</sup> Meridian).

The community of Grande Cache (83E/14) is the primary population center near the study area.

Paved and improved access, to and within the area, is provided by Highway 40 and Secondary Highway 734. 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 accommodate coal unit trains. The coal terminal at Ridley Island, located at Prince Rupert, B.C., is located approximately 1300 rail-kilometers from Grande Cache; the Neptune Terminals at Vancouver, B.C. are located approximately 1150 rail-kilometers from Grande Cache.



### Geological Setting

Within the mapsheet 83L/2, near-surface coal measures are deposited within thick successions of sandstones, siltstones, shales and conglomerates. Known coal-bearing sequences are contained within the Upper Cretaceous/Tertiary Wapiti Group.

The coal-bearing Luscar Group, while not present in surface exposures, occurs at depth. Within the mapsheet, the Luscar Group is intersected, in the subsurface, in the 2500 to 4000 meter\_deep range.

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

### Stratigraphy of Coal-Bearing Units

#### Wapiti Group

The Wapiti Group consists of primarily nonmarine sandstones, conglomerates, shales and coals; the Group lies conformably above the marine Wapiabi Formation.

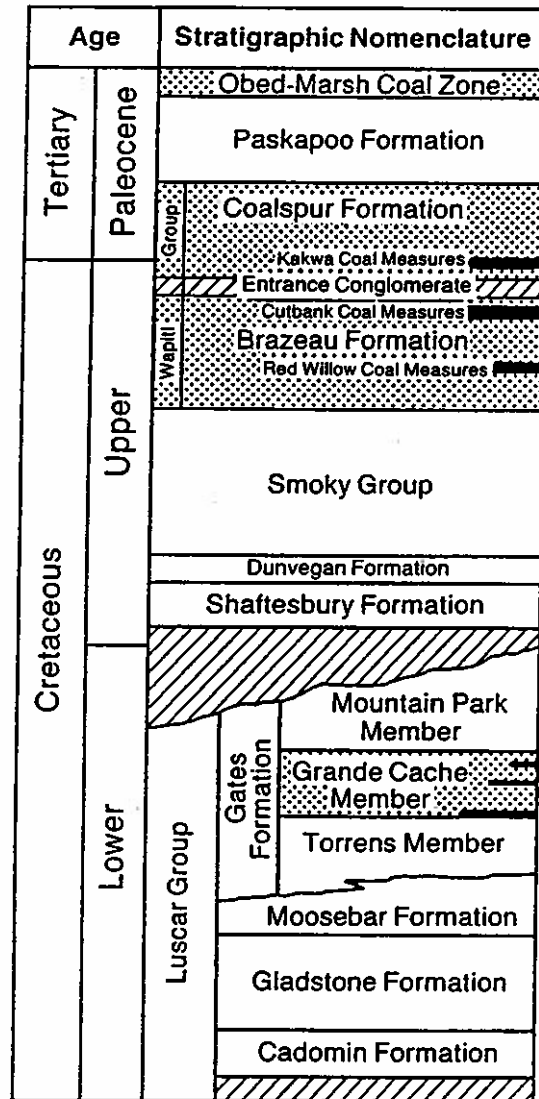
The strata of the Wapiti Group have been divided into four formations (McMechan and Dawson 1990)

- o Lower Brazeau
- o Upper Brazeau; contains the sequence informally defined as the Cutbank coal measure
- o Lower Coalspur
- o Upper Coalspur; contains the sequence informally defined as the Kakwa coal measure
- o Lower Coalspur.




#### Upper Brazeau Formation

Coal occurrences within the Cutbank coal measure of the Upper Brazeau Formation have, within the mapsheet, been documented from a limited number of oil and gas wells. Within the CCP mapsheet 83L/2, the Cutbank coal measure have an average thickness of 200+ meters. The (up to) seven coal seams vary in both thickness and continuity, and have an average aggregate thickness of 6 meters. Seam correlations are preliminary.

**Figure 2. Stratigraphic Nomenclature Adopted for the Coal Compilation Project**  
 (after Macdonald et al 1989; and Dawson 1989 & 1990)



**Legend**

-  Coal-bearing unit
-  Coal Seams/Zones
-  Hiatus or missing interval

### Upper Coalspur Formation

Coal occurrences within the Kakwa coal measure of the Upper Coalspur Formation have, within the mapsheet, been documented in outcrops, trenches, a limited number of oil and gas wells and one coal drillhole. Within the CCP mapsheet 83L/2, the Kakwa coal measure have an average thickness of 60 meters. The (up to) eight coal seams vary in both thickness and continuity, and have an average aggregate thickness of 8 meters. Seam correlations are preliminary.

### Structure

The Wapiti Group strata trend in a northwesterly strike direction and have shallow dips, usually between 0 and 15 degrees towards the northeast.

### Environmental Setting

#### Integrated Resource Plans (IRP's)

The southeast half of the CCP mapsheet 83L/2 is located within the Berland IRP. An additional IRP, designated as 'Kakwa-Wapiti', is proposed for the future and is located, in part, in the north west half of the mapsheet.

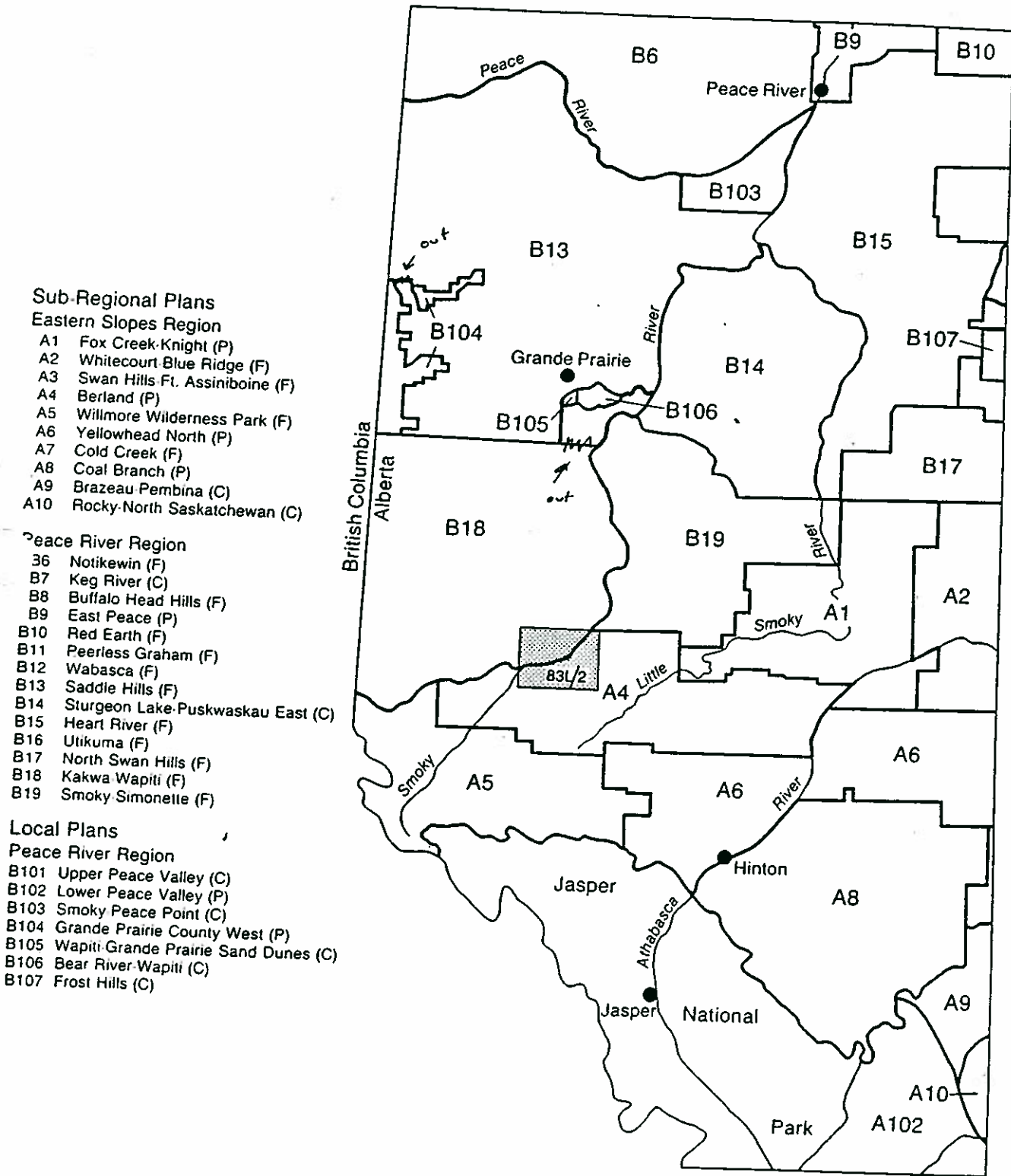
In the January, 1991 edition of Planning in Progress (Volume 8 Number 1), the status of the Berland IRP was capsuled by the following statement...

'A planning team meeting was held November 16, 1990. At that time, the team discussed Resource Management Area boundaries and themes. As well, a planning area boundary change was approved by the Eastern Slopes Regional Management Committee. The next team meeting is scheduled for January 1991 at which time the team will discuss broad objectives and guidelines. (Team Coordinator: Jamie McNeil)' . .

See also Figure 3 for locations/outlines of IRP's in the surrounding vicinity. On Figure 3, a bracketed letter trails the name of the IRP; this letter identifies the status of the IRP as

- o (C); completed
  
- o (P); in-progress or

**Figure 3. Locations/Outlines of IRP's in the Surrounding Vicinity (1989)**



- o (F); future.

## 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 (1989-05-09) Alberta Energy Coal Disposition Map of 83L/2 the following 3 companies/individuals are/were involved in one or more of the above activities

- o Esso Resources Canada Limited
- o Seaton-Jordan & Associates Ltd.
- o William Henry Leskow

It should be noted that, for the mapsheet, the corporate coal lease activity consisted of only the 'Crown coal lease under application' category.

Large tracts of coal lease applications, originated by Seaton-Jordan & Associates Ltd., have been recently withdrawn; ie, they now have no coal lease application activity within the mapsheet area. These recent application withdrawals have been reflected on the Coal Dispositions 'snapshot' map located on the enclosed ALBERTA RESEARCH COUNCIL MAP RCM6.

### Established Coal Resources and Reserves

Coal resources and/or reserves are calculated by the ERCB for the whole of Alberta. For the CCP mapsheet 83L/2, there are no coal resources and/or reserves, as calculated by the ERCB (1989).

### Exploration History

#### Coal

##### Coal Exploration Drillholes

Union Oil Company of Canada Limited has drilled the only coal exploration hole<sup>3</sup> within the mapsheet area. The hole, drilled in 1981, intersected the Kakwa coal measure.

Based on the April, 1989 version of the ERCB Coal Hole File, details of the coal exploration drillhole 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

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<sup>3</sup>Information, 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, 1991 version of the ERCB Coal Hole File.

- o NCinDH; a 'NC' in the column indicates that there were no coal intersections, for the drillhole, contained within the AGS Coal Database
  
- o M; Meridian
  
- o T; Township
  
- o R; Range
  
- o S; Section
  
- o RSEC; Reference Section
  
- o RCNR; Reference Corner
  
- o METN; Meters north or south from the reference corner
  
- o METE; meters 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 meters
  
- 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).

#### **Coal Exploration Trenches/Hand Trenches**

Between 1988 and 1990, Dawson of the GSC/ISPG conducted a series of field mapping programs in the Wapiti area of northwestern Alberta. The programs were executed, in part, on the mapsheet 83L/2. Two hand-dug trenches were excavated to expose coal seams, of the Kakwa coal measure, within the mapsheet area.

Trench locations have been shown on the GIS plot.

Appendix 2 contains copies of the trench logs, plus additional information concerning Dawson's field mapping programs in the Wapiti area.

### Oil and Gas Wells

Within the mapsheet area, 38 oil and gas wells have been drilled. Of the wells drilled,

- o 18 have been suspended
- o 13 have been abandoned
- o 6 are capped gaswells
- o 1 is a standing well.

See Appendix 3 for additional data. The Appendix is based on queries from the ERCB oil and gas database (April, 1989 version).

The Kakwa (Oil) Field, as shown on the GIS plot, is located, in part, in the extreme northeast corner of the mapsheet.

### Coal Occurrences

#### 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

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.

The coal intersections, of the one coal exploration drillhole, have been included in Appendix 4. 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; the ERCB\_Designated Coal Seam Name/Number (if assigned/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 Exploration Trenches/Hand Trenches**

Two hand-dug trenches were excavated, by Dawson of the GSC/ISPG, to expose the Kakwa coal measure contained within the mapsheet 83L/2. Trench locations have been shown on the GIS plot. Trench logs are contained in Appendix 2.

Individual coal seams exposed within the trenches vary in thickness from 0.3 to to 1.2 meters.

#### **Coal Outcrops**

Numerous coal outcrops and/or coal seam traces have been documented within the mapsheet 83L/2 by

- o ARC/AGS

- o Esso Canada Resources Limited
- o GSC/ISPG
- o Smoky River Coal Limited/ McIntyre Mines Limited
- o Union Oil Company of Canada Limited.

Coal outcrop locations and/or coal seam traces have been identified on the GIS plot. Coal seam outcrops of the

- o Kakwa coal measure vary in thickness to 4+ meters
- o Cutbank coal measure vary in thickness to 0.9 meters.

### **Coal Quality Summary**

#### **Coal Rank**

Within the mapsheet 83L/2, coals of both the Cutbank and Kakwa coal measures have a rank of high volatile bituminous C to B.

#### **Coal Exploration Drillholes**

Raw coal quality data from the coal exploration drillhole, within the mapsheet 83L/2, is limited to one sample from the Kakwa coal measure. Only moisture and ash values were generated from the raw sample.

Additional coal quality information was generated from a washed replicate of the above sample. Coal quality data generated includes

- o 1 Proximate Analysis (adb and db)
- o 1 Sulphur analysis (adb and db)
- o 1 Heating Value determination (adb and db)
- o 1 Equilibrium Moisture determination

In addition, 12 samples from within the drillhole, were analyzed for palynology.

### Coal Exploration Trench/Hand Trench Data

In 1989, Dawson of the GSC/ISPG conducted a field mapping program to evaluate the Kakwa coal measure contained, in part, within the mapsheet 83L/2. Two hand-dug, coal trenches were sampled. Samples were analyzed for proximate analyses, sulphur, heating value and vitrinite reflectance.

The analytical data are presented on the trench logs contained within Appendix 2. Trench site locations have been presented on RCM6.

### Coal Outcrops

A number of outcrops, within the mapsheet 83L/2, have been sampled by both Crown and private corporations

- o ARC/AGS, 1970; from 1 coal outcrop, sample results include Proximate Analysis and Heating Value determinations
- o ARC/AGS, 1990; from 3 coal outcrops, 3 samples were analyzed for Proximate Analyses, Ultimate Analyses and random reflectance determinations
- o Esso Canada Resources Limited, 1982 to 1985; from 3 coal outcrops, 3 samples were analyzed for palynology; an additional 9 samples, from 9 non-coal outcrops, were analyzed for palynology
- o Smoky River Coal Limited, 1990; from 1 coal outcrop, 11 samples were analyzed for Proximate Analyses
- o Union Oil Company of Canada Limited, 1980; from 1 coal outcrop, sample results include Proximate Analysis, Sulphur, Heating Value and Equilibrium Moisture determinations; an additional 10 coal samples<sup>4</sup> were analyzed for palynology only.

### 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

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<sup>4</sup>Only locational data is available for the 10 samples.

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.

#### 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. 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 an outcrop, drillhole, trench or sample 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 only superficially examined. Additional coal exploration and coal quality data needs to be collected throughout the map area.

The coal-bearing Luscar Group, while not present in surface exposures, occurs at depth. Within the mapsheet, the Luscar Group is intersected, in the subsurface, in the 2500 to 4000 meter\_deep range. If depth of burial is not a deterrent, the presence of (thick ?) coals of low to medium volatile bituminous rank could indicate the area has potential for coalbed methane. Much of the area shown as blank (white) on the accompanying map, RCM6, contain Luscar sediments at depth. Additional work is required to establish and evaluate coalbed methane resource potential of the Luscar Group in the area.

The mapsheet contains coals of the Cutbank and the Kakwa coal measures of the Wapiti Group. These coals should also be considered for their coalbed methane potential. The coals have a rank of high volatile bituminous C to B. Coalbed methane potential, while (probably) not as high as the Luscar Group coals, should not be excluded.

For most of the remaining map area, little data is available and the coal development potential is somewhat uncertain.

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\* Confidential corporate reports on loan to the Alberta Geological Survey.



Appendix 1. 83L/2 - Coal Drillholes



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1																						
2	FILE NAME: 83L2.DLS (on the mainframe)																					
3																						
4	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.																					
5	2. No coal in drillhole as per criteria of Hughes, Mudry & Nikols in GSC Paper 86-21, 'A Standardized Coal Resource/Reserve System for Canada'; geology picks have been modified from the AGS Coal Database																					
6	April, 1989 version of the ERCB Coal Hole File.																					
7	3. A 'Y' indicates that coal quality data exists; ref: AGS Coal Database, April, 1989 version of the ERCB Coal Hole File & other misc available sources.																					
8	DWF 9007																					
9																						
10																						
11																						
12	SITID	CAT-ID	ORIG	EDITED (1)	NCINDH (2)	CQ (3)	M	T	R	S	RSEC	RCNR	METN	METE	ELEV	TD	CPDT	DRLD	CORPNUM	COMPANY		
13																						
14	1045744	446781	WST811			Y	6	59	5	15	15	NE	-25.00	-800.00	1417.00	487.70	810900	850600	96	UNION OIL COMPANY OF CANADA LIMITED		



**Appendix 2. 83L/2 - GSC/ISPG (Dawson) Coal Trench Data from the Wapiti Project**

Between 1988 and 1990, Dawson of the GSC/ISPG excavated, described and sampled a number of coal outcrops and hand-dug trenches in the Wapiti area of northwestern Alberta.

Copies of thirty three trench logs have been provided to the Alberta Geological Survey (AGS) for use, as required, in the Coal Compilation Project (CCP). Said trenches have been distributed over a large area (specifically, within NTS mapsheets 83K, 83L and 83M). The following table provides summary data concerning the trench logs; it should also be noted that many of the trenches are located outside of the coverage of the CCP for 1990/91. An 'X' in the 'CQ' column indicates that coal quality data has also been included on the trench log.

<u>Trench</u> <u>Designation</u>	<u>Formation</u>	<u>Coal Measure</u>	<u>NTS</u> <u>Mapsheet</u>	<u>CQ</u>	<u>Applicable to</u> <u>CCP 1990/91</u>
WA89006	SCOLLARD	KAKWA	83K/12	X	
WA89012	SCOLLARD	KAKWA	83K/12	X	
WA89002 <sup>5</sup>	SCOLLARD	KAKWA	83L/1	X	
<b>WA89001</b>	<b>SCOLLARD</b>	<b>KAKWA</b>	<b>83L/2</b>	<b>X</b>	<b>X</b>
<b>WA89003</b>	<b>SCOLLARD</b>	<b>KAKWA</b>	<b>83L/2</b>	<b>X</b>	<b>X</b>
WA90002	WAPITI	CUTBANK	83L/3	X	X
WA90003	WAPITI	CUTBANK	83L/3	X	X
WA90004	WAPITI	CUTBANK	83L/3		X
WA88008	WAPITI	CUTBANK	83L/5		
WA88009	WAPITI	CUTBANK	83L/5	X	
WA90005	SCOLLARD	ENTRANCE	83L/6	X	
WA90006	WAPITI	CUTBANK	83L/6	X	
WA90007	WAPITI	CUTBANK	83L/6	X	
WA90008	SCOLLARD	ENTRANCE	83L/6	X	
WA88004	WAPITI	CUTBANK	83L/6	X	
WA88002	SCOLLARD	KAKWA	83L/7	X	X
WA89004	SCOLLARD	KAKWA	83L/7	X	X
WA88001	SCOLLARD	KAKWA	83L/8	X	













<sup>5</sup>Trench WA89002, located on mapsheet 83L/1, is situated approximately 100 meters east of the eastern boundary of CCP mapsheet 83L/2. Due to its close proximity to the mapsheet of interest, the WA89002 trench log has also been included.

<u>Trench Designation</u>	<u>Formation</u>	<u>Coal Measure</u>	<u>NTS Mapsheet</u>	<u>CQ</u>	<u>Applicable to CCP 1990/91</u>
WA89005	WAPITI	CUTBANK	83L/8	X	
WA89008	SCOLLARD	KAKWA	83L/8	X	
WA88006	SCOLLARD	KAKWA	83L/9	X	
WA89009	SCOLLARD	KAKWA	83L/9		
WA89010	SCOLLARD	KAKWA	83L/9	X	
WA88005	WAPITI	CUTBANK	83L/11	X	
WA88010	WAPITI	CUTBANK	83L/11	X	
WA89011	WAPITI	RED WILLOW	83L/12	X	
WA90009	SCOLLARD	ENTRANCE	83L/12	X	
WA88003	WAPITI	RED WILLOW	83L/14	X	
WA88020	WAPITI	RED WILLOW	83L/14	X	
WA89007	SCOLLARD	KAKWA	83L/15	X	
WA88021	WAPITI	RED WILLOW	83M/2	X	
WA88019	WAPITI	RED WILLOW	83M/3	X	
WA88014	WAPITI	BASAL	83M/8	X	

The 2 trenches, that are located within the CCP mapsheet 83L/2, have been highlighted and italicized in the above table. Copies of the 2 noted trench logs, plus the one trench included on the 83L/1 mapsheet, follow

DESCRIPTIVE COMMENTS	COAL ZONE	SAMPLE NUMBER	THICKNESS (metres)	CHEMICAL ANALYSES						PETROGRAPHIC ANALYSES (VOLUME %)							
				H <sub>2</sub> O (A.R.B.)	C.V. (BTU/lb)	ASH %	V.M. %	F.C. %	S %	Brand	Rmax	Huminite	Vitrinite	Inertinite	Liptinite		
ROOF			0.50														
		166480	0.50	9.3	8574	22.4	27.4	40.9	0.40	0.61	78	17	5				
			1.00														
		166481	0.30	9.2		76.3				0.04	0.54						
			2.00														
FLOOR		166482	0.30	9.0	8358	25.0	25.7	40.3	0.33	0.61	81	16	3				
OUTCROP SECTION																	
BOLTON CREEK	TOTAL ZONE		4.10	COMPOSITE ANALYSES													
	TOTAL COAL		1.10														

**LEGEND**

-  *Bright*
-  *Bright banded*
-  *Dull and bright*
-  *Dull banded*
-  *Dull*
-  *Bone coal*
-  *Carbonaceous claystone*
-  *Mudstone*
-  *Bentonitic mudstone*
-  *Concretion*
-  *Sandstone*
-  *Siltstone*

**WAPITI PROJECT**

TRENCH: WA89001

SCALE: 

LOCATION: LSD. \_\_\_\_\_  
 SEC. 27  
 NORTHING 6008820 TWP. 60  
 EASTING 400750 RGE. 4  
 ZONE 11 MER. W6

DESCRIPTIVE COMMENTS	COAL ZONE	SAMPLE NUMBER	THICKNESS (metres)	CHEMICAL ANALYSES						PETROGRAPHIC ANALYSES (VOLUME %)										
				H <sub>2</sub> O (A.R.B.)	C.V. (BTU/lb)	ASH %	V.M. %	F.C. %	S %	Rrand	Rmax	Huminite	Vitrinite	Inertinite	Liptinite					
OUTCROP SECTION BOLTON CREEK	ROOF																			
			1.00																	
			0.30																	
			0.20																	
	FLOOR		166486	0.30	8.9	9380	15.9	30.7	44.5	0.59	0.59	88	9	3						
	TOTAL ZONE		1.80	COMPOSITE ANALYSES																
	TOTAL COAL		0.60																	

**LEGEND**

Bright	Carbonaceous claystone
Bright banded	Mudstone
Dull and bright	Bentonitic mudstone
Dull banded	Concretion
Dull	Sandstone
Bone coal	Siltstone

**WAPITI PROJECT**

TRENCH: WA89002

SCALE: 0 0.5 1.0 m













LOCATION:

NORTHING	6008350	LSD.	_____
EASTING	403400	SEC.	26
ZONE	11	TWP.	60
		RGE.	4
		MER.	W6



DESCRIPTIVE COMMENTS	COAL ZONE	SAMPLE NUMBER	THICKNESS (metres)	CHEMICAL ANALYSES						PETROGRAPHIC ANALYSES (VOLUME %)								
				H <sub>2</sub> O (A.R.B.)	C.V. (BTU/lb)	ASH %	V.M. %	F.C. %	S %	Rrand	Rmax	Huminite	Vitrinite	Inertinite	Liptinite			
ROOF																		
FLOOR		106485	1.20	10.97	20.26	27.3	30.0	31.8	0.46	0.51	72	25	3					
OUTCROP SECTION																		
SMOKY RIVER	TOTAL ZONE		1.20	COMPOSITE ANALYSES														
	TOTAL COAL		1.20															

**LEGEND**

 <b>Bright</b>	 <b>Carbonaceous claystone</b>
 <b>Bright banded</b>	 <b>Mudstone</b>
 <b>Dull and bright</b>	 <b>Bentonitic mudstone</b>
 <b>Dull banded</b>	 <b>Concretion</b>
 <b>Dull</b>	 <b>Sandstone</b>
 <b>Bone coal</b>	 <b>Siltstone</b>

**WAPITI PROJECT**

TRENCH: WA89003

SCALE: 0 0.5 1.0 m

LOCATION:

NORTHING	6011400	LSD.	_____
EASTING	400750	SEC.	3
ZONE	11	TWP.	61
		RGE.	4
		MER.	W6

**Appendix 3. 83L/2 - Oil and Gas Wells; Status and Formation Tops**

Site ID: 92078

Source ID: 00/11-20-058-04W6/0

Latitude: 54.031509

Well Length: 4010.000

Longitude: 118.561288

KB Elevation: 1479.100

Status: Suspended Well

Well Name: AMMIN SMOKYR 11-20-58-4

Depth Meters	Depth Feet	Horizon Name	
2253.200	7392.389	WAPIABI FM	WPBI
2555.100	8382.875	BADHEART FM	BADH
2636.000	8648.294	CARDIUM FM	CARD
2676.500	8781.168	CARDIUM SD	CARD SD
2695.000	8841.864	BLACKSTONE FM	BKST
3317.000	10882.546	DUNVEGAN FM	DUNV
3389.000	11118.767	SHAFTESBURY FM	SHFT
3471.000	11387.796	BASE FISH SCALES ZONE	BFSC
3527.500	11573.163	PEACE RIVER FM	PR
3577.700	11737.861	SPIRIT RIVER FM	SPRT R
3855.000	12647.639	GETHING FM	GETH
3974.000	13038.059	CADOMIN FM	CADM
3989.000	13087.271	NIKANASSIN FM	NIKA

Site ID: 162385      Source ID: 00/11-20-058-04W6/2

Latitude:      54.031509      Well Length:      4010.000

Longitude:      118.561288

KB Elevation:      1479.100      Staus:      Suspended Well

Well Name:      AMMIN SMOKYR 11-20-58-4

Depth Meters	Depth Feet	Horizon Name	
2253.200	7392.389	WAPIABI FM	WPBI
2555.100	8382.875	BADHEART FM	BADH
2636.000	8648.294	CARDIUM FM	CARD
2676.500	8781.168	CARDIUM SD	CARD SD
2695.000	8841.864	BLACKSTONE FM	BKST
3317.000	10882.546	DUNVEGAN FM	DUNV
3389.000	11118.767	SHAFTESBURY FM	SHFT
3471.000	11387.796	BASE FISH SCALES ZONE	BFSC
3527.500	11573.163	PEACE RIVER FM	PR
3577.700	11737.861	SPIRIT RIVER FM	SPRT R
3855.000	12647.639	GETHING FM	GETH
3974.000	13038.059	CADOMIN FM	CADM
3989.000	13087.271	NIKANASSIN FM	NIKA

Site ID: 146648      Source ID: 00/10-30-058-04W6/0

Latitude:      54.045521      Well Length:    2370.000  
Longitude:    118.577003  
KB Elevation:   1486.500      Status:    Abandoned Well

Well Name:      CANHUNTER MOBERLY 10-30-58-4

Depth Meters	Depth Feet	Horizon Name	
2276.500	7468.832	WAPIABI FM	WPBI
2327.000	7634.515	CHINOOK MBR	CHNK
2370.000	7775.591	TOTAL DEPTH	TD

Site ID: 92079      Source ID: 00/10-07-058-05W6/0

Latitude: 54.002701      Well Length: 4189.000

Longitude: 118.724524

KB Elevation: 1474.400      Status: Abandoned Well

Well Name: AMMIN FINDLEY 10-7-58-5

Depth Meters	Depth Feet	Horizon Name	
2434.500	7987.205	BADHEART FM	BADH
2543.000	8343.176	CARDIUM FM	CARD
2576.500	8453.084	CARDIUM SD	CARD SD
2616.000	8582.678	KASKAPAU FM	KPAU
3391.000	11125.328	BASE FISH SCALES ZONE	BFSC
3453.000	11328.740	PEACE RIVER FM	PR
3515.500	11533.793	HARMON MBR	HARM
3525.000	11564.961	SPIRIT RIVER FM	SPRT R
3927.500	12885.499	BLUESKY FM	BLSK
3931.000	12896.982	GETHING FM	GETH
4047.500	13279.200	CADOMIN FM	CADM
4058.500	13315.289	NIKANASSIN FM	NIKA

Site ID: 92080

Source ID: 00/15-11-058-05W6/0

Latitude: 54.003311

Well Length: 4305.000

Longitude: 118.625738

KB Elevation: 1592.300

Status: Suspended Well

Well Name: AMMIN ET AL SMOKY 15-11-58-5

Depth Meters	Depth Feet	Horizon Name	
2711.000	8894.357	BADHEART FM	BADH
2819.000	9248.688	CARDIUM FM	CARD
2854.000	9363.518	CARDIUM SD	CARD SD
2870.000	9416.011	KASKAPAU FM	KPAU
3421.000	11223.754	DUNVEGAN FM	DUNV
3555.000	11663.386	SHAFTESBURY FM	SHFT
3636.000	11929.134	BASE FISH SCALES ZONE	BFSC
3695.000	12122.704	PADDY MBR	PADY
3749.000	12299.869	CADOTTE MBR	CDOT
3769.000	12365.486	HARMON MBR	HARM
3776.000	12388.452	SPIRIT RIVER FM	SPRT R
4015.000	13172.572	BLUESKY FM	BLSK
4032.000	13228.347	GETHING FM	GETH
4093.000	13428.479	CADOMIN FM	CADM
4101.000	13454.725	NIKANASSIN FM	NIKA

Site ID: 92081

Source ID: 00/10-29-058-05W6/0

Latitude: 54.045839

Well Length: 4194.000

Longitude: 118.699844

KB Elevation: 1457.400

Status: Abandoned Well

Well Name: AMMIN FINDLEY 10-29-58-5

Depth Meters	Depth Feet	Horizon Name	
1276.000	4186.352	BELLY RIVER GRP	BR
1863.000	6112.205	FAULT	FLT
1863.300	6113.189	BELLY RIVER GRP	BR
2251.000	7385.171	WAPIABI FM	WPBI
2285.500	7498.360	CHINOOK MBR	CHNK
2555.000	8382.546	BADHEART FM	BADH
2665.000	8743.438	CARDIUM FM	CARD
2688.000	8818.897	CARDIUM SD	CARD SD
2707.500	8882.874	BLACKSTONE FM	BKST
2743.000	8999.344	KASKAPAU FM	KPAU
2978.000	9770.342	SECOND WHITE SPECKLED S	H2WS
3392.000	11128.609	SHAFTESBURY FM	SHFT
3473.000	11394.357	BASE FISH SCALES ZONE	BFSC
3538.000	11607.612	PADDY MBR	PADY
3586.000	11765.092	CADOTTE MBR	CDOT
3601.000	11814.305	HARMON MBR	HARM
3648.000	11968.504	SPIRIT RIVER FM	SPRT R
3865.000	12680.446	BLUESKY FM	BLSK
3890.000	12762.468	GETHING FM	GETH
3987.000	13080.709	CADOMIN FM	CADM
4002.000	13129.922	NIKANASSIN FM	NIKA
4184.000	13727.034	FERNIE GRP	FERN



Site ID: 92082      Source ID: 00/10-29-058-05W6/2

Latitude:      54.045839      Well Length:    2741.000  
Longitude:     118.699844  
KB Elevation:   1457.400      Status:    Abandoned Well

Well Name:      AMMIN FINDLEY 10-29-58-5

Depth Meters	Depth Feet	Horizon Name	
1276.000	4186.352	BELLY RIVER GRP	BR
1863.000	6112.205	FAULT	FLT
1863.300	6113.189	BELLY RIVER GRP	BR
2251.000	7385.171	WAPIABI FM	WPBI
2285.500	7498.360	CHINOOK MBR	CHNK
2555.000	8382.546	BADHEART FM	BADH
2665.000	8743.438	CARDIUM FM	CARD
2688.000	8818.897	CARDIUM SD	CARD SD
2707.500	8882.874	BLACKSTONE FM	BKST
2741.000	8992.782	TOTAL DEPTH	TD

Site ID: 92085      Source ID: 00/06-26-058-06W6/0

Latitude: 54.040088      Well Length: 4150.000

Longitude: 118.784041

KB Elevation: 1507.100      Status: Suspended Well

Well Name: DOME FINDLEY 6-26-58-6

Depth Meters	Depth Feet	Horizon Name	
2397.500	7865.814	BADHEART FM	BADH
2501.000	8205.381	CARDIUM FM	CARD
2537.000	8323.491	CARDIUM SD	CARD SD
2574.000	8444.882	KASKAPAU FM	KPAU
2580.000	8464.567	FAULT	FLT
2580.300	8465.552	BADHEART FM	BADH
2590.000	8497.376	CARDIUM FM	CARD
2622.000	8602.362	CARDIUM SD	CARD SD
2665.500	8745.079	KASKAPAU FM	KPAU
3227.500	10588.911	DUNVEGAN FM	DUNV
3342.000	10964.567	SHAFTESBURY FM	SHFT
3393.000	11131.890	BASE FISH SCALES ZONE	BFSC
3457.500	11343.504	PADDY MBR	PADY
3474.000	11397.638	CADOTTE MBR	CDOT
3512.500	11523.950	HARMON MBR	HARM
3538.000	11607.612	SPIRIT RIVER FM	SPRT R
3810.000	12500.000	BLUESKY FM	BLSK
3815.000	12516.404	GETHING FM	GETH
3923.000	12870.735	CADOMIN FM	CADM
3937.000	12916.667	NIKANASSIN FM	NIKA

Site ID: 146680      Source ID: 00/13-21-059-04W6/0

Latitude:      54.119848      Well Length:    2085.000  
Longitude:     118.544548  
KB Elevation:   1200.200      Staus:    Abandoned Well

Well Name:      DOME ET AL SMOKY 13-21-59-4

Depth Meters	Depth Feet	Horizon Name	
1975.000	6479.659	WAPIABI FM	WPBI
2022.500	6635.499	CHINOOK MBR	CHNK
2085.000	6840.551	TOTAL DEPTH	TD

Site ID: 92962      Source ID: 00/07-29-059-04W6/0

Latitude:      54.127728      Well Length:    3595.000  
Longitude:    118.556132  
KB Elevation:   1112.200      Status:    Suspended Well

Well Name:    DOME LATOR 7-29-59-4

Depth Meters	Depth Feet	Horizon Name	
1923.600	6311.024	WAPIABI FM	WPBI
2307.000	7568.898	CARDIUM SD	CARD SD
2320.500	7613.189	KASKAPAU FM	KPAU
2825.600	9270.342	DUNVEGAN FM	DUNV
2861.000	9386.483	SHAFTESBURY FM	SHFT
2946.500	9666.995	BASE FISH SCALES ZONE	BFSC
3014.300	9889.437	MOUNTAIN PARK FM	MTN PK
3119.000	10232.940	LUSCAR FM	LUSK
3331.800	10931.103	BLUESKY FM	BLSK
3352.000	10997.376	GETHING FM	GETH
3452.400	11326.771	CADOMIN FM	CADM
3458.500	11346.785	NIKANASSIN FM	NIKA

Site ID: 92963      Source ID: 00/12-07-059-05W6/0

Latitude:      54.088607      Well Length:    3181.000  
Longitude:     118.742611  
KB Elevation:   1195.700      Status:    Suspended Well

Well Name:      AMMIN SMOKY 12-7-59-5

Depth Meters	Depth Feet	Horizon Name	
2062.500	6766.732	LEA PARK FM	LP
2285.000	7496.719	BADHEART FM	BADH
2389.000	7837.927	CARDIUM FM	CARD
2422.000	7946.194	CARDIUM SD	CARD SD
2459.000	8067.585	KASKAPAU FM	KPAU
3011.000	9878.609	DUNVEGAN FM	DUNV
3085.000	10121.392	SHAFTESBURY FM	SHFT
3171.000	10403.544	BASE FISH SCALES ZONE	BFSC
3181.000	10436.352	TOTAL DEPTH	TD

Site ID: 92964      Source ID: 00/12-07-059-05W6/2

Latitude:      54.088607      Well Length:    3914.000  
Longitude:     118.742611  
KB Elevation:   1195.700      Status:    Suspended Well

Well Name:      AMMIN SMOKY 12-7-59-5

Depth Meters	Depth Feet	Horizon Name	
2062.500	6766.732	LEA PARK FM	LP
2285.000	7496.719	BADHEART FM	BADH
2389.000	7837.927	CARDIUM FM	CARD
2422.000	7946.194	CARDIUM SD	CARD SD
2459.000	8067.585	KASKAPAU FM	KPAU
3011.000	9878.609	DUNVEGAN FM	DUNV
3085.000	10121.392	SHAFTESBURY FM	SHFT
3171.000	10403.544	BASE FISH SCALES ZONE	BFSC
3235.000	10613.518	PADDY MBR	PADY
3252.000	10669.292	CADOTTE MBR	CDOT
3279.000	10757.874	HARMON MBR	HARM
3314.000	10872.704	SPIRIT RIVER FM	SPRT R
3574.000	11725.722	BLUESKY FM	BLSK
3593.000	11788.059	GETHING FM	GETH
3683.000	12083.334	CADOMIN FM	CADM
3695.000	12122.704	NIKANASSIN FM	NIKA
3886.500	12750.984	FERNIE GRP	FERN

Site ID: 146681      Source ID: 00/02-14-059-05W6/0

Latitude:      54.097673      Well Length:    2325.000  
Longitude:     118.631390  
KB Elevation:   1390.800      Status:    Abandoned Well

Well Name:      AMMIN MOONCK 2-14-59-5

Depth Meters	Depth Feet	Horizon Name	
2240.800	7351.707	WAPIABI FM	WPBI
2264.500	7429.462	CHINOOK MBR	CHNK
2325.000	7627.953	TOTAL DEPTH	TD

Site ID: 92965      Source ID: 00/06-22-059-05W6/0

Latitude:      54.112216      Well Length:    4074.000  
Longitude:     118.662963  
KB Elevation:   1436.200      Status:    Capped Gaswell

Well Name:      DOME ET AL SMOKYR 6-22-59-5

Depth Meters	Depth Feet	Horizon Name	
2327.000	7634.515	WAPIABI FM	WPBI
2431.000	7975.722	COLORADO GRP	COLO
2545.500	8351.378	BADHEART FM	BADH
2630.600	8630.578	CARDIUM FM	CARD
2668.400	8754.593	CARDIUM SD	CARD SD
2687.500	8817.258	KASKAPAU FM	KPAU
3191.400	10470.473	DUNVEGAN FM	DUNV
3239.000	10626.641	SHAFTESBURY FM	SHFT
3349.000	10987.533	BASE FISH SCALES ZONE	BFSC
3416.700	11209.646	CADOTTE MBR	CDOT
3431.000	11256.563	HARMON MBR	HARM
3441.000	11289.370	SPIRIT RIVER FM	SPRT R
3504.800	11498.688	FALHER A	FALHER A
3750.300	12304.135	BLUESKY FM	BLSK
3757.000	12326.116	GETHING FM	GETH
3861.500	12668.964	CADOMIN FM	CADM
3882.100	12736.549	NIKANASSIN FM	NIKA
4036.200	13242.126	FERNIE GRP	FERN



Site ID: 146682      Source ID: 00/08-22-059-05W6/0

Latitude:      54.112572      Well Length:      2247.000

Longitude:      118.654656

KB Elevation:      1332.600      Status:      Suspended Well

Well Name:      DOME ET AL MOON CREEK 8-22-59-5

Depth Meters	Depth Feet	Horizon Name	
2118.000	6948.819	WAPIABI FM	WPBI
2186.000	7171.916	CHINOOK MBR	CHNK
2247.000	7372.047	TOTAL DEPTH	TD

Site ID: 92966      Source ID: 00/10-24-059-05W6/0

Latitude:      54.118550      Well Length:    3494.000  
Longitude:     118.606170  
KB Elevation:   1302.400      Status:    Abandoned Well

Well Name:      AMMIN FINDLEY 10-24-59-5

Depth Meters	Depth Feet	Horizon Name	
2160.000	7086.614	WAPIABI FM	WPBI
2263.000	7424.541	COLORADO GRP	COLO
2377.000	7798.557	BADHEART FM	BADH
2461.000	8074.147	CARDIUM FM	CARD
2497.900	8195.210	CARDIUM SD	CARD SD
2512.500	8243.110	KASKAPAU FM	KPAU
3024.500	9922.900	DUNVEGAN FM	DUNV
3066.000	10059.056	SHAFTESBURY FM	SHFT
3140.000	10301.838	TOTAL DEPTH	TD

Site ID: 92967      Source ID: 00/10-32-059-05W6/0

Latitude: 54.148016      Well Length: 3517.000  
Longitude: 118.706910  
KB Elevation: 1023.700      Status: Suspended Well

Well Name: DOME SMOKY 10-32-59-5

Depth Meters	Depth Feet	Horizon Name	
1871.000	6138.452	LEA PARK FM	LP
2085.000	6840.551	BADHEART FM	BADH
2174.000	7132.546	CARDIUM FM	CARD
2208.000	7244.095	CARDIUM SD	CARD SD
2257.000	7404.856	KASKAPAU FM	KPAU
2737.000	8979.659	DUNVEGAN FM	DUNV
2843.000	9327.428	SHAFTESBURY FM	SHFT
2901.000	9517.717	BASE FISH SCALES ZONE	BFSC
2974.000	9757.218	PADDY MBR	PADY
3005.000	9858.924	CADOTTE MBR	CDOT
3030.000	9940.945	HARMON MBR	HARM
3038.000	9967.192	SPIRIT RIVER FM	SPRT R
3313.000	10869.423	BLUESKY FM	BLSK
3321.500	10897.311	GETHING FM	GETH
3442.500	11294.292	CADOMIN FM	CADM
3449.500	11317.258	NIKANASSIN FM	NIKA

Site ID: 92968      Source ID: 00/12-34-059-06W6/0

Latitude:      54.147986      Well Length:      4035.000  
Longitude:      118.817453  
KB Elevation:      1368.200      Status:      Suspended Well

Well Name:      DOME FINDLEY 12-34-59-6

Depth Meters	Depth Feet	Horizon Name	
2091.000	6860.236	WAPIABI FM	WPBI
2121.000	6958.662	CHINOOK MBR	CHNK
2270.000	7447.507	COLORADO GRP	COLO
2371.000	7778.872	BADHEART FM	BADH
2471.000	8106.956	CARDIUM FM	CARD
2505.000	8218.504	CARDIUM SD	CARD SD
3100.000	10170.604	DUNVEGAN FM	DUNV
3212.500	10539.698	SHAFTESBURY FM	SHFT
3269.000	10725.066	BASE FISH SCALES ZONE	BFSC
3350.500	10992.454	PEACE RIVER FM	PR
3365.000	11040.026	HARMON MBR	HARM
3375.500	11074.476	SPIRIT RIVER FM	SPRT R
3692.500	12114.502	BLUESKY FM	BLSK
3694.000	12119.423	GETHING FM	GETH
3813.000	12509.843	CADOMIN FM	CADM
3818.000	12526.247	NIKANASSIN FM	NIKA
4010.500	13157.809	FERNIE GRP	FERN

Site ID: 93889      Source ID: 00/10-02-060-05W6/0

Latitude:      54.161847      Well Length:      3740.000  
Longitude:      118.630151  
KB Elevation:      1220.900      Status:      Abandoned Well

Well Name:      AMMIN SMOKY 10-2-60-5

Depth Meters	Depth Feet	Horizon Name	
2002.000	6568.242	WAPIABI FM	WPBI
2023.000	6637.139	CHINOOK MBR	CHNK
2267.000	7437.664	BADHEART FM	BADH
2347.000	7700.131	CARDIUM FM	CARD
2388.000	7834.646	CARDIUM SD	CARD SD
2395.500	7859.252	KASKAPAU FM	KPAU
2877.000	9438.977	DUNVEGAN FM	DUNV
2923.500	9591.536	SHAFTESBURY FM	SHFT
3030.500	9942.586	BASE FISH SCALES ZONE	BFSC
3103.000	10180.446	MOUNTAIN PARK FM	MTN PK
3170.000	10400.263	LUSCAR FM	LUSK
3441.500	11291.011	BLUESKY FM	BLSK
3480.000	11417.323	GETHING FM	GETH
3564.500	11694.554	CADOMIN FM	CADM
3574.500	11727.362	NIKANASSIN FM	NIKA

Site ID: 93890

Source ID: 00/10-02-060-05W6/2

Latitude: 54.161847

Well Length: 3740.000

Longitude: 118.630151

KB Elevation: 1220.900

Status: Suspended Well

Well Name: AMMIN SMOKY 10-2-60-5

Depth Meters	Depth Feet	Horizon Name	
2002.000	6568.242	WAPIABI FM	WPBI
2023.000	6637.139	CHINOOK MBR	CHNK
2267.000	7437.664	BADHEART FM	BADH
2347.000	7700.131	CARDIUM FM	CARD
2388.000	7834.646	CARDIUM SD	CARD SD
2395.500	7859.252	KASKAPAU FM	KPAU
2877.000	9438.977	DUNVEGAN FM	DUNV
2923.500	9591.536	SHAFTESBURY FM	SHFT
3030.500	9942.586	BASE FISH SCALES ZONE	BFSC
3103.000	10180.446	MOUNTAIN PARK FM	MTN PK
3170.000	10400.263	LUSCAR FM	LUSK
3441.500	11291.011	BLUESKY FM	BLSK
3480.000	11417.323	GETHING FM	GETH
3564.500	11694.554	CADOMIN FM	CADM
3574.500	11727.362	NIKANASSIN FM	NIKA

Site ID: 146693      Source ID: 00/10-17-060-05W6/0

Latitude:      54.191160      Well Length:    2030.000  
Longitude:     118.706363  
KB Elevation:   1179.800      Status:    Abandoned Well

Well Name:      DOME ET AL CHIME 10-17-60-5

Depth Meters	Depth Feet	Horizon Name	
1913.000	6276.247	WAPIABI FM	WPBI
1956.500	6418.963	CHINOOK MBR	CHNK
2030.000	6660.105	TOTAL DEPTH	TD

Site ID: 162554      Source ID: 00/10-17-060-05W6/2

Latitude:      54.191160      Well Length:    2030.000  
Longitude:     118.706363  
KB Elevation:   1179.800      Status:    Suspended Well

Well Name:      DOME ET AL CHIME 10-17-60-5

Depth Meters	Depth Feet	Horizon Name	
1913.000	6276.247	WAPIABI FM	WPBI
1956.500	6418.963	CHINOOK MBR	CHNK
2030.000	6660.105	TOTAL DEPTH	TD



Site ID: 93891 Source ID: 00/12-22-060-05W6/0

Latitude: 54.205695 Well Length: 3621.000  
Longitude: 118.667956  
KB Elevation: 1282.300 Status: Capped Gaswell

Well Name: DOME SMOKY 12-22-60-5

Depth Meters	Depth Feet	Horizon Name	
2051.000	6729.003	LEA PARK FM	LP
2257.000	7404.856	BADHEART FM	BADH
2339.500	7675.525	CARDIUM FM	CARD
2376.000	7795.276	CARDIUM SD	CARD SD
2404.000	7887.139	KASKAPAU FM	KPAU
2893.000	9491.470	DUNVEGAN FM	DUNV
2989.000	9806.431	SHAFTESBURY FM	SHFT
3051.000	10009.843	BASE FISH SCALES ZONE	BFSC
3122.000	10242.782	PADDY MBR	PADY
3144.000	10314.961	CADOTTE MBR	CDOT
3147.000	10324.804	HARMON MBR	HARM
3154.000	10347.770	SPIRIT RIVER FM	SPRT R
3462.000	11358.269	BLUESKY FM	BLSK
3472.000	11391.076	GETHING FM	GETH
3577.000	11735.564	CADOMIN FM	CADM
3583.000	11755.250	NIKANASSIN FM	NIKA

Site ID: 93892 Source ID: 00/12-22-060-05W6/2

Latitude: 54.205695 Well Length: 3621.000  
Longitude: 118.667956  
KB Elevation: 1282.300 Status: Capped Gaswell

Well Name: DOME SMOKY 12-22-60-5

Depth Meters	Depth Feet	Horizon Name	
2051.000	6729.003	LEA PARK FM	LP
2257.000	7404.856	BADHEART FM	BADH
2339.500	7675.525	CARDIUM FM	CARD
2376.000	7795.276	CARDIUM SD	CARD SD
2404.000	7887.139	KASKAPAU FM	KPAU
2893.000	9491.470	DUNVEGAN FM	DUNV
2989.000	9806.431	SHAFTESBURY FM	SHFT
3051.000	10009.843	BASE FISH SCALES ZONE	BFSC
3122.000	10242.782	PADDY MBR	PADY
3144.000	10314.961	CADOTTE MBR	CDOT
3147.000	10324.804	HARMON MBR	HARM
3154.000	10347.770	SPIRIT RIVER FM	SPRT R
3462.000	11358.269	BLUESKY FM	BLSK
3472.000	11391.076	GETHING FM	GETH
3577.000	11735.564	CADOMIN FM	CADM
3583.000	11755.250	NIKANASSIN FM	NIKA

Site ID: 93893 Source ID: 00/07-31-060-05W6/0

Latitude: 54.229510 Well Length: 5391.000  
Longitude: 118.731523  
KB Elevation: 1230.700 Status: Suspended Well

Well Name: AMMIN SMOKY RIVER 7-31-60-5

Depth Meters	Depth Feet	Horizon Name	
1961.500	6435.368	WAPIABI FM	WPBI
2059.000	6755.250	COLORADO GRP	COLO
2168.000	7112.861	BADHEART FM	BADH
2253.000	7391.732	CARDIUM FM	CARD
2288.500	7508.202	CARDIUM SD	CARD SD
2328.000	7637.795	KASKAPAU FM	KPAU
2827.000	9274.935	DUNVEGAN FM	DUNV
2875.000	9432.415	SHAFTESBURY FM	SHFT
2990.000	9809.712	BASE FISH SCALES ZONE	BFSC
3059.000	10036.090	PADDY MBR	PADY
3071.500	10077.100	CADOTTE MBR	CDOT
3093.000	10147.638	HARMON MBR	HARM
3132.500	10277.231	SPIRIT RIVER FM	SPRT R
3416.000	11207.350	BLUESKY FM	BLSK
3433.500	11264.764	GETHING FM	GETH
3538.500	11609.252	CADOMIN FM	CADM
3544.000	11627.297	NIKANASSIN FM	NIKA
3657.000	11998.032	FERNIE GRP	FERN
3776.000	12388.452	NORDEGG MBR	NORD
3794.500	12449.147	CHARLIE LAKE FM	CH LK
3838.000	12591.864	HALFWAY FM	HFWD
3840.000	12598.426	DOIG FM	DOIG
3868.000	12690.289	MONTNEY FM	MONT
4072.500	13361.221	BELLOY FM	BELL
4099.500	13449.804	DEBOLT FM	DBLT
4245.000	13927.166	ELKTON MBR	ELTN
4260.000	13976.378	SHUNDA FM	SHUN
4372.000	14343.832	PEKISKO FM	PEK
4433.500	14545.604	BANFF FM	BNFF

Site ID: 162555      Source ID: 00/07-31-060-05W6/2

Latitude:      54.229510      Well Length:      5391.000  
Longitude:      118.731523  
KB Elevation:      1230.700      Status:      Suspended Well

Well Name:      AMMIN SMOKY RIVER 7-31-60-5

Depth Meters	Depth Feet	Horizon Name	
1961.500	6435.368	WAPIABI FM	WPBI
2059.000	6755.250	COLORADO GRP	COLO
2168.000	7112.861	BADHEART FM	BADH
2253.000	7391.732	CARDIUM FM	CARD
2288.500	7508.202	CARDIUM SD	CARD SD
2328.000	7637.795	KASKAPAU FM	KPAU
2827.000	9274.935	DUNVEGAN FM	DUNV
2875.000	9432.415	SHAFTESBURY FM	SHFT
2990.000	9809.712	BASE FISH SCALES ZONE	BFSC
3059.000	10036.090	PADDY MBR	PADY
3071.500	10077.100	CADOTTE MBR	CDOT
3093.000	10147.638	HARMON MBR	HARM
3132.500	10277.231	SPIRIT RIVER FM	SPRT R
3416.000	11207.350	BLUESKY FM	BLSK
3433.500	11264.764	GETHING FM	GETH
3538.500	11609.252	CADOMIN FM	CADM
3544.000	11627.297	NIKANASSIN FM	NIKA
3657.000	11998.032	FERNIE GRP	FERN
3776.000	12388.452	NORDEGG MBR	NORD
3794.500	12449.147	CHARLIE LAKE FM	CH LK
3838.000	12591.864	HALFWAY FM	HFWD
3840.000	12598.426	DOIG FM	DOIG
3868.000	12690.289	MONTNEY FM	MONT
4072.500	13361.221	BELLOY FM	BELL
4099.500	13449.804	DEBOLT FM	DBLT
4245.000	13927.166	ELKTON MBR	ELTN
4260.000	13976.378	SHUNDA FM	SHUN
4372.000	14343.832	PEKISKO FM	PEK
4433.500	14545.604	BANFF FM	BNFF

Site ID: 93894      Source ID: 00/10-33-060-05W6/0

Latitude:      54.235397      Well Length:    3095.000  
Longitude:     118.680737  
KB Elevation:   1244.500      Status:    Abandoned Well

Well Name:      SHELL CHIME 10-33-60-5

Depth Meters	Depth Feet	Horizon Name	
1910.000	6266.404	WAPIABI FM	WPBI
1946.000	6384.515	CHINOOK MBR	CHNK
2182.500	7160.433	BADHEART FM	BADH
2261.500	7419.620	CARDIUM FM	CARD
2299.000	7542.651	CARDIUM SD	CARD SD
2321.000	7614.830	KASKAPAU FM	KPAU
2805.500	9204.396	DUNVEGAN FM	DUNV
2859.000	9379.922	SHAFTESBURY FM	SHFT
2965.500	9729.331	BASE FISH SCALES ZONE	BFSC
3032.000	9947.507	PADDY MBR	PADY
3044.500	9988.518	CADOTTE MBR	CDOT
3069.500	10070.538	HARMON MBR	HARM

Site ID: 93895      Source ID: 00/05-36-060-05W6/0

Latitude:      54.229833      Well Length:    2858.000  
Longitude:     118.618030  
KB Elevation:   1216.900      Status:    Abandoned Well

Well Name:      DOME ET AL CHIME 5-36-60-5

Depth Meters	Depth Feet	Horizon Name	
1895.000	6217.192	WAPIABI FM	WPBI
1930.000	6332.021	CHINOOK MBR	CHNK
2167.500	7111.221	BADHEART FM	BADH
2249.500	7380.250	CARDIUM FM	CARD
2284.000	7493.438	CARDIUM SD	CARD SD
2297.000	7536.089	KASKAPAU FM	KPAU
2765.700	9073.819	DUNVEGAN FM	DUNV
2819.200	9249.344	SHAFTESBURY FM	SHFT
2860.000	9383.202	TOTAL DEPTH	TD

Site ID: 146694      Source ID: 00/12-01-060-06W6/0

Latitude:      54.162808      Well Length:    3806.000  
Longitude:     118.767696  
KB Elevation:   1353.400      Status:    Standing Well

Well Name:      DOME ET AL MOON CREEK 12-1-60-6

Depth Meters	Depth Feet	Horizon Name	
2015.500	6612.533	WAPIABI FM	WPBI
2088.500	6852.034	CHINOOK MBR	CHNK
2233.000	7326.116	COLORADO GRP	COLO
2342.000	7683.727	BADHEART FM	BADH
2360.000	7742.782	MUSKIKI FM	MSKK
2430.000	7972.441	CARDIUM FM	CARD
2460.000	8070.866	CARDIUM SD	CARD SD
2481.000	8139.764	KASKAPAU FM	KPAU
2963.000	9721.129	DUNVEGAN FM	DUNV
3183.000	10442.914	SHAFTESBURY FM	SHFT
3215.000	10547.900	BASE FISH SCALES ZONE	BFSC
3283.000	10770.998	PADDY MBR	PADY
3295.000	10810.368	CADOTTE MBR	CDOT
3308.500	10854.659	HARMON MBR	HARM
3323.000	10902.231	NOTIKWIN MBR	NOTI
3367.000	11046.588	FALHER MBR	FALH
3637.000	11932.415	GETHING FM	GETH
3754.000	12316.273	CADOMIN FM	CADM
3764.500	12350.723	NIKANASSIN FM	NIKA
3776.000	12388.452	FERNIE GRP	FERN
3806.000	12486.877	TOTAL DEPTH	TD

Site ID: 93896 Source ID: 00/07-24-060-07W6/0

Latitude: 54.200490 Well Length: 4093.000  
Longitude: 118.906259  
KB Elevation: 1378.100 Status: Capped Gaswell

Well Name: DOME ET AL MUSREAU 7-24-60-7

Depth Meters	Depth Feet	Horizon Name	
2020.000	6627.297	WAPIABI FM	WPBI
2281.000	7483.596	BADHEART FM	BADH
2381.700	7813.977	CARDIUM FM	CARD
2416.700	7928.806	CARDIUM SD	CARD SD
2461.600	8076.116	KASKAPAU FM	KPAU
3090.000	10137.796	DUNVEGAN FM	DUNV
3182.500	10441.273	SHAFTESBURY FM	SHFT
3291.500	10798.885	PADDY MBR	PADY
3308.900	10855.971	CADOTTE MBR	CDOT
3338.700	10953.740	HARMON MBR	HARM
3352.300	10998.360	SPIRIT RIVER FM	SPRT R
3381.600	11094.489	FALHER A	FALHER A
3672.000	12047.244	BLUESKY FM	BLSK
3697.500	12130.906	GETHING FM	GETH
3790.200	12435.040	CADOMIN FM	CADM
3813.800	12512.468	NIKANASSIN FM	NIKA
4031.100	13225.395	FERNIE GRP	FERN



Site ID: 152215      Source ID: 00/07-35-060-07W6/0

Latitude:      54.229567      Well Length:      875.000  
Longitude:      118.932115  
KB Elevation:      1209.800      Status:      Suspended Well

Well Name:      CANHUNTER CUTPICK 7-35-60-7

Depth Meters	Depth Feet	Horizon Name	
179.600	589.239	WAPIABI FM	WPBI
1834.000	6017.061	CHINOOK MBR	CHNK
1875.000	6151.575	TOTAL DEPTH	TD

Site ID: 95060 Source ID: 00/10-03-061-04W6/0

Latitude: 54.249499 Well Length: 3160.000  
Longitude: 118.505771  
KB Elevation: 925.900 Status: Abandoned Well

Well Name: DOME SMOKY 10-3-61-4

Depth Meters	Depth Feet	Horizon Name	
1591.000	5219.816	WAPIABI FM	WPBI
1632.500	5355.971	CHINOOK MBR	CHNK
1738.000	5702.100	COLORADO GRP	COLO
1836.000	6023.622	BADHEART FM	BADH
1909.000	6263.124	CARDIUM FM	CARD
1946.500	6386.155	CARDIUM SD	CARD SD
1968.000	6456.693	KASKAPAU FM	KPAU
2402.500	7882.218	DUNVEGAN FM	DUNV
2485.000	8152.887	SHAFTESBURY FM	SHFT
2548.000	8359.580	BASE FISH SCALES ZONE	BFSC
2613.000	8572.835	PADDY MBR	PADY
2626.000	8615.486	CADOTTE MBR	CDOT
2644.000	8674.541	HARMON MBR	HARM
2648.000	8687.664	NOTIKEWIN MBR	NOTI
2685.500	8810.696	FALHER A	FALHER A
2866.000	9402.888	WILRICH MBR	WILR
2938.500	9640.748	BLUESKY FM	BLSK
2956.500	9699.804	GETHING FM	GETH
3055.000	10022.966	CADOMIN FM	CADM
3064.000	10052.494	NIKANASSIN FM	NIKA

Site ID: 95061 Source ID: 00/03-06-061-04W6/0

Latitude: 54.242889 Well Length: 3486.000  
Longitude: 118.590491  
KB Elevation: 1199.100 Status: Capped Gaswell

Well Name: DOME KAKWA 3-6-61-4

Depth Meters	Depth Feet	Horizon Name	
1892.300	6208.333	WAPIABI FM	WPBI
1919.000	6295.932	CHINOOK MBR	CHNK
2026.100	6647.310	COLORADO GRP	COLO
2126.000	6975.066	BADHEART FM	BADH
2209.200	7248.032	CARDIUM FM	CARD
2244.700	7364.501	CARDIUM SD	CARD SD
2261.800	7420.604	KASKAPAU FM	KPAU
2712.000	8897.638	DUNVEGAN FM	DUNV
2800.600	9188.321	SHAFTESBURY FM	SHFT
2873.100	9426.182	BASE FISH SCALES ZONE	BFSC
2936.000	9632.546	PADDY MBR	PADY
2947.800	9671.261	CADOTTE MBR	CDOT
2967.600	9736.221	HARMON MBR	HARM
2981.000	9780.184	SPIRIT RIVER FM	SPRT R
3016.700	9897.310	FALHER A	FALHER A
3272.700	10737.205	BLUESKY FM	BLSK
3296.000	10813.648	GETHING FM	GETH
3384.000	11102.362	CADOMIN FM	CADM
3401.900	11161.089	NIKANASSIN FM	NIKA
3458.800	11347.770	FERNIE GRP	FERN

Site ID: 95062 Source ID: 00/03-06-061-04W6/2

Latitude: 54.242889 Well Length: 3486.000  
Longitude: 118.590491  
KB Elevation: 1199.100 Status: Capped Gaswell

Well Name: DOME KAKWA 3-6-61-4

Depth Meters	Depth Feet	Horizon Name	
1892.300	6208.333	WAPIABI FM	WPBI
1919.000	6295.932	CHINOOK MBR	CHNK
2026.100	6647.310	COLORADO GRP	COLO
2126.000	6975.066	BADHEART FM	BADH
2209.200	7248.032	CARDIUM FM	CARD
2244.700	7364.501	CARDIUM SD	CARD SD
2261.800	7420.604	KASKAPAU FM	KPAU
2712.000	8897.638	DUNVEGAN FM	DUNV
2800.600	9188.321	SHAFTESBURY FM	SHFT
2873.100	9426.182	BASE FISH SCALES ZONE	BFSC
2936.000	9632.546	PADDY MBR	PADY
2947.800	9671.261	CADOTTE MBR	CDOT
2967.600	9736.221	HARMON MBR	HARM
2981.000	9780.184	SPIRIT RIVER FM	SPRT R
3016.700	9897.310	FALHER A	FALHER A
3272.700	10737.205	BLUESKY FM	BLSK
3296.000	10813.648	GETHING FM	GETH
3384.000	11102.362	ADOMIN FM	CADM
3401.900	11161.089	NIKANASSIN FM	NIKA
3458.800	11347.770	FERNIE GRP	FERN

Site ID: 152247      Source ID: 00/01-06-061-06W6/0

Latitude:      54.242905      Well Length:    1765.000  
Longitude:    118.879370  
KB Elevation:   1030.600      Status:    Suspended Well

Well Name:      HOME DOME ET AL CAW 1-6-61-6

Depth Meters	Depth Feet	Horizon Name	
1696.000	5564.305	WAPIABI FM	WPBI
1727.500	5667.651	CHINOOK MBR	CHNK
1765.000	5790.683	TOTAL DEPTH	TD



Appendix 4. 83L/2 - Coal Intersections of the Coal Drillholes



.....  
 CURRENT FILENAME: [COALREG.90]83L2\_PX.DAT  
 ORIGINAL FILENAME: [COALREG.90]P83L2.DAT  
 MAPSHEET: NTS 83L/2

NOTE: Geology picks have been modified from the AGS Coal Database, April, 1989 version of ERCB Coal Hole File.  
 See GSC Paper 88-21 (Hughes, Mudry & Nikols) for the details of criteria.

DWF 9012

.....

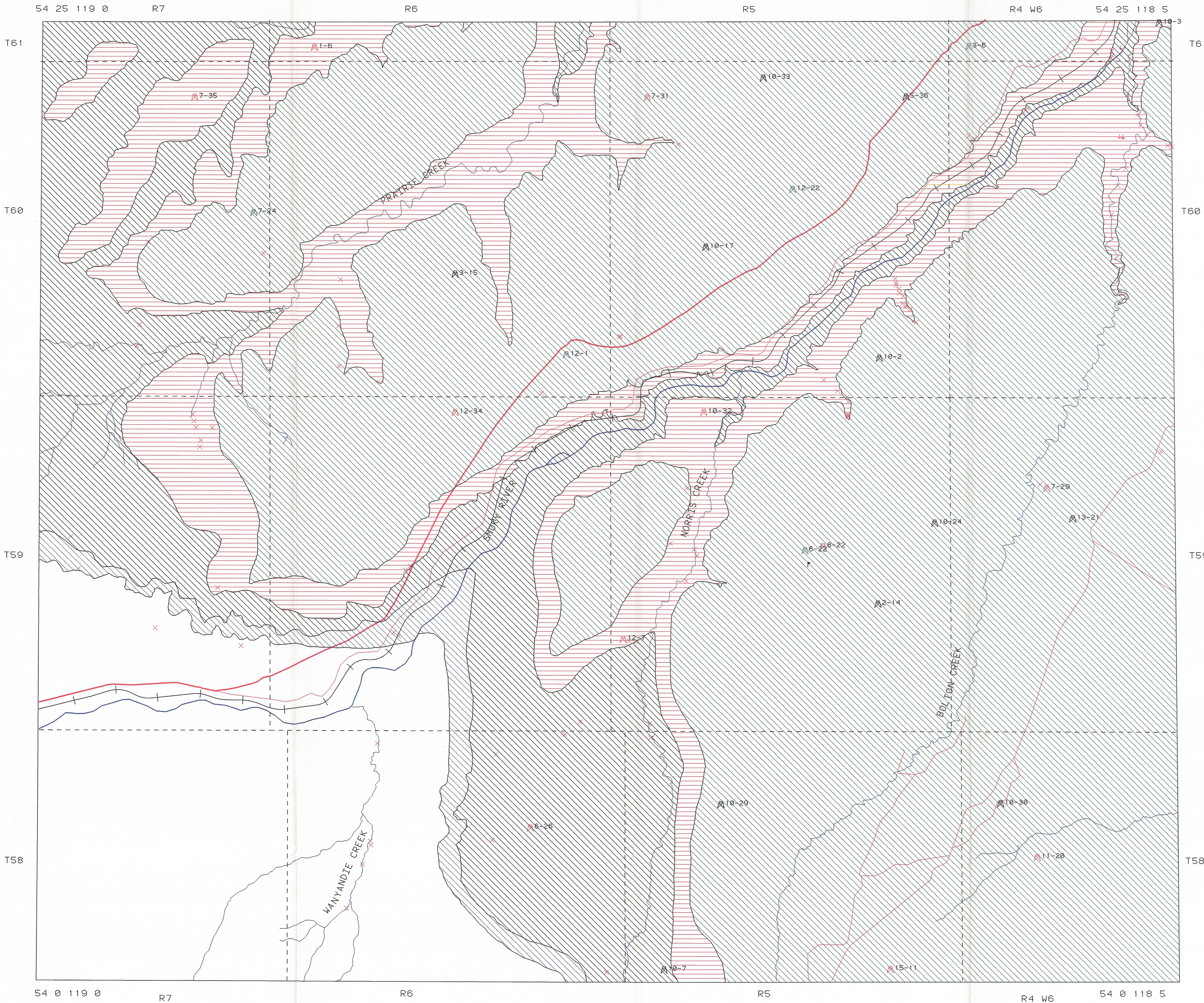
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1045744	446781	WST811	6	59	5	15	85.300	86.100	0.800	0	20	26.000	327074	
1045744	446781	WST811	6	59	5	15	280.100	281.000	0.900	0	20	26.000	327079	
1045744	446781	WST811	6	59	5	15	326.200	326.700	0.500	0	20	26.000	327081	
1045744	446781	WST811	6	59	5	15	363.800	365.200	1.400	0	25	26.000	327082	



# REGIONAL COAL MAPPING - BOLTON CREEK NTS 83L/2

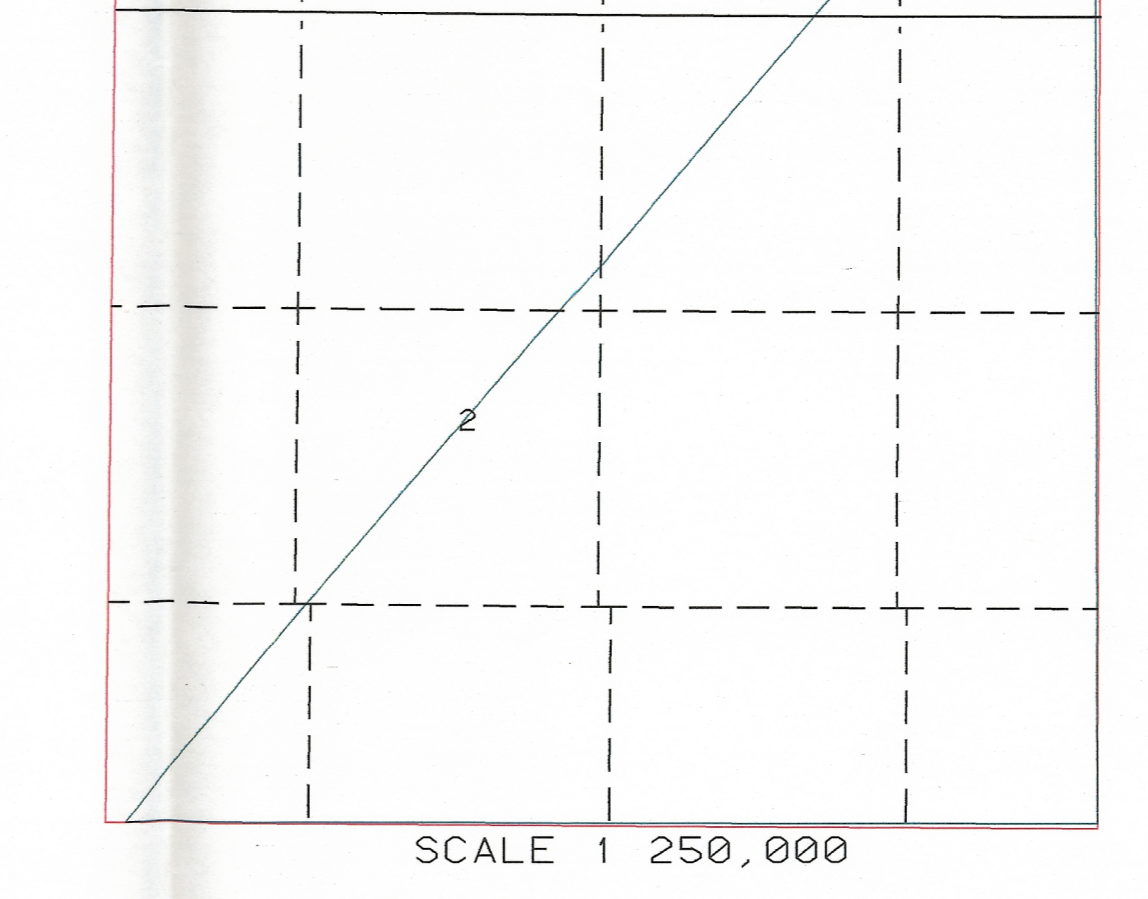
R J H RICHARDSON, W LANGENBERG, D C CHAO, F M DAWSON, D FIETZ

SCALE 1 50,000



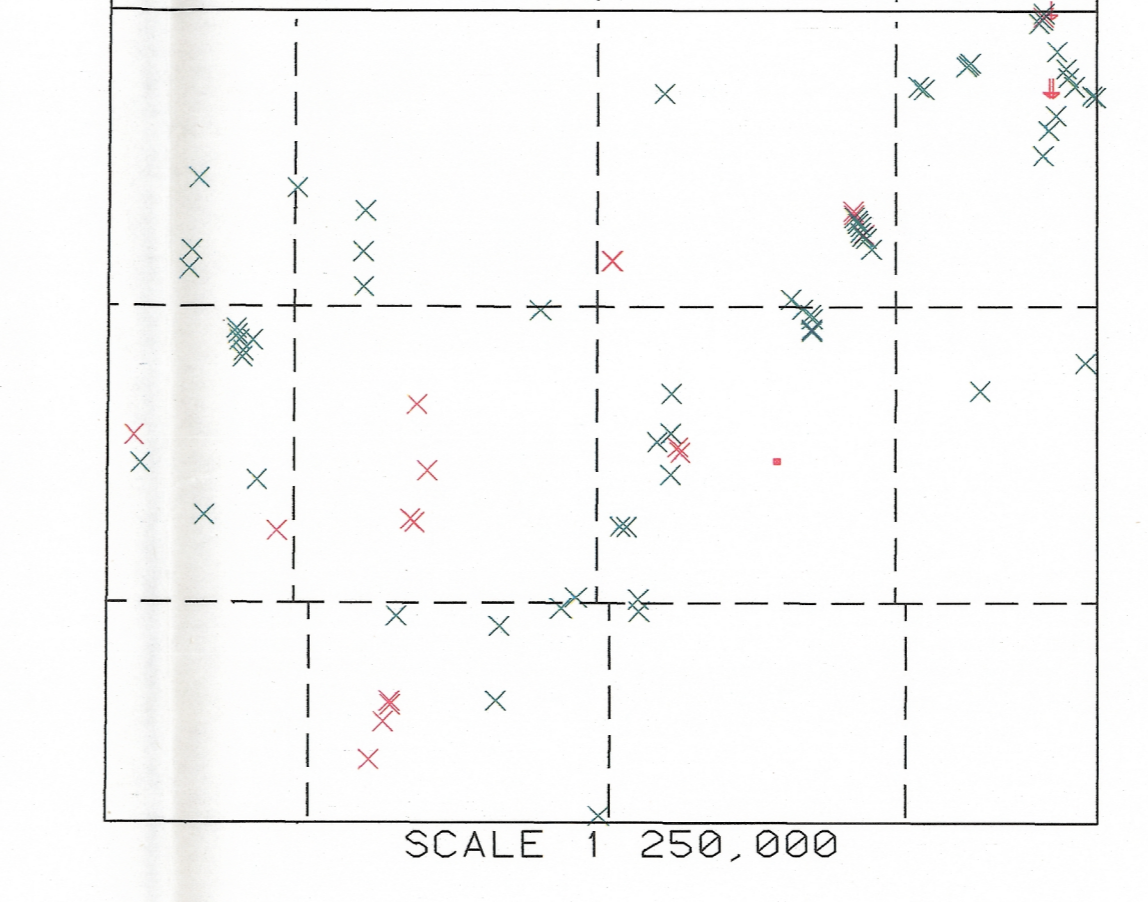
- 1 50,000 SCALE
- PASKAPOO FORMATION
  - COALSPUR FORMATION (UPPER)
  - COALSPUR FORMATION (LOWER)
  - BRAZEAU FORMATION (UPPER)
  - OIL & GAS LOCATION (ABANDONED)
  - OIL & GAS LOCATION (SUSPENDED)
  - OIL & GAS LOCATION (CAPPED)
  - OIL & GAS LOCATION (STANDING)
  - COAL OUTCROP
  - COAL TRENCH
  - DRILLHOLE, UNION OIL CO OF CAN LTD (COAL INTERSECTED)
  - HIGHWAY 40
  - ROAD OR TRAIL
  - RIVER
  - RAILWAY

## REGIONAL COAL MAPPING - BOLTON CREEK NTS 83L/2 INDEX TO SPECIFIC REFERENCE DOCUMENTS 1, 3 & 4



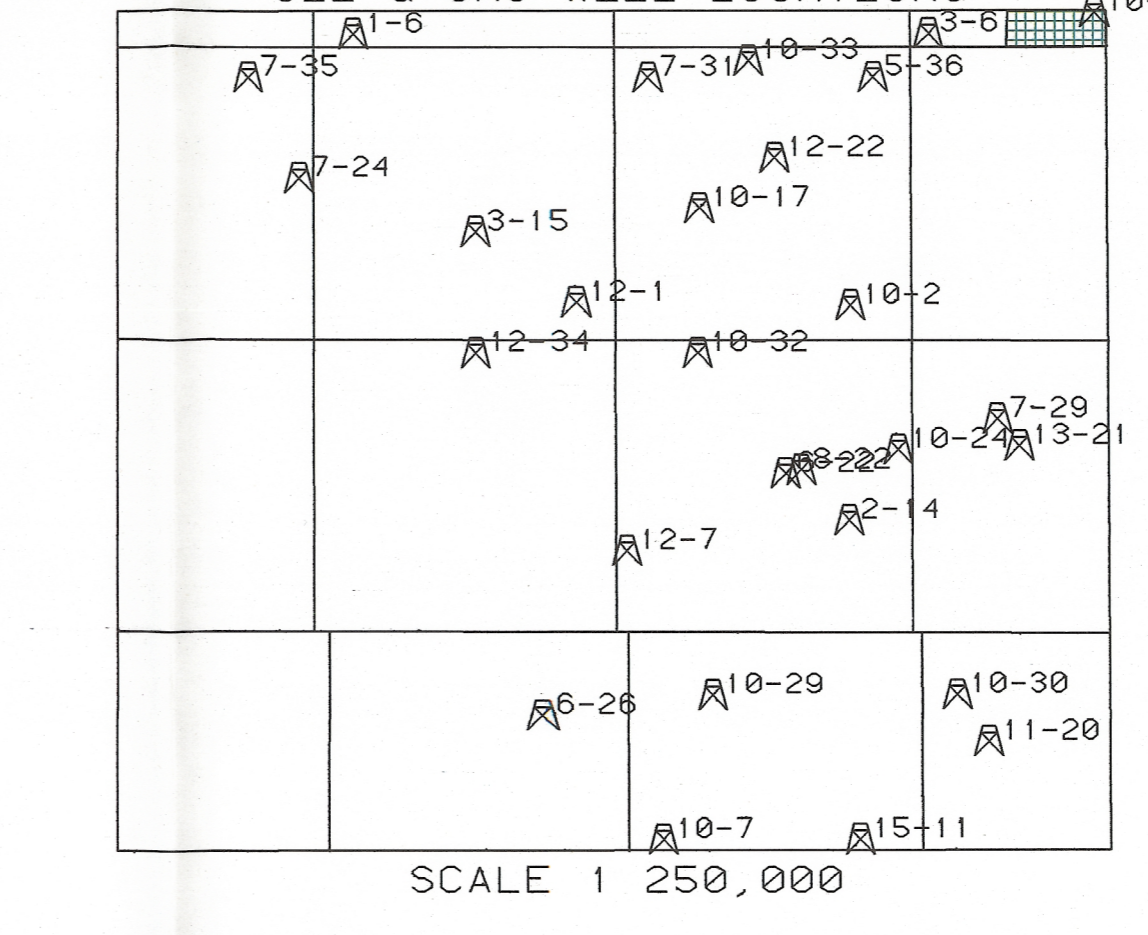
- INDEX TO SPECIFIC REFERENCE DOCUMENTS for the MAPSHEET NTS 83L/2
1. Bikanery, R S 1981-81 West of Smith Project - Thermal Coal Agreement - Geological Evaluation Based on 1980 Field Reporting Program. Union Oil Company of Canada Limited. 4 Volumes. Report contains detailed regional geological maps. Scale is 25 000. Outline identified as 1 on Q15 plot.
  2. Bikanery, R S 1982-83 West of Smith Project - Thermal Coal (Drill) Program - Geological Evaluation. Union Oil Company of Canada Limited. 4 Volumes. Outline identified as 2 on Q15 plot.
  3. Esso Resources Canada Limited 1990-90-11 Smoky River Reconnaissance Area. Raw Data and Mapping Data Compilation - NTS 83L. Compilation includes numerous maps at scales of 1 250 000 and 1 500 000. Outline identified as 3 on Q15 plot.
  4. Richardson, R E & Dawson, F M Geological Compilation - Map 11 (Area 83L2). Geological Survey of Canada Open File Report 2313. Scale 1 125 000. Outline identified as 4 on Q15 plot.

## COAL REGIONAL MAPPING - BOLTON CREEK NTS 83L/2 COAL EXPLORATION DATA INFORMATION



- COAL DRILLHOLE, WITH COAL QUALITY
- COAL TRENCH, WITH COAL QUALITY
- COAL OUTCROP, WITH COAL QUALITY
- COAL OUTCROP, NO COAL QUALITY

## REGIONAL COAL MAPPING - BOLTON CREEK NTS 83L/2 ERCB OIL & GAS FIELD OUTLINES AND OIL & GAS WELL LOCATIONS



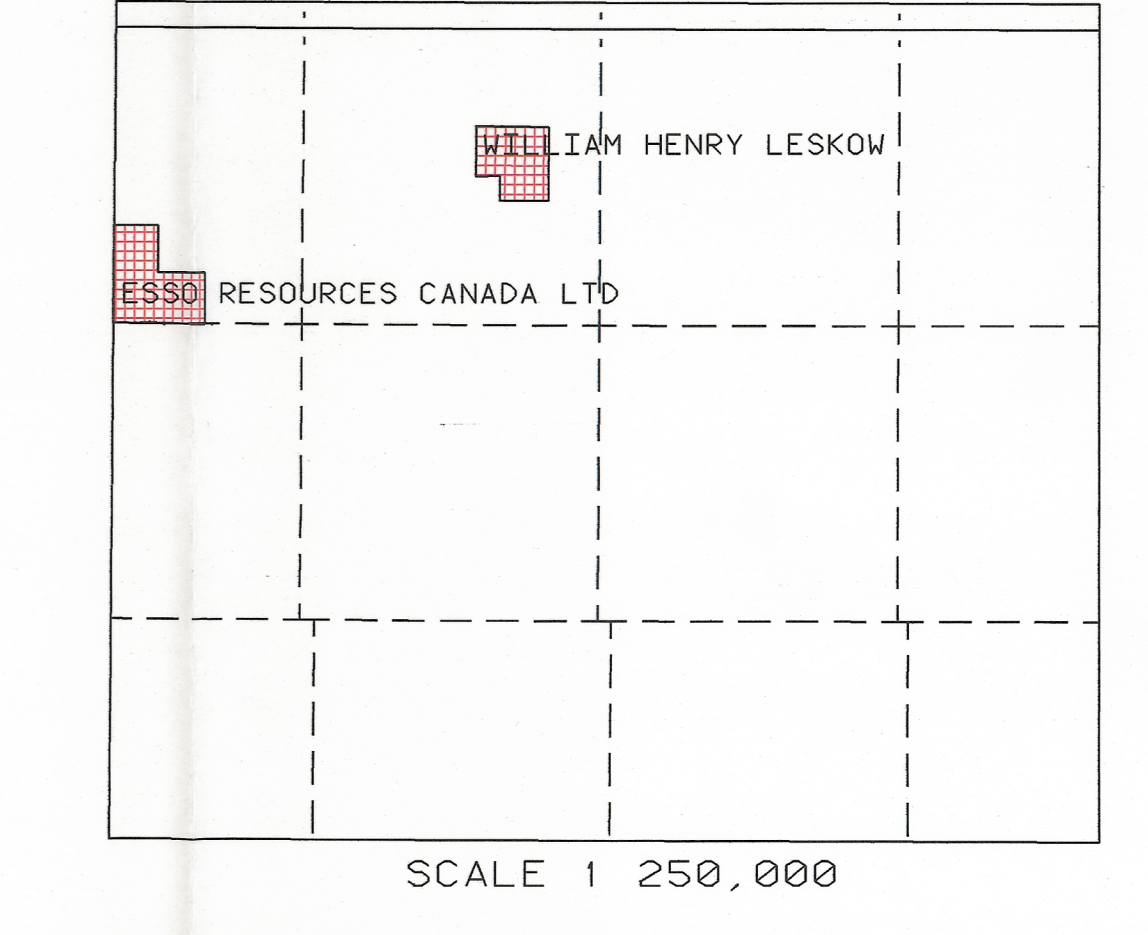
- KAKWA OIL FIELD
- OIL & GAS WELL LOCATION

ALBERTA RESEARCH COUNCIL MAP RCMS  
IMAGE NAME 83L2-11  
COMPILATION DATE FEBRUARY, 1991  
REVISION DATE MAY 2, 1991

RELIABILITY AND USE  
Information contained on this map sheet has been derived from a number of different sources, scales, and formats (digital and hard copy). Accuracy cannot be guaranteed. However, this map is intended to provide a basic level of information for Coal Resources. For more specific information, please contact the Head, Coal Geology Section, Alberta Research Council, P.O. Box 8320, Station F, Edmonton, Alberta, T6B 5K2.

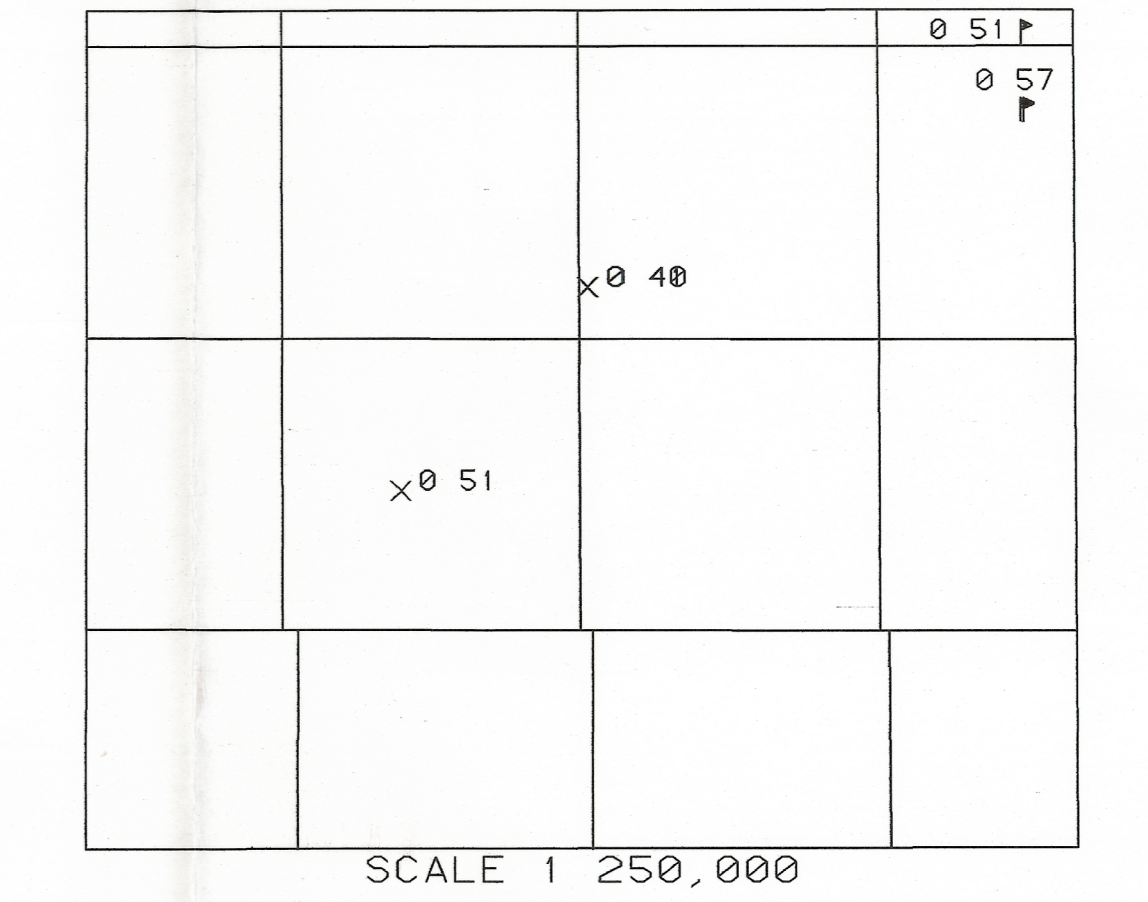
FUNDING  
Funds for the project have been provided by the Alberta Department of Energy and the Alberta Research Council.

## REGIONAL COAL MAPPING - BOLTON CREEK NTS 83L/2 COAL DISPOSITIONS



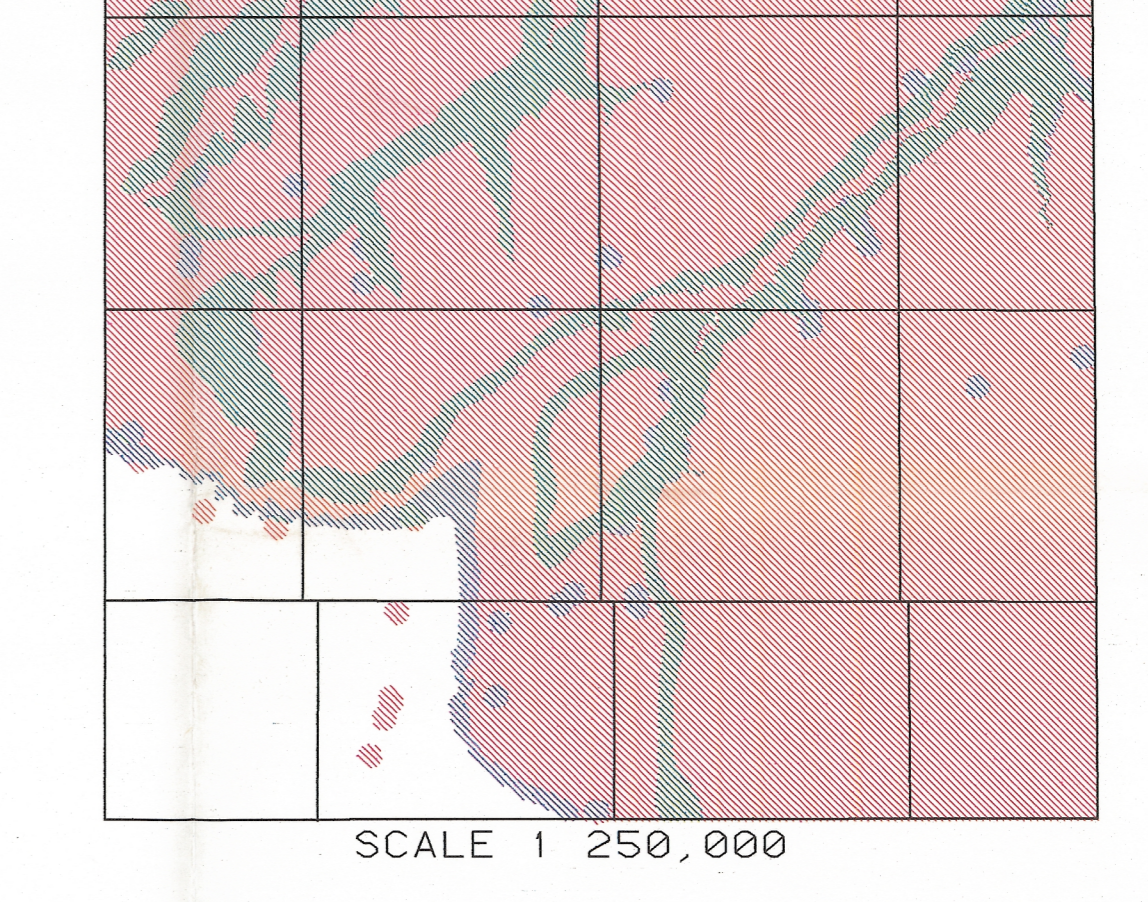
- COAL LEASE APPLICATION

## REGIONAL COAL MAPPING - BOLTON CREEK NTS 83L/2 RANDOM VITRINITE REFLECTANCE(%) FROM COAL OUTCROPS & TRENCHES



- 0.40 RANDOM VITRINITE REFLECTANCE(%) COAL OUTCROP
- 0.51 RANDOM VITRINITE REFLECTANCE(%) COAL TRENCH

## REGIONAL COAL MAPPING - BOLTON CREEK NTS 83L/2 COAL DEVELOPMENT POTENTIAL\*



- HIGH POTENTIAL
- MEDIUM POTENTIAL
- LOW POTENTIAL
- NO DATA AVAILABLE

\* NOTE \*  
Coal Development Potential is a semi-quantitative and subjective evaluation of the potential of coal development based on limited data and reflecting current mining technology and general economic factors. CAUTION SHOULD BE EMPLOYED IN THE USE OF THIS ANALYSIS! The analysis is based on many 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. To establish a 'potential map' for a unique set of criteria, please contact the AGS.

