Canada

Department of Mines and Resources

MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

BUREAU OF MINES -- DIVISION OF FUELS

ANALYSIS DIRECTORY

OF

CANADIAN COALS

Memorandum Series
No. 100
April, 1948

DIVISION OF FUELS

BUREAU OF MINES

MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

DEPARTMENT OF MINES AND RESOURCES

OTTAWA, CANADA

ANALYSIS DIRECTORY OF CANADIAN COALS

by

E. Swartzman

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FOREWORD

The need for a publication containing pertinent data on the chemical and physical properties of the different prepared sizes of coals as mined and marketed in Canada has been obvious for some time, and especially since 1940 when the then Department of Munitions and Supply began purchasing coal on a large scale according to specification. To aid that department, the Division of Fuels of the Department of Mines and Resources began compiling analyses data which could be used for the comparative evaluation of coals on a unit calorific value basis. The extensive compilations made over successive periods are the bases for this analysis directory of Canadian coals.

The present publication is a revision of the former ("ditto" reproduced) report "Analysis Directory of Canadian Coals", compiled by E. Swartzman, issued January 1945 as F.R.L. (Fuel Research Laboratories) Report No. 1. Acknowledgment is due to Mr. J.H.H. Nicolls, chemist in charge of the Solid Fuel Analyses Section of the Division of Fuels, for his considerate advice regarding the data used; and to Messrs. W.H. Heatherington and A.J. Reynolds who aided in the large amount of calculations and clerical work involved.

Where, in the case of certain limited producing areas in Alberta, analyses data were meagre or not available in our records, use was made of the typical analyses published by Professor E. Stansfield and his associates in Research Council of Alberta Reports Nos. 14 and 35. Acknowledgment is also due the Fuel Department of the Canadian National Railways who supplied a certain amount of analyses data on western coals.

Information as to coal mining properties, location of mines, etc., additional to that shown for the coals reported in the Directory may be found in the Bureau of Mines publication No. 4-1, "Coal Mines in Canada", published annually by the Mineral Resources Division. This publication gives the name, local and head office of the coal mining operators, together with the names of the mine officials. For production figures of individual mines, areas and provinces, the publications of the Dominion Bureau of Statistics entitled "Coal Statistics for Canada" should be consulted.

As coals 'in situ' are not necessarily a constantly uniform product, and as changes in methods of mining and preparation also result in variations in the end product, it is planned that this analysis directory be revised at least every five years. The analyses of the regularly received samples recorded during the intervening years might be supplemented and implemented by special samples collected during regular commercial surveys from year to year. In this way, it is believed, an up to date useful directory can be maintained.

R.E. Gilmore,
Chief, Division of Fuels.

Ottawa, April, 1948.

INTRODUCTION

The analyses used, in compiling this "Analysis Directory of Canadian Coals", were, with some exceptions, those to be found in the records of the Division of Fuels maintained by Mr. J.H.H. Nicolls, Chemist in charge of the Solid Fuels Analyses Section of this Division. The various analyses calculated to the dry basis, were carefully tabulated, screened, weighted and averaged. The moisture content for delivered coal, or as it would be received by the consumer, was designated or adjusted for each size of the various coals according to special data available for the purpose, and the average analyses were then calculated to these adjusted moisture values. In addition to the proximate analysis, calorific value and ash softening temperature, the ultimate analysis is given for most coals.

In so far as physical characteristics are concerned, the present compilation contains, whenever sufficient data were available, the bulk density (weight per cubic foot, and volume per ton) of the various sizes and the grindability (Hardgrove-Machine Method). In addition such physico-chemical properties concerned with caking characteristics, as the Swelling Index (Fuel Research Laboratories Method), and Caking Index (Gray Method) are included. Wherever available, the composition of the ash of the mine run sample is also given.

The methods used for obtaining the proximate and ultimate analyses, calorific values, and ash softening temperatures of coals in these laboratories are those outlined in the A.S.T.M. Standards on Coal and Coke, or by some slight modification of them.

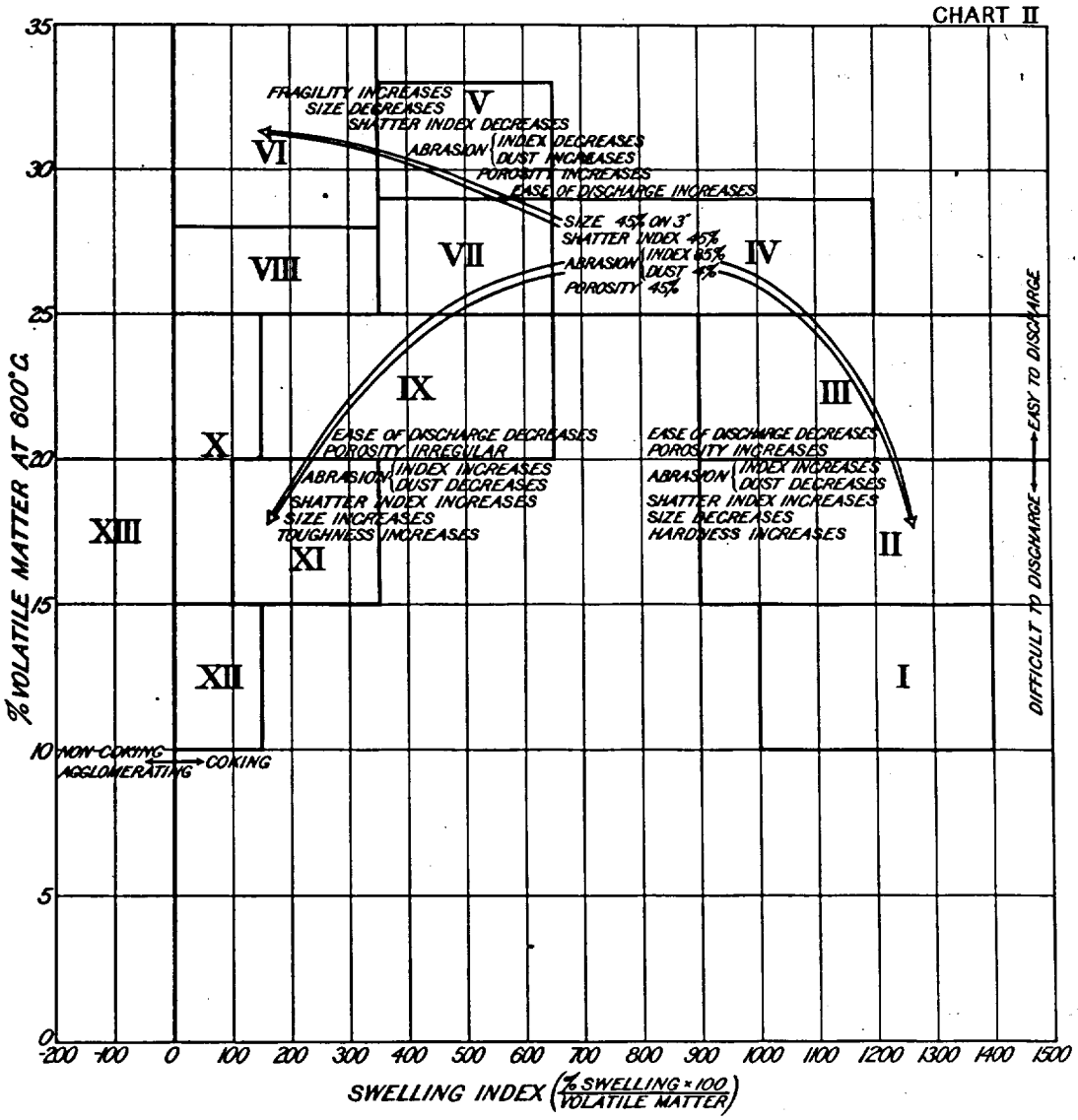
For determining the "Caking Index", the method developed by Gray[1], in which 25-gramme mixtures of coal and sand in varying proportion are carbonized in crucibles at 950°C., has been adopted as a standard at the Fuel Research Laboratories. The ratio of sand to coal, the mixture of which on carbonization will form a sufficiently strong button to support a weight of 500 grammes, is desig-

nated as the "caking index". The higher the indices the greater are the caking properties.

Another important characteristic of bituminous coking coals is it's swelling power on carbonization. The "Swelling Index"(2) test used for evaluating this property was developed at these laboratories and is thus designated as the F.R.L. Swelling Index test in contradistinction to the "Free-Swelling Index" test designated in the A.S.T.M. Standards. The F.R.L. test consists of determining the percentage swelling of the coke button and the volatile matter evolved on carbonizing 1 gramme quantities of pulverized coal at 600°C. From these data the swelling index is calculated. With the aid of the coke classification chart, shown in Chart 2, this data may be used to predict the physical properties of the coke which may be made from any given coal under standard by-product conditions. The swelling index is also valuable in evaluating coking coals for their suitability in different types of combustion equipment.

The rank classification of coals, which identifies the degree of their maturity, is given both according to the method developed for the American Society for Testing Materials and by the so-called Specific Volatile Index (S.V.I.) Method(3), developed at the Fuel Research Laboratories.

The A.S.T.M. Classification of Coals by Rank (Designation-D388-38), classifies coals according to their fixed carbon and calorific values calculated to the mineral-matter free basis, the higher rank coals being classified by fixed carbon on the dry basis, whereas the lower rank coals are classified by the calorific value on the moist basis. Agglomerating and weathering properties are used to differentiate between certain adjacent groups in the lower ranks, as indicated in the table below.



SECTION	ASH %	SIZE ON WHARF % ON 3"	SIZE ON WHARF BREEZE	SHATTER INDEX	SHATTER BREEZE	ABRASION INDEX	ABRASION DUST	DENSITY APP. S.G.	DENSITY LB. C.F.	TRANSVERSE SURVIVAGE	APPEARANCE OF NATURAL SURFACE	SHAPE	STRENGTH	CROSS FRACTURE	LONGITUDINAL FRACTURE	CELL STRUCTURE	SPONGE	PERIOD SEAM
I		POCAHONTAS TYPE BLENDING COALS								NIL			HARD				VERY LITTLE	NONE
II		25-40	25-10	65-55	30-20	85-95	3.5-2.0	85-95	24-28	FAIR*	STEEL GREY AND SMOOTH	SQUARE	HARD	MEDIUM TO LARGE AMOUNT STRAIGHT	SMALL TO MEDIUM AMOUNT	DENSE	VERY LITTLE	NONE
III		30-45	25-10	50-65	30-20	85-95	3.5-2.0	90-10	25-28	FAIR TO GOOD	STEEL GREY AND SMOOTH	SQUARE	HARD	MEDIUM AMOUNT, SQUARE	SMALL TO MEDIUM AMOUNT	DENSE	VERY LITTLE	NONE
IV		40-50	30-20	45-55	30-20	80-90	5.0-3.0	1.0-1.1	26-29	GOOD	STEEL GREY, FAIRLY SMOOTH	SLIGHTLY TRIANGULAR	HARD	MEDIUM AMOUNT, STEPPY	MEDIUM AMOUNT	DENSE	VERY LITTLE	NONE
V		30-50	4.0-2.0	40-50	60-40	75-85	5.0-3.0	1.0-0.9	26-29	GOOD	STEEL GREY IRREGULAR	TRIANGULAR FINGERY	FRAGILE	MEDIUM TO LARGE AMOUNT STEPPY	MEDIUM TO LARGE AMOUNT	MEDIUM	SMALL TO MEDIUM AMOUNT	NONE
VI		30-50	20-5.0	25-40	60-40	55-80	7.0-3.0	85-0.9	25	VERY GOOD	STEEL GREY, IRREGULAR	TRIANGULAR VERY FINGERY	VERY FRAGILE	MEDIUM TO LARGE AMOUNT STEPPY	LARGE AMOUNT	MEDIUM TO LARGE	MEDIUM AMOUNT	NONE
VII	0-5	40-50	4.0	55-70	3.0	80-95	2.5-5.0	83	23.5	GOOD	STEEL GREY IRREGULAR	BLOCKY, SLIGHTLY TRIANGULAR	HARD TO FRAGILE	SMALL TO MEDIUM SLIGHTLY STEPPY	MEDIUM TO SMALL AMOUNT	MEDIUM TO SMALL	SMALL AMOUNT	NONE
	5-10	50-70	4.0	55-70	3.0	80-95	2.5-5.0	83-95	23.5-26	"	"	"	"	"	"	"	"	"
	10-15	70-50	5.0	55-70	3.0	80-95	2.5-5.0	95	26	"	"	"	"	"	"	"	"	"
VIII		50-70	20-5.0	45-65	40-5.0	80-80	2.5-7.0	85-95	24-26	GOOD	STEEL GREY IRREGULAR	SLIGHTLY TRIANGULAR AND FINGERY	HARD TO FRAGILE, FRIABLE	MEDIUM AMOUNT, SLIGHTLY STEPPY	MEDIUM AMOUNT	MEDIUM, IRREGULAR	SMALL AMOUNT	NONE
IX	0-5	45-55	4.0	70	3.0	93	2.5	80-86	22-25	GOOD	STEEL GREY, SLIGHTLY IRREGULAR	BLOCKY, SLIGHTLY TRIANGULAR	TOUGH TO HARD	SMALL TO MEDIUM, SLIGHTLY STEPPY	SMALL TO MEDIUM AMOUNT	SMALL TO MEDIUM	SMALL AMOUNT	NONE
	5-10	55-80	2.0	70-80	3.0-5.0	90	2.5	86-1.1	25-3.5		"	"	"	"	"	"	"	"
	10-15	80-55	2.0-4.0	70-80	3.0-5.0	90	2.5	1.1-92	3.5-25		"	"	"	"	"	"	"	"
X		70-80	3.0-5.0	65-80	10.0-5.0	70-80	10.0-7.0	95-1.1	26-30	FAIR TO GOOD	DULL; GRANULAR	BLOCKY, IRREGULAR	TOUGH, FRIABLE	SMALL AMOUNT, SLIGHTLY STEPPY	SMALL AMOUNT	SMALL TO MEDIUM	GRANULAR ENDS	PERIOD
XI		70-80	3.0	70-80	5.0	85-90	3.0-4.0	1.0-1.1	30-31	FAIR	DULL TO STEEL GREY, IRREGULAR	BLOCKY, SQUARE	TOUGH	SMALL AMOUNT, VERY SLIGHTLY STEPPY	SMALL AMOUNT	IRREGULAR	VERY LITTLE	NONE
XII		80	3.0	80	5.0	85	4.0	1.0-1.1	30-31	FAIR TO POOR	DULL GREY, IRREGULAR	BLOCKY, IRREGULAR	TOUGH, FRIABLE	VERY SMALL AMOUNT, IRREGULAR	VERY LITTLE	IRREGULAR	VERY LITTLE	NONE
XIII		25-70	4.0-3.0	30-70	20.0-5.0	50-80	15.0-5.0	85-1.1	23.5-28	GOOD	DULL GREY, GRANULAR	BLOCKY, IRREGULAR	FRIABLE	SMALL TO MED. AMOUNT, IRREGULAR	SMALL TO MEDIUM AMOUNT	VERY LITTLE TO NONE	GRANULAR ENDS	PERIOD TO NON COKING

*DIFFICULT TO DISCHARGE

Chart 2. Classification for By-product Cokes according to their physical properties, employing Volatile Matter and "Swelling Index" at 600° C. of the coal.

Classification of Coals By Rank

(A.S.T.M. Designation - D 388-38)

Legend: F.C.=Fixed Carbon V.M.=Volatile Matter B.t.u.=British thermal units

Class	Group	Limits of Fixed Carbon on B.t.u., Mineral-Matter-Free Basis	Requisite Physical Properties
I Anthracite	1. Meta-anthracite	Dry F.C., 98% or more	
	2. Anthracite	Dry F.C., 92% or more and less than 98%	
	3. Semi-anthracite	Dry F.C., 86% or more and less than 92%	Non-agglomerating(1)
II Bituminous(3)	1. Low Volatile bituminous coal	Dry F.C., 78% or more and less than 86%	
	2. Medium Volatile bituminous coal	Dry F.C., 69% or more and less than 78%	
	3. High Volatile A bituminous coal	Dry F.C. less than 69% and moist(2) B.t.u. 14,000(4) or more	
	4. High Volatile B bituminous coal	Moist B.t.u. 13,000 or more and less than 14,000	
	5. High Volatile C bituminous coal	Moist B.t.u. 11,000 or more and less than 13,000(4)	Either agglomerating or non-weathering(5)
III Subbituminous	1. Subbituminous A Coal	Moist B.t.u. 11,000 or more and less than 13,000(4)	Both weathering and non-agglomerating (5)
	2. Subbituminous B Coal	Moist B.t.u. 9,500 or more and less than 11,000	
	3. Subbituminous C Coal	Moist B.t.u. 8,300 or more and less than 9,500	
IV Lignitic	1. Lignite	Moist B.t.u. less than 8,300	Consolidated
	2. Brown Coal	Moist B.t.u. less than 8,300	Unconsolidated

(1) If agglomerating, classify in lower volatile group of bituminous class.
(2) Moist B.t.u. refers to coal containing its natural bed moisture but not including visible water on the surface of the coal.
(3) It is recognized that there may be non-caking varieties in each group of the bituminous class.
(4) Coals having 69% or more fixed carbon on the dry, mineral-matter-free basis shall be classified according to fixed carbon, regardless of B.t.u.
(5) There are three varieties of coal in the high volatile C bituminous coal group, namely, Variety 1, agglomerating and non-weathering; Variety 2, agglomerating and weathering; Variety 3, non-agglomerating and non-weathering.

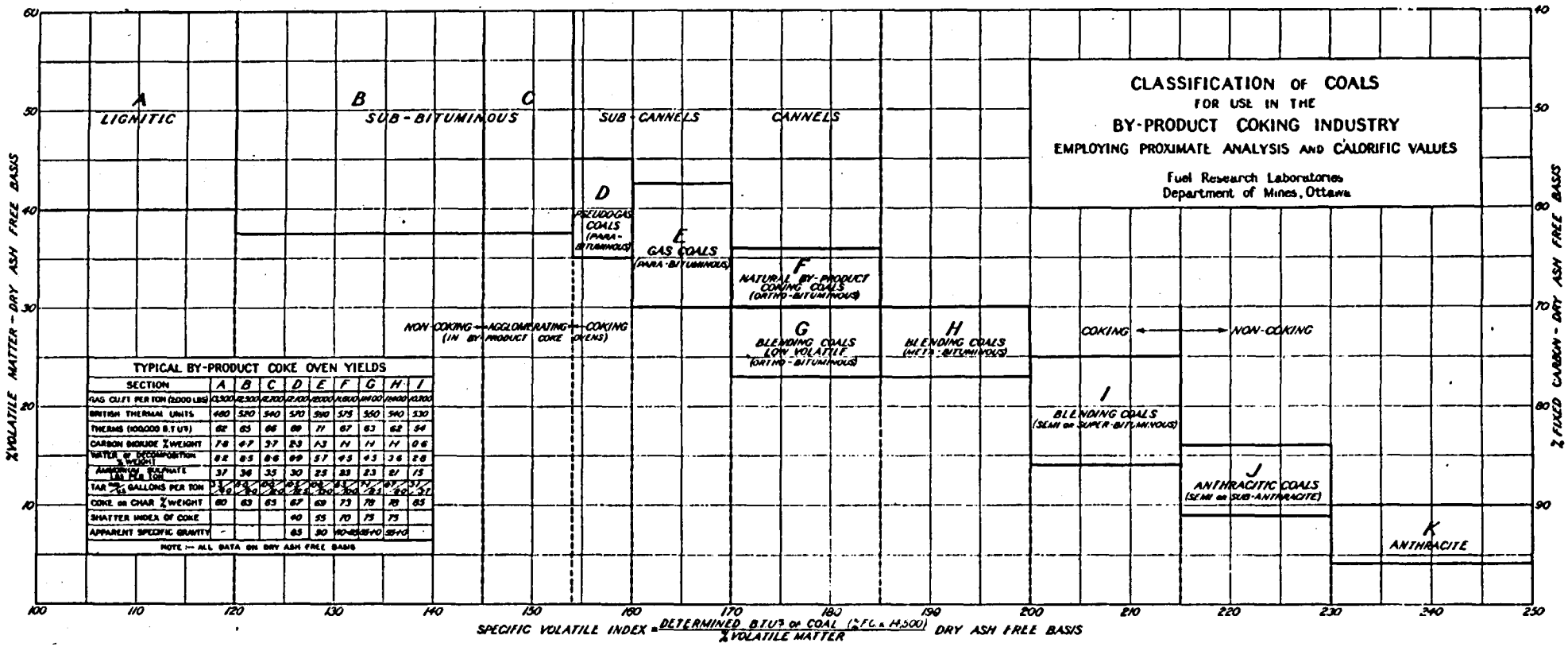

CLASSIFICATION OF COALS
FOR USE IN THE
BY-PRODUCT COKING INDUSTRY
EMPLOYING PROXIMATE ANALYSIS AND CALORIFIC VALUES
Fuel Research Laboratories
Department of Mines, Ottawa
A
LIGNITIC
B
SUB-BITUMINOUS
C
SUB-CANNELS
CANNELS
D
PSEUDOGAS COALS (PARA-BITUMINOUS)
E
GAS COALS (PARA-BITUMINOUS)
F
NATURAL BY-PRODUCT COKING COALS (ORTHO-BITUMINOUS)
G
BLENDING COALS LOW VOLATILE (ORTHO-BITUMINOUS)
H
BLENDING COALS (META-BITUMINOUS)
I
BLENDING COALS (SEMI or SUPER-BITUMINOUS)
J
ANTHRACITIC COALS (SEMI or SUB-ANTHRACITE)
K
ANTHRACITE
NON-COKING — AGGLOMERATING — COKING (IN BY-PRODUCT COKE OVENS)
COKING — NON-COKING
% VOLATILE MATTER - DRY ASH FREE BASIS
% FIXED CARBON - DRY ASH FREE BASIS
SPECIFIC VOLATILE INDEX = DETERMINED B.T.U.'s OF COAL (% F.C. x 14,500) / % VOLATILE MATTER DRY ASH FREE BASIS
TYPICAL BY-PRODUCT COKE OVEN YIELDS
SECTION A B C D E F G H I
GAS CU.FT. PER TON (2000 LBS) 13,300 12,300 12,700 12,000 12,000 11,800 11,400 11,400 10,700
BRITISH THERMAL UNITS 480 520 540 570 590 575 550 540 530
THERMS (100,000 B.T.U.'s) 62 65 66 69 71 67 63 62 54
CARBON DIOXIDE % WEIGHT 1·8 1·7 3·7 2·3 1·3 1·1 1·1 1·1 0·6
WATER OF DECOMPOSITION % WEIGHT 8·2 8·5 8·6 6·9 5·7 4·5 4·5 3·6 2·6
AMMONIUM SULPHATE LBS. PER TON 37 36 35 30 25 23 23 21 15
TAR % GALLONS PER TON 3·1 / 8·0 3·0 / 8·0 3·0 / 8·0 3·1 / 8·2 3·0 / 8·0 3·1 / 8·0 3·1 / 8·1 3·1 / 8·0 3·1 / 8·1
COKE OR CHAR % WEIGHT 60 63 65 67 69 73 78 78 85
SHATTER INDEX OF COKE 40 55 70 75 75
APPARENT SPECIFIC GRAVITY - 65 90 90-95 95-1·0 95-1·0
NOTE :— ALL DATA ON DRY ASH FREE BASIS

Chart I

The Specific Volatile Index Classification of Coals by rank (S.V.I. Classification) is based on the heating value of the volatile matter, the values or indices arranging coals in increasing value from peats to anthracites according to their rank. The index is calculated from the standard analysis of a coal according to the following formula:-

$$\frac{\text{Determined B.t.u.} - (14.500 \times \text{weight of fixed carbon})}{\text{Per cent Volatile Matter}} = \text{S.V.I.}$$

For ordinary purposes the index is calculated on the dry ash-free basis, but for more exact differentiation, especially when the ash content is over 10 per cent and the sulphur over 1.5 per cent the data is calculated on the "unit coal basis" (see A.S.T.M. Designation D388-38T)

In accordance with this classification, coals are arbitrarily divided into the following groups:-

Group	S.V.I. Limits "Unit Coal" Basis	Volatile Matter Range %
Lignitic		
A1. Brown Lignite	82 - 99	40 - 70
A2. Black Lignite	99 - 125	36 - 55
Subbituminous		
B. Non-agglomerating	125 - 150	35 - 50
C. Agglomerating	150 - 160	35 - 50
Bituminous		
D. Para-bituminous (Pseudo-Gas Coals)	160 - 165	28 - 45
E. Para-bituminous (True Gas Coals)	165 - 175	28 - 40
F.&G. Ortho-bituminous	175 - 190	21 - 35
H. Meta-bituminous	190 - 210	21 - 28
I. Semi-bituminous	210 - 230	14 - 24
Anthracitic		
J. Semi-anthracite	230 - 255	9 - 16
K. Anthracite	255 - 300	3 - 10

By noting the position of a coal on a chart, such as that presented as Chart I, according to its S.V.I. and volatile matter, it is possible to predict with a fair degree of accuracy the characteristics of the coal with respect to its behaviour in a by-product coke oven and the approximate yield of by-products that may be expected. These characteristics are indicated in the table inserted in Chart I, in which it is to be noted, the data are presented on the dry ash-free basis.

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(1) Gray, Thomas: "The Determination of the Caking Power of Coal" - Fuel in Science and Practice, Vol. 2, p. 42. 1923.
(2) Strong, R.A., Burrough, E.J., and Swartzman, E.: A Laboratory Test on Coals for Predicting the Physical Properties of the Resultant By-Product Coke" - Canadian Mines Branch Publication No. 737-2, 1933.
(3) Burrough, E.J., Swartzman, E., and Strong, R.A.; "Classification of Coals Using the Specific Volatile Index" - Canadian Bureau of Mines Publication No. 725-2, 1933.

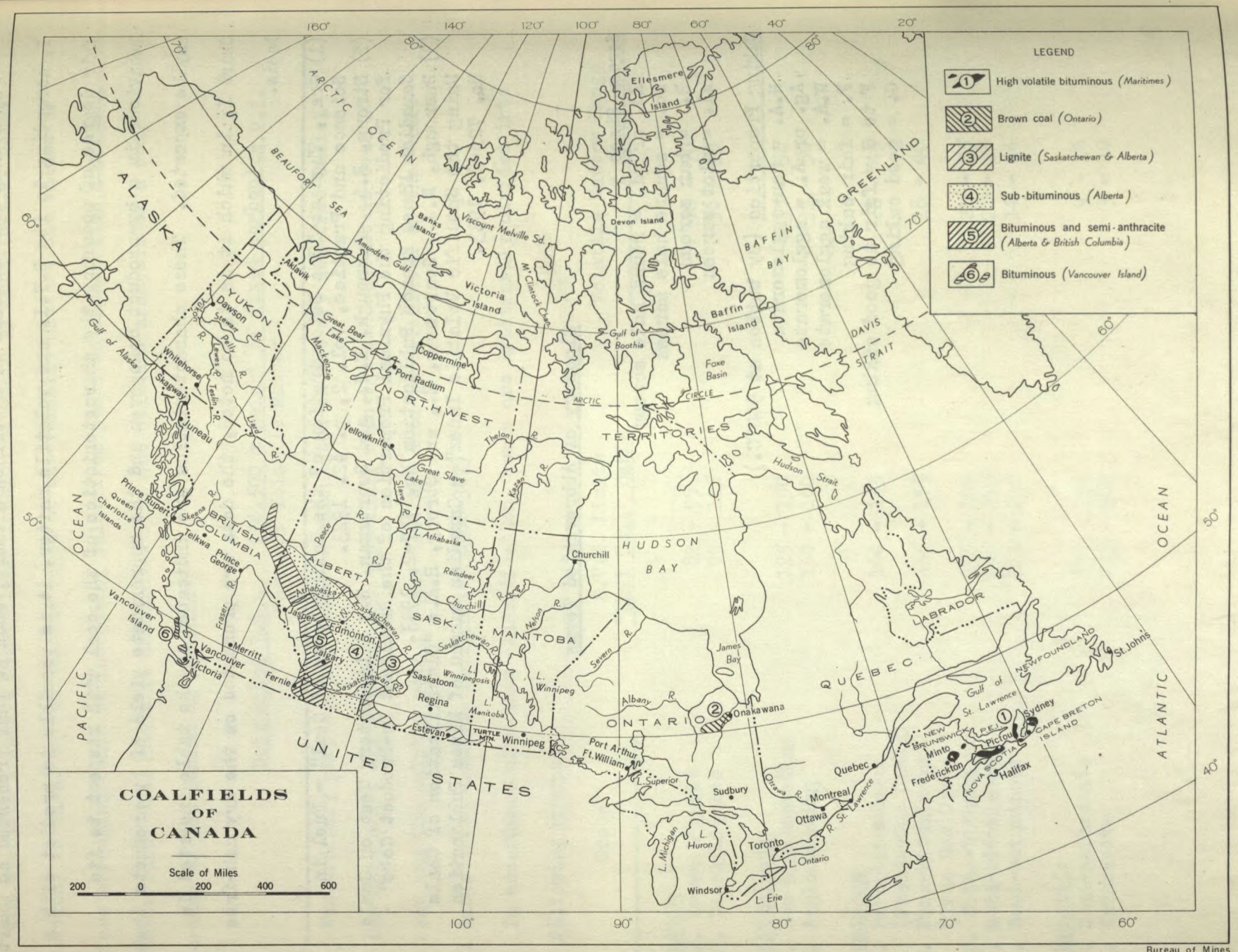
Glossary of Abbreviated Terms

Screen Sizes

Rd. or rd. = round hole screen
sq. = square hole screen
B. = bar screen
sl. = slot screen

Caking Properties (By button at 940°C.)

N.A. = non-agglomerate
Ag. or A. = agglomerate
W.A. = weak agglomerate
F. = fair caking
F to G = fair to good caking
G. = good caking


COALFIELDS OF CANADA
Scale of Miles
200 0 200 400 600
LEGEND
1 High volatile bituminous (Maritimes)
2 Brown coal (Ontario)
3 Lignite (Saskatchewan & Alberta)
4 Sub-bituminous (Alberta)
5 Bituminous and semi-anthracite (Alberta & British Columbia)
6 Bituminous (Vancouver Island)
ARCTIC OCEAN
BEAUFORT SEA
ALASKA
YUKON
NORTHWEST TERRITORIES
GREENLAND
BAFFIN BAY
DAVIS STRAIT
HUDSON BAY
Hudson Strait
Foxe Basin
Baffin Island
Gulf of Boothia
Victoria Island
Banks Island
Viscount Melville Sd.
Amundsen Gulf
Ellesmere Island
Devon Island
Aklavik
Dawson
Whitehorse
Skagway
Juneau
Gulf of Alaska
Great Bear Lake
Great Slave Lake
Coppermine
Port Radium
Yellowknife
Churchill
Prince Rupert
Queen Charlotte Islands
Telkwa
Prince George
Vancouver Island
Vancouver
Victoria
Merritt
Fernie
Jasper
Edmonton
Calgary
Saskatoon
Regina
Estevan
Winnipeg
Port Arthur
Ft. William
Onakawana
Sudbury
Toronto
Windsor
Ottawa
Montreal
Quebec
Fredericton
Minto
Pictou
Sydney
Halifax
St. John's
BRITISH COLUMBIA
ALBERTA
SASK.
MANITOBA
ONTARIO
QUEBEC
LABRADOR
NEWFOUNDLAND
NOVA SCOTIA
NEW BRUNSWICK
P.E.I.
CAPE BRETON ISLAND
PACIFIC OCEAN
ATLANTIC OCEAN
UNITED STATES
TURTLE MTN.
L. Athabaska
L. Winnipegosis
L. Manitoba
L. Winnipeg
L. Superior
L. Michigan
L. Huron
L. Ontario
L. Erie
James Bay
Gulf of St. Lawrence
Bureau of Mines


COALFIELDS OF
NOVA SCOTIA
AND
NEW BRUNSWICK
Prepared by B.R. MacKay, Geological Survey, 1946.
SCALE OF MILES
50 0 50 100
LEGEND
Productive coalfields, land areas
Submarine extensions of coalfields
QUEBEC
GULF OF ST. LAWRENCE
NEW BRUNSWICK
NOVA SCOTIA
PRINCE EDWARD ISLAND
Cape Breton Island
MAINE
BAY OF FUNDY
ATLANTIC OCEAN
Chaleur Bay
Shippigan
Bathurst
Edmundston
Grand Falls
Saint John R.
Salmon R.
Nipisiguit R.
Tabusintec R.
Magdalen Islands
Newcastle
Chatham
Miramichi B.
Renous R.
Miramichi R.
Buchibucto
Beersville Coal Area
Minto Coalfield
Chipman
Woodstock
FREDERICTON
Grand L.
Saint John R.
Fredericton Jct.
McAdam
Sussex
MONCTON
Northumberland Strait
CHARLOTTETOWN
Summerside
Georgetown
Souris
Pugwash
Amherst
Joggins Coalfield
Joggins
Springhill Jct.
Springhill
Springhill Coalfield
Chignecto B.
Pictou
Kemptown Coal Area
Westville
Stellarton
Glasgow
Thorburn
Pictou Coalfield
Truro
Stewiacke R.
Minas Basin
Wolfville
Kentville
Windsor
Liscomb
St. Martins
SAINT JOHN
St. Stephen
St Andrews
Grand Manan
Bridgetown
Annapolis Royal
Digby
Chester
Mahone Bay
Lunenburg
Bridgewater
Mersey R.
Rossignol L.
Liverpool
Yarmouth
Shelburne
Clyde R.
St. Mary R.
HALIFAX
Dartmouth
C. North
Chimney Corner-St. Rose Coalfield
Inverness Coalfield
Inverness
L. Ainslie
N. Sydney
Mabou Coalfield
Port Hood Coalfield
Sydney Coalfield
Sydney Mines
Waterford Bay
Bras d'Or
Loch Lomond Coal Area
George Bay
Richmond Coal Area
Chedabucto B.
C. Canso
St. Mary R.

Province.....:	NOVA SCOTIA
District or area.....:	Sydney (Cape Breton County)
Operator.....:	Bras d'Or Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Colonial No. 1. (Toronto)(2903)
Location of mine.....:	Little Bras d'Or
Seam.....:	Lower Jubilee(Collins)
Output.....tons/annum:	150-200,000*
Trade name.....:	BRAS d'OR; COLONIAL

Size.....:	Mine Run	Lump, Egg	Stoker	Slack
Screen limits.....:	----	+5/8",+1-1/4", 1-3/4"	1/8",1/4" x 3/4" 7/8"	0 x 5/8",1-1/4 1-3/4"
No. of samples.....:	15	13	7	53
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	5.3	4.7	6.0	7.5
Ash.....%:	12.6	11.7	10.6	13.7
Volatile matter.....%:	32.0	33.1	32.4	30.9
Fixed carbon.....%:	50.1	50.5	51.0	47.9
Fuel ratio.....:	1.57	1.53	1.57	1.55
Calorific value.....B.T.U./lb:	12,070	12,140	11,885	11,405
Ash softening temperature...°F:	2050	2075	2090	2075
Caking Properties				
By volatile button @ 950°C..:	Good	Good	Good	Good
Caking index (Gray).....:	50	----	----	----
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	28.7	----	----	----
Swelling index.....:	97	----	----	----
Ultimate Analysis				
Carbon.....%:	64.6			
Hydrogen.....%:	4.1			
Nitrogen.....%:	1.2			
Sulphur.....%:	5.8	5.7	4.9	5.6
Oxygen.....%:	6.4			
Classification by Rank				
A.S.T.M.....:		High volatile A bituminous		
S.V.I.....:		162-Parabituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft:	52.5	51.8	49.5	53.4
cu.ft./ton:	38.1	38.6	40.4	37.5
Grindability index.....:	68.0	----	----	66.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	21.0	11.8	60.2	2.7	0.8	---	0.9	1.0	0.1	0.5	1.4

* Output of both Colonial and Franklin mines.

Province.....:	NOVA SCOTIA
District or area.....:	Sydney (Cape Breton County)
Operator.....:	Bras d'Or Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Franklin[1] (2903)
Location of mine.....:	Little Bras d'Or
Seam.....:	Sullivan or Upper Jubilee
Output.....tons/annum:	See Colonial Mine
Trade name.....:	BRAS d'OR; FRANKLIN

Size.....:	Lump, Egg	Slack
Screen limits.....:	+5/8", +1-1/4", +1-3/4"	0 x 5/8", 1-1/4", 1-3/4"
No. of samples.....:	2	2
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	5.5	7.5
Ash.....%:	8.5	10.5
Volatile matter.....%:	34.7	33.5
Fixed carbon.....%:	51.3	48.5
Fuel ratio.....:	1.48	1.45
Calorific value.....B.T.U./lb:	12,570	11,950
Ash softening temperature...°F:	2125	2095
Caking Properties		
By volatile button @ 950°C..:	Fair	Fair
Caking index (Gray).....:	----	----
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	31.0	----
Swelling index.....:	45	----
Ultimate Analysis		
Carbon.....%:	70.6	
Hydrogen.....%:	4.5	
Nitrogen.....%:	1.3	
Sulphur.....%:	2.7	3.1
Oxygen.....%:	6.9	
Classification by Rank		
A.S.T.M.....:	High volatile A to B bituminous	
S.V.I.....:	154-Agglomerating subbituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	50.0	52.0
cu.ft./ton:	40.0	38.4
Grindability index.....:	----	67.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3

(1) Franklin Mine started in 1937.

Province	NOVA SCOTIA
District or area	Sydney (Cape Breton County)
Operator	Dominion Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)	1B, 2, 4, 9, 11, 12, 16, 18, 20, 24, 25 & 26(1258)
Location of mine	Glace Bay, New Waterford, Reserve, New Aberdeen
Seams	Phalen, Harbour, Emery, Gardiner
Output ... tons/annum	4-5,000,000
Trade name	DOMINION

Size	Lump	Screened Mine Run	Mine Run	Stoker
Screen limits at mine	+1-1/4" Rd.	+3/4" Rd.		1/4" x 3/4" or 1-1/4" Rd.
No. of samples	50	15	54	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture ... %	3.0	3.0	4.0	3.8
Ash ... %	8.8	9.8	8.7	7.3
Volatile matter ... %	33.6	32.5	32.0	33.5
Fixed carbon ... %	54.6	54.7	55.3	55.4
Fuel ratio	1.62	1.68	1.73	1.65
Calorific value ... B.T.U./lb	13,360	13,220	13,290	13,520
Ash softening temperature ... °F	2060	1995	2070	1965
Caking Properties				
By volatile button @ 950°C.	Good	Good	Good	Good
Caking index (Gray) (1)	----	----		----
Swelling Properties/FRL Test				
Volatile at 600°C ... %	----	----	29.8	----
Swelling index	----	----	455	----
Ultimate Analysis				
Carbon ... %	75.2		73.3	
Hydrogen ... %	5.0		4.8	
Nitrogen ... %	1.4		1.4	
Sulphur ... %	3.0	3.6	3.0	2.8
Oxygen ... %	3.6		4.8	
Classification by Rank				
A.S.T.M.	High Volatile A bituminous			
S.V.I.	171-Parabituminous			
PHYSICAL PROPERTIES				
Bulk density ... lb./cu.ft.	50.3	51.0	52.7	45.5
cu.ft./ton	39.5	39.2	37.9	43.9
Grindability index	72.0	72.0	72.0	66.0

ASH ANALYSIS ... %:

SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
31.1	16.7	36.5	5.7	0.9	---	2.4	1.1	0.1	0.8	7.0

(1) The average swelling indexes for the various seams are as follows:-

Phalen---903
Harbour--281
Emery----460
Gardiner-222

Province.....:	NOVA SCOTIA	
District or area.....:	Sydney (Cape Breton County)	
Operator.....:	Dominion Coal Co., Ltd.	
Mine (W.P. & T.B. Licence No.)..:	1B, 2, 4, 9, 11, 12, 16, 18, 20, 24, 25 & 26(1258)	
Location of mine.....:	Glace Bay, New Waterford, Reserve, New Aberdeen	
Seams.....:	Phalen, Harbour, Emery, Gardiner	
Trade name.....:	DOMINION	
Size.....:	Nut Slack (1)	Slack
Screen limits.....:	0 x 1-1/4" or 1-1/2" rd.	0 x 3/4" rd.
No. of samples.....:	48	233
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	4.5	5.5
Ash.....%:	9.1	10.0
Volatile matter.....%:	31.0	30.3
Fixed carbon.....%:	55.4	54.1
Fuel ratio.....%:	1.79	1.78
Calorific value.....B.T.U./lb:	13,125	12,765
Ash Softening Temperature...°F:	2035	2070
Caking Properties		
By Volatile button @ 950°C..:	Good	Good
Caking index (Gray).....:	55	55
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	....	....
Swelling index.....:	....	....
Ultimate Analysis		
Carbon.....%:		71.2
Hydrogen.....%:		4.7
Nitrogen.....%:		1.3
Sulphur.....%:	3.2	2.8
Oxygen.....%:		4.5
Classification by Rank		
A.S.T.M.....:	High volatile A bituminous	
S.V.I.....:	171-Parabituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	50.9	50.0
cu.ft./ton:	39.3	40.0
Grindability index.....:	77.0	77.0

(1) Also called "Stoker Slack".

Province.....:	NOVA SCOTIA
District or area.....:	Sydney (Cape Breton County)
Operator.....:	Indian Cove Coal Co. Ltd.
Mine (W.P. & T.B. Licence No.)..:	Stanley(1)
Location of mine.....:	Sydney Mines
Seam.....:	----
Output.....tons/annum:	----
Trade name.....:	STANLEY
Size.....:	Mine Run
Screen limits at mine.....:	--
No. of samples.....:	1

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	6.1
Ash.....%:	19.2
Volatile matter.....%:	31.8
Fixed carbon.....%:	42.9
Fuel ratio.....:	1.35
Calorific value.....B.T.U./lb:	10,485
Ash softening temperature...°F:	2050
Caking Properties	
By volatile button @950°C...:	Good
Caking Index (Gray).....:	----
Swelling Properties/FRL Test..	
Volatile at 600°C.....%:	----
Swelling Index.....:	Low
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	8.2
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High Volatile A Bituminous
S.V.I.....:	149 - Subbituminous (Agglomerate)

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	56.3
cu.ft./ton:	35.5
Grindability index.....:	

(1) Formerly: British Coal Co. Ltd. - Not listed since 1943.

Province.....:	NOVA SCOTIA
District or area.....:	Sydney (Cape Breton County)
Operator.....:	Indian Cove Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Tom Pit; Greener(1) (3745)
Location of mine.....:	Sydney Mines
Seam.....:	Greener(No.3)
Output.....tons/annum:	35-45,000
Trade name.....:	INDIAN COVE; TOM PIT

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:	----	+3/4", +1-1/4" sq.	0x3/4" sq.
No. of samples.....:	5	14	10
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	5.5	5.0	7.0
Ash.....%:	12.8	13.5	16.9
Volatile matter.....%:	34.9	33.9	31.6
Fixed carbon.....%:	46.8	47.6	44.5
Fuel ratio.....:	1,35	1.41	1.41
Calorific value.....B.T.U./lb:	11,820	11,805	10,935
Ash softening temperature...°F:	1995	2010	2030
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	71	----	----
Swelling Properties/FRI. Test			
Volatile at 600°C.....%:	29.9	----	----
Swelling index.....:	181	----	----
Ultimate Analysis			
Carbon.....%:	64.9		
Hydrogen.....%:	4.5		
Nitrogen.....%:	1.3		
Sulphur.....%:	6.5	6.3	6.0
Oxygen.....%:	5.0		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		166-Parabituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	56.0	48.0	51.5
cu.ft./ton:	35.7	41.6	38.8
Grindability index.....:	70	73	73

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	23.2	12.4	37.9	11.5	0.1	0.1	----	1.3	0.2	0.4	13.1

(1) The major part of the coal since 1943 was obtained from the Greener opening of the mine.

Province.....:	NOVA SCOTIA
District or area.....:	Sydney (Cape Breton County)
Operator.....:	Indian Cove Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Tomson(1) (3745)
Location of mine.....:	Sydney Mines
Seam.....:	No. 3.
Output.....tons/annum:	(2)
Trade name.....:	INDIAN COVE; THOMPSON
Size.....:	Lump
Screen limits at mine.....:	+3/4", +1-1/4" sq.
No. of samples.....:	2
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	5.0
Ash.....%:	11.0
Volatile matter.....%:	35.4
Fixed carbon.....%:	47.7
Fuel ratio.....:	1.35
Calorific value.....B.T.U./lb:	12,055
Ash softening temperature...°F:	2035
Caking Properties	
By volatile button @ 950°C..:	Good
Caking Index (Gray).....:	62
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	28.4
Swelling index.....:	137
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	6.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile A bituminous
S.V.I.....:	156-Parabituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	48.0
cu.ft./ton:	41.6
Grindability index.....:	

(1) Formerly-The property of the British Coal Co., Ltd.(Indian Cove since 1941) and at that time known as Thompson Mine.

(2) Included with output from Greener mine.

Province.....:	NOVA SCOTIA
District or area.....:	Sydney (Cape Breton County)
Operator.....:	Old Sydney Collieries Ltd.
Mine (W.P. & T.B. Licence No.)..:	Princess; Florence(1732)
Location of mine.....:	Sydney Mines & Florence Harbour
Seam.....:	
Output.....tons/annum:	700-800,000
Trade name.....:	PRINCESS; FLORENCE; OLD SYDNEY

Size.....:	Mine Run	Lump	Slack, Nut Slack
Screen limits at mine.....:	----	+3/4", +1-1/2"	0x3/4", 1-1/2"
No. of samples.....:	3	9	13
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	4.0	3.1	5.0
Ash.....%:	5.2	4.9	5.4
Volatile matter.....%:	36.1	36.6	35.0
Fixed carbon.....%:	54.7	55.4	54.6
Fuel ratio.....:	1.52	1.51	1.56
Calorific value.....B.T.U./lb:	13,545	13,930	13,500
Ash softening temperature...°F:	2040	2080	2125
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	53	----	----
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	31.3	----	----
Swelling index.....:	281	----	----
Ultimate Analysis			
Carbon.....%:	76.3		
Hydrogen.....%:	5.0		
Nitrogen.....%:	1.5		
Sulphur.....%:	2.0	1.7	1.5
Oxygen.....%:	6.0		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		159-Parabituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb/cu.ft..:	55.0	45.0	51.0
cu.ft./ton:	36.4	44.4	39.2
Grindability index.....:	69.0	64.0	75.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	29.3	15.8	40.0	5.4	0.9	---	1.3	0.5	0.2	0.7	4.3

Province:	NOVA SCOTIA
District or area:	Sydney (Cape Breton County)
Operator:	Sullivan Coal Co., Ltd.
Mine (W.P. & T. B. Licence No.):	Sullivan(4803)
Location of mine:	Sydney Mines.
Seam:	Sullivan or Crawley(No. 3.)
Output.....tons/annum:	10-20,000
Trade name:	SULLIVAN

Size:	Mine Run	Lump	Slack
Screen limits at mine:	----	+7/8" sq.	0x7/8" sq.
No. of samples:	2	5	4
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	6.0	5.0	7.0
Ash.....%:	8.7	8.6	10.3
Volatile matter.....%:	34.4	35.1	32.6
Fixed carbon.....%:	50.9	51.3	50.1
Fuel ratio:	1.48	1.46	1.54
Calorific value.....B.T.U./lb:	12,420	12,845	12,025
Ash softening temperature.....°F:	2070	2050	2035
Caking Properties			
By Volatile button @ 950°C.:	Good	Good	Good
Caking index (Gray)	57	---	---
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	31.1	---	---
Swelling index:	62	---	---
Ultimate Analysis			
Carbon.....%:		70.3	
Hydrogen.....%:		4.8	
Nitrogen.....%:		1.4	
Sulphur.....%:	3.9	3.8	3.2
Oxygen.....%:		6.1	
Classification by Rank			
A.S.T.M.:	High volatile A bituminous		
S.V.I.:	154-Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	56.0	48.0	51.0
cu.ft./ton:	35.7	41.6	49.2
Grindability index:	61	--	65

ASH ANALYSIS:

SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
21.9	12.8	50.7	6.0	1.1	0.2	0.9	0.6	0.1	0.6	5.3

Province.....:	NOVA SCOTIA
District or area.....:	Inverness (St. Rose Basin)
Operator.....:	Evans, Dean
Mine (W.P. & T.B. Licence No.)..:	Evans (1)
Location of mine.....:	St. Rose (12 mi. N. of Inverness)
Seam.....:	6-foot
Output.....tons/annum:	
Trade name.....:	EVANS
Size.....:	Screened Mine Run
Screen limits at mine.....:	+3/8" sq.
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	7.0
Ash.....%:	11.4
Volatile matter.....%:	34.4
Fixed carbon.....%:	47.2
Fuel ratio.....:	1.37
Calorific value.....B.T.U./lb:	11,440
Ash softening temperature...°F:	2055
Caking Properties	
By volatile button @ 950°C...:	Poor
Caking index (Gray).....:	17
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	31.1
Swelling index.....:	-193(contracting)
Ultimate Analysis	
Carbon.....%:	63.2
Hydrogen.....%:	4.2
Nitrogen.....%:	1.3
Sulphur.....%:	7.1
Oxygen.....%:	5.8
Classification by Rank	
A.S.T.M.....:	High volatile C bituminous
S.V.I.....:	144-Subbituminous (agglomerate)

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	52.0
cu.ft./ton:	38.5
Grindability index.....:	65

(1) Formerly - St. Rose Mine.

Province.....:	NOVA SCOTIA
District or area.....:	Inverness (Inverness Basin)
Operator.....:	Inverness Coal Mine (Gov't Control)
Mines (W.P. & T.B. Licence No.).:	Inverness No. 5(745)(1)
Location of mine.....:	Inverness (Inverside)
Output.....tons/annum:	(2)
Trade name.....:	INVERNESS

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:	----	+5/8" rd.	0x5/8" rd.
No. of samples.....:	7	5	5
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	9.0	8.0	12.0
Ash.....%:	12.6	11.2	13.5
Volatile matter.....%:	35.2	37.1	33.2
Fixed carbon.....%:	43.2	43.7	41.3
Fuel ratio.....:	1.23	1.18	1.24
Calorific value.....B.T.U./lb:	10,670	10,960	10,155
Ash softening temperature...°F:	2165	2055	2070
Caking Properties			
By volatile button @ 950°C.:	Poor	Poor	Poor
Caking index (Gray).....:	14		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	32.4		
Swelling index.....:	-155(contracting)		
Ultimate Analysis			
Carbon.....%:	59.5		
Hydrogen.....%:	4.0		
Nitrogen.....%:	1.2		
Sulphur.....%:	6.5	6.8	5.7
Oxygen.....%:	7.2		
Classification by Rank			
A.S.T.M.....:	High volatile C bituminous		
S.V.I.....:	133-Subbituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	57.0	47.5	51.0
cu.ft./ton:	35.1	42.1	39.2
Grindability index.....:	62	59	63

ASH ANALYSIS.....%:

SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
20.7	12.0	59.3	3.4	0.3	0.03	1.2	0.7	0.2	0.5	1.2

(1) In previous years, mines No. 1 & No. 4 on the 7 foot and 13-foot seams respectively were the producing mine. No. 4 was closed down in 1944 and operations in No. 1 were terminated in 1946.

(2) Output dropped from 150,000 in 1941 to under 10,000 in 1945.

Province.....:	NOVA SCOTIA
District or area.....:	Inverness (Port Hood Basin)
Operator.....:	Port Hood Coal Mine (Garson & Garson)
Mine(W.P. & T.B. Licence No.)...:	Port Hood (1)
Location of mine.....:	Port Hood,N. S.
Seam.....:	Main or six-foot
Output.....tons/annum.:	----------
Trade name.....:	PORT HOOD

Size.....:	Mine Run	Lump	Slack	Fines
Screen limits at mine.....:		1/8"x4"	0x3/4", 1-1/2"	0x1/8"
No. of samples.....:	2	3	2	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	5.4	4.6	4.6	5.8
Ash.....%:	14.9	16.1	14.6	14.0
Volatile matter.....%:	34.0	33.6	34.2	33.5
Fixed carbon.....%:	45.7	45.7	46.6	46.7
Fuel ratio.....:	1.34	1.36	1.36	1.39
Calorific value.....B.T.U./lb:	11,040	10,855	11,135	11,100
Ash softening temperature...°F:	1980	1970	1935	1950
Caking Properties				
By Volatile button @ 950°C..:	Poor	Poor	Poor	Poor
Caking index (Gray).....:	24			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	29.2			
Swelling index.....:	-200(contracting)			
Ultimate Analysis				
Carbon.....%:	60.9			
Hydrogen.....%:	4.1			
Nitrogen.....%:	1.4			
Sulphur.....%:	7.9	7.9	7.3	6.8
Oxygen.....%:	5.4			
Classification by Rank				
A.S.T.M.....:	High volatile C bituminous			
S.V.I.....:	141-Subbituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	63.0	56.5	52.5	48.0
cu.ft./ton:	31.7	35.4	38.1	41.6
Grindability index.....:	62	65	61	61

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	32.6	11.5	41.7	5.3	0.3	0.04	1.3	0.3	2.1	0.5	4.[illegible]

(1) Closed down since 1941.

Province.....:	NOVA SCOTIA
District or area.....:	Springhill (Cumberland County)
Operator.....:	Cumberland Railway & Coal Co.
Mine (W.P. & T. B. Licence No.).:	Springhill No. 1, No. 2, No. 4 (4166)
Location of mine.....:	Springhill
Seam.....:	No. 1 & 2 seams (No. 2 mine), No. 6 & 7 seams(No.4 mine)
Output.....tons/annum:	700-800,000
Trade name.....:	SPRINGHILL

Size.....:	Mine Run	Lump	Nut	Pea, Stoker
Screen limits at mine.....:		+3/4", 1" rd.	3/4", 1x2-3/4" rd.	1/4 sq.x3/4, 1" rd.
No. of samples.....:	7	8	3	9
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	3.0	2.0	2.5	2.9
Ash.....%:	9.5	8.8	8.7	12.6
Volatile matter.....%:	30.1	30.4	29.8	29.3
Fixed carbon.....%:	57.4	58.8	59.0	55.2
Fuel ratio.....:	1.91	1.93	1.98	1.88
Calorific value.....B.T.U./lb:	13,195	13,465	13,430	12,815
Ash softening temperature...°F:	2200	2205	2170	2140
Caking Properties				
By volatile button @ 950°C..:	Good	Good	Good	Good
Caking index (Gray).....:	49			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	26.1			
Swelling index.....:	549			
Ultimate Analysis				
Carbon.....%:	73.5			
Hydrogen.....%:	4.7			
Nitrogen.....%:	1.9			
Sulphur.....%:	1.6	1.5	1.7	1.8
Oxygen.....%:	5.8			
Classification by Rank				
A.S.T.M.....:	High volatile A bituminous			
S.V.I.....:	168-Parabituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	51.5	52.5	----	48.5
cu.ft./ton:	38.8	38.1	----	41.3
Grindability index.....:	79	84	----	----

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	44.4	19.5	15.4	7.3	1.5	0.1	1.7	2.0	0.6	0.8	7.2

The coal from the various seams is not segregated.

Province.....:	NOVA SCOTIA
District or area.....:	Springhill (Cumberland County)
Operator.....:	Cumberland Railway & Coal Co.
Mine (W.P.& T.B. Licence No.)...:	Springhill No. 1, No. 2, No. 4 (4166)
Location of mine.....:	Springhill
Seam.....:	No. 1 & 2 seams (No. 2 mine), No. 6 & 7 seams(No.4 mine)

Trade name.....:	SPRINGHILL	
Size.....:	Nut Slack	Slack
Screen limits at mine.....:	0x2-3/4" rd.	0x3/4", 1" rd.
No. of samples.....:	56	56
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	3.0	3.5
Ash.....%:	11.3	11.3
Volatile matter.....%:	29.8	29.6
Fixed carbon.....%:	55.9	55.6
Fuel ratio.....:	1.88	1.88
Calorific value.....B.T.U./lb:	12,955	12,890
Ash softening temperature...°F:	2130	2130
Caking Properties		
By Volatile button @ 950°C...:	Good	Good
Caking index (Gray).....:		
Swelling Properties /FRL Test		
Volatile at 600°C.....%:		
Swelling index.....:		
Ultimate Analysis		
Carbon.....%:		72.0
Hydrogen.....%:		4.6
Nitrogen.....%:		1.9
Sulphur.....%:	1.8	1.8
Oxygen.....%:		4.9
Classification by Rank		
A.S.T.M.....:	High volatile A bituminous	
S.V.I.....:	168-Parabituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	56.0	54.5
cu.ft./ton:	35.7	36.7
Grindability index.....:	86	86

Province.....:	NOVA SCOTIA		
District or area.....:	Joggins (Cumberland County)		
Operator.....:	Hillcrest Mining Co., Ltd.(1)		
Mine (W.P. & T.B. Licence No.)..:	Hillcrest (7930)		
Location of mine.....:	Joggins (1 mile east of Bayview Mine)		
Seam.....:	Forty Brine		
Output.....tons/annum:	50-115,000		
Trade name.....:	HILLCREST		
Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:		+5/8" sq.	0x5/8" sq.
No. of samples.....:	(2)	4	4
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	4.6	4.0	5.5
Ash.....%:	19.2	13.8	27.4
Volatile matter.....%:	32.2	34.2	29.2
Fixed carbon.....%:	44.0	48.0	37.9
Fuel ratio.....:	1.37	1.40	1.30
Calorific value.....B.T.U./lb:	10,790	11,760	9,340
Ash softening temperature...°F:	2040	2000	2105
Caking Properties			
By volatile button @ 950°C..:	Fair	Good	Fair
Caking index (Gary).....:		58	
Swelling Properties/FRL Test			
Volatile at 500°C.....%:		29.9	
Swelling index.....:		157	
Ultimate Analysis(3)			
Carbon.....%:	61.0		
Hydrogen.....%:	4.3		
Nitrogen.....%:	1.8		
Sulphur.....%:	5.5	5.4	5.6
Oxygen.....%:	3.6		
Classification by Rank			
A.S.T.M.....:	High volatile A bituminous		
S.V.I.....:	150-Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	60.0	53.0	57.0
cu.ft./ton:	33.3	37.7	35.1
Grindability index.....:	76		74

(1) Apparently successor to Victoria Coal Co., Ltd., operating Victoria No. 4 Mine in Joggins Bench Seam. This mine closed down in 1941. The Hillcrest Mine was started in 1940

(2) This is a calculated Analysis based on a mixture of 60% Lump and 40% Slack.

(3) Calculated.

Province.....:	NOVA SCOTIA
District or area.....:	Joggins(Cumberland County)
Operator.....:	Joggins Coal Co., Ltd.(1)
Mine (W.P. & T.B. Licence No.)..:	Bayview No. 8(3089)
Location of mine.....:	1 mile North of Joggins
Seam.....:	Forty Brine
Output.....tons/annum:	125-135,000
Trade name.....:	BAYVIEW

Size.....:	Mine Run(2)	Lump	Nut	Slack
Screen limits at mine.....:		+5/8"		0x5/8" sq.
No. of samples.....:		10	1	17
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	4.6	4.0	4.0	5.5
Ash.....%:	21.1	16.7	25.8	27.7
Volatile matter.....%:	31.0	32.5	30.6	28.8
Fixed carbon.....%:	43.3	46.8	39.6	38.0
Fuel ratio.....:	1.40	1.44	1.29	1.32
Calorific value.....B.T.U./lb:	10,515	11,315	9,790	9,315
Ash softening temperature...°F:	2065	2040	2080	2095
Caking Properties				
By volatile button @ 950°C..:	Fair	Good	Fair	Poor
Caking index (Gray).....:		59		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		30.1		
Swelling index.....:		217		
Ultimate Analysis(3)				
Carbon.....%:	59.6			
Hydrogen.....%:	4.2			
Nitrogen.....%:	1.8			
Sulphur.....%:	5.7	5.5	6.8	5.9
Oxygen.....%:	3.0			
Classification by Rank				
A.S.T.M.....:	High volatile A bituminous			
S.V.I.....:	151-Parabituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	60.0	54.0	54.5	58.5
cu.ft./ton:	33.3	37.0	36.8	34.2
Grindability index.....:	75			76

(1) This company operated Maple Leaf No. 4 Mine near River Hebert. The mine was closed down in 1939, when Bayview No. 8 was opened.
(2) This analysis is based on a mixture of 60% +5/8" Lump and 40% 0x5/8" Slack
(3) Calculated.

Province.....:	NOVA SCOTIA
District or area.....:	Joggins (Cumberland County)
Operator.....:	Arseneau, A.J.(1)
Mine (W.P. & T.B. Licence No.)..:	Arseneau(3090)
Location of mine.....:	River Hebert
Seam.....:	Queen
Output.....tons/annum:	2-8,000
Trade name.....:	ARSENEAU
Size.....:	Mine Run
Screen limits at mine.....:	
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	4.0
Ash.....%:	18.7
Volatile matter.....%:	32.9
Fixed carbon.....%:	44.4
Fuel ratio.....:	1.35
Calorific value.....B.T.U./lb:	10,810
Ash softening temperature...°F:	2105
Caking Properties	
By volatile button @ 950°C..:	Fair
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	----
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	6.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile A bituminous
S.V.I.....:	145-Subbituminous (agglomerate)

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	58.5
cu.ft./ton:	34.2
Grindability index.....:	

(1) Previously listed as operated by Maritime Coal, Railway & Power Co., Ltd., but not listed in 1947.

Province.....:	NOVA SCOTIA	
District or area.....:	Joggins(Cumberland County)	
Operator.....:	Shore Coal Co.(Hugh Gordon)(1)	
Mine (W.P. & T.B. Licence No.)..:	Seashore(5752)	
Location of mine.....:	One mile North of Joggins	
Seam.....:	Fundy	
Trade name.....:	----	
Size.....:	Lump	Slack
Screen limits at mine.....:	+5/8" sq.	0x5/8" sq.
No. of samples.....:	2	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	5.0	7.5
Ash.....%:	19.0	32.2
Volatile matter.....%:	32.9	27.0
Fixed carbon.....%:	43.1	33.3
Fuel ratio.....:	1.31	1.23
Calorific value.....B.T.U./lb:	10,565	8,140
Ash softening temperature...°F:	2010	2210
Caking Properties		
By volatile button @ 950°C..:	Fair	Poor
Caking index (Gray).....:	----	----
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	----
Swelling index.....:	----	----
Ultimate Analysis		
Carbon.....%:	56.2	
Hydrogen.....%:	3.9	
Nitrogen.....%:	1.1	
Sulphur.....%:	7.6	5.6
Oxygen.....%:	7.2	
Classification by Rank		
A.S.T.M.....:	High volatile A bituminous	
S.V.I.....:	147-Subbituminous(agglomerate)	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	57.0	59.0
cu.ft./ton:	35.1	33.9
Grindability index.....:		

(1) Salvage Operation-Not listed since 1944.

Province.....:	Nova Scotia		
District or area.....:	Joggins(Cumberland County)		
Operator.....:	Standard Coal Co., Ltd.		
Mine (W.P. & T.B. Licence No.)..:	Strathcona No.2(1) (3091)		
Location of mine.....:	River Hebert		
Output.....tons/annum:	65,80,000		
Trade name.....:	STANDARD or STRATHCONA		
Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:		+5/8" sq.,+1-1/4" sq.	0x5/8",1-1/4" sq.
No. of samples.....:	42	9	6
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	4.5	4.0	5.5
Ash.....%:	18.3	15.6	19.4
Volatile matter.....%:	31.1	33.1	30.1
Fixed carbon.....%:	46.1	47.3	45.1
Fuel ratio.....:	1.48	1.43	1.50
Calorific value.....B.T.U./lb:	11,195	11,555	10,830
Ash softening temperature...°F:	2045	2030	2095
Caking Properties			
By volatile button @ 950°C..:	Fair	Fair to Good	Fair
Caking index (Gray).....:	58		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	30.9		
Swelling index.....:	144		
Ultimate Analysis			
Carbon.....%:	62.1		
Hydrogen.....%:	4.2		
Nitrogen.....%:	1.4		
Sulphur.....%:	5.2	6.0	4.4
Oxygen.....%:	4.3		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		159-Parabituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	59.0	54.0	57.0
cu.ft./ton:	33.9	37.1	35.1
Grindability index.....:	66		70

(1) This mine was reopened in 1938, after closing down Strathcona No. 1. Mine.

Province	NOVA SCOTIA			
District or area	Stellarton District (Pictou County)			
Operator	Acadia Coal Co., Ltd.			
Mine (W.P. & T.B. Licence No.)	Allan & Acadia No. 7 (1731)			
Location of mine	Stellarton			
Seam	Foord, Cage, Four-Foot, Third			
Output tons/annum	(See page 22)			
Trade name	ADADIA (ALLAN)			
Size	Mine Run(1)	Lump(2)	Stove(3)	Slack
Screen limits at mine		+1-1/4, 1-1/2 or 2-1/2" rd.		0x1-3/4" rd. 0x7/8" sq.
No. of samples	8	11	---	4
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture %	2.5	2.0	2.0	5.5
Ash %	13.6	14.9	15.7	13.4
Volatile matter %	29.1	28.4	28.2	27.6
Fixed carbon %	54.8	54.7	54.1	53.5
Fuel ratio	1.88	1.93	1.92	1.94
Calorific value B.T.U./lb	12,625	12,515	12,380	12,180
Ash softening temperature °F	2400	2590	2600	2355
Caking Properties				
By volatile button @ 950°C	Fair to Good	Fair to Good	Fair to Good	Fair
Caking index (Gray)	41			
Swelling Properties/FRL Test				
Volatile at 600 %		23.9(4)		
Swelling index		67		
Ultimate Analysis				
Carbon %	72.3			
Hydrogen %	4.6			
Nitrogen %	1.9			
Sulphur %	1.0	1.1	1.2	1.1
Oxygen %	4.5			
Classification by Rank				
A.S.T.M.	High Volatile A Bituminous			
S.V.I.	168 - Parabituminous			
PHYSICAL PROPERTIES				
Bulk density lb./cu.ft.	57.0	55.4	47.0	54.9
cu.ft./ton	35.1	36.1	42.6	36.4
Grindability index	70			72

ASH ANALYSIS %	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	55.1	24.4	10.5	2.2	1.3	0.02	0.6	1.9	0.3	0.7	2.1

(1) Railway mine run is crushed to pass a 5" or 6" screen.
(2) Domestic lump is crushed to pass a 7" screen.
(3) Stove=1¾x2 in., or 4 in; Nut=7/8" sq.x1¾ in. rd.-sometimes prepared, but no samples received. The analysis was calculated from results of P. & C. Survey samples.
(4) The Swelling properties of the coal from the different seams represented in the above composite vary as follows:-

Seam	Vol.matter at 600°C.-%	Swelling index
Foord	24.1	205
Cage	23.3	-237
4-foot	25.1	438
Third	23.2	-141

Province.....:	NOVA SCOTIA
District or area.....:	Stellarton District (Pictou County)
Operator.....:	Acadia Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Albion & McGregor (1731)
Location of mine.....:	Stellarton
Seam.....:	Third, Cage, McGregor & Fleming
Output.....tons/annum:	(See page 22)
Trade name.....:	ACADIA (ALBION)

Size.....:	Mine Run(1)	Lump	Stove(2)	Slack
Screen limits at mine.....:		+1-3/4,2-1/2, or 4" rd.	1-3/4x4" rd.	0x7/8" sq.
No. of samples.....:	12	10	--	5
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	2.5	2.0	2.0	5.5
Ash.....%:	13.0	15.0	14.6	12.8
Volatile matter.....%:	27.8	27.6	27.9	26.8
Fixed carbon.....%:	56.7	55.4	55.5	54.9
Fuel ratio.....:	2.04	2.03	1.99	2.05
Calorific value.....B.T.U./lb:	12,680	12,315	12,480	12,210
Ash softening temperature...°F:	2510	2450	2400	2410
Caking Properties				
By volatile button @ 950°C..:	Fair to good	Fair to good	Fair to good	Fair
Caking index (Gray).....:	35			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	23.1(3)			
Swelling index.....:	-130			
Ultimate Analysis				
Carbon.....%:	71.8			
Hydrogen.....%:	4.5			
Nitrogen.....%:	1.9			
Sulphur.....%:	1.3	1.6	1.5	1.4
Oxygen.....%:	5.0			
Classification by Rank				
A.S.T.M.....:		High volatile A bituminous		
S.V.I.....:		169-Parabituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	56.0	55.4	46.5	52.8
cu.ft./ton:	35.7	36.1	43.0	37.9
Grindability index.....:	65			67

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	53.3	25.4	12.8	1.5	1.4	0.02	0.3	2.0	0.3	0.7	2.2

(1) Mine Run prepared for railway use is crushed to pass a 6" screen.
(2) Stove: 1-3/4x4in., and Nut 7/8 sq.x1-3/4"rd. are prepared at times. No samples received at F.R.L. The analysis was calculated from results of P. & C. Survey Samples.
(3) All seams at this mine show a negative swelling index.

Province.....:	NOVA SCOTIA
District or area.....:	Stellarton District (Pictou County)
Operator.....:	Acadia Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Albion & McGregor[1] Allan, Acadia No. 7.[2] (1731)
Location of mine.....:	Stellarton
Seam.....:	Third & Cage(Albion), McGregor & Fleming(McGregor), Foord, Cage & 4-Foot(Allan)
Output.....tons/annum:	400-550,000
Trade name.....:	ACADIA

Size.....:	Mine Run	Lump, Stove, Nut	Stoker	Slack
Screen limits at mine.....:		(3)		0x1-3/4" rd.
No. of samples.....:	14	15	2	13
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	2.5	2.0	3.5	5.5
Ash.....%:	14.0	15.6	12.3	13.6
Volatile matter.....%:	28.0	27.5	29.2	26.8
Fixed carbon.....%:	55.5	54.9	55.0	54.1
Fuel ratio.....:	1.98	1.99	1.89	2.02
Calorific value.....B.T.U./lb:	12,600	12,450	12,740	12,100
Ash softening temperature...°F:	2490	2420	2315	2300
Caking Properties				
By volatile butoon @ 950°C..:	Fair to good	Fair to good	Fair to good	Fair
Caking index (Gray).....:	38			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	23.6[4]			
Swelling index.....:	-25			
Ultimate Analysis				
Carbon.....%:	71.2			
Hydrogen.....%:	4.6			
Nitrogen.....%:	1.9			
Sulphur.....%:	1.2	1.4	1.5	1.8
Oxygen.....%:	4.6			
Classification by Rank				
A.S.T.M.....:		High volatile A bituminous		
S.V.I.....:		168-Parabituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	57.0	55.4	44.8	52.8
cu.ft./ton:	35.1	36.1	44.6	37.9
Grindability index.....:	69			71

(1) Albion & McGregor mines have one common tipple.
(2) Acadia No. 7 coal prepared in Allan tipple.
(3) Lump=+1-3/4", +2-1/2", or +4" rd.
Stove=1-3/4x2-1/2" or 4" rd.
Nut=7/8 sq.x1-3/4" rd.
(4) The value for the Swelling Index is for an average of all the seams, the different seams varying from an Index of -237 to +438.

Province.....:	NOVA SCOTIA		
District or area.....:	Westville District(Pictou County)		
Operator.....:	Intercolonial Coal Co., Ltd.		
Mine (W.P. & T.B. Licence No.)..:	Drummond No.1, 2, & 5(1071)		
Location of mine.....:	Westville		
Seam.....:	Main(No. 1 & No. 5) Second or Scott (No. 2)		
Output.....tons/annum:	165-200,000		
Trade name.....:	DRUMMOND		
Size.....:	Mine Run(2)	Screened Lump(1)	Slack(2)(3)
Screen limits at mine.....:		+1" sq.,+1-1/4",+1-1/2"	0x1" sq.
No. of samples.....:	8	25	18
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	2.5	2.0	5.5
Ash.....%:	19.1	20.6	17.9
Volatile matter.....%:	24.6	23.8	24.9
Fixed carbon.....%:	53.8	53.6	51.7
Fuel ratio.....:	2.19	2.25	2.08
Calorific value.....B.T.U./lb.:	11,730	11,615	11,295
Ash softening temperature...°F:	2380	2520	2300
Caking Properties			
By volatile button at 950°C:	Fair	Fair	Fair
Caking index (Gray).....:	43(4)		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	19.9(4)		
Swelling index.....:	219		
Ultimate Analysis			
Carbon.....%:	67.2		
Hydrogen.....%:	4.2		
Nitrogen.....%:	1.8		
Sulphur.....%:	1.4	1.1	1.6
Oxygen.....%:	3.8		
Classification by Rank			
A.S.T.M.....:	Medium Volatile Bituminous		
S.V.I.....:	173 - Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	64.0	50.0	56.5
cu.ft./ton:	31.3	40.0	35.4
Grindability index.....:	81	83	80

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	55.3	26.0	7.0	3.3	1.1	0.02	0.8	1.8	0.4	0.7	3.8

(1) This coal is from Main Seam only. (No. 1 & No. 5 Mines, but mainly No. 1)
(2) This coal is a mixture of Main Seam and Second Seam.
(3) Special stoker slack at times prepared from Main Seam only (No. 1 & No. 5 Mines) This coal usually contains about 2% less ash than the mixed slack.
(4) The Swelling Indices and Caking Indices of the two seams vary to some extent as follows:-

	Swelling Index	Caking Index
Main Seam :-	477	49
Scott Seam:-	-40(contracting)	36

Province.....:	NOVA SCOTIA		
District or area.....:	Thorburn District (Pictou County)		
Operator.....:	Greenwood Coal Co., Ltd.		
Mine (W.P. & T.B. Licence No.)..:	Milford No. 2[1] (2652)		
Location of mine.....:	Coalburn		
Seam.....:	Captain		
Output.....tons/annum:	35-50,000		
Trade name.....:	MILFORD or GREENWOOD		
Size.....:	Mine Run[2]	Screened Lump	Slack
Screen limits at mine.....:		1-1/4,7/8" sq.x7"	0x7/8",1-1/4" sq.
No. of samples.....:	3	8	5
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	5.0	5.0	6.5
Ash.....%:	18.4	16.4	25.0
Volatile matter.....%:	27.6	27.9	24.8
Fixed carbon.....%:	49.0	50.7	43.7
Fuel ratio.....:	1.78	1.82	1.76
Calorific value.....B.T.U./lb:	11,130	11,450	9,810
Ash softening temperature...°F:	2120	2090	2115
Caking Properties			
By Volatile button @ 950°C..:	Poor	Poor	Poor
Caking index (Gray).....:	12		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	23.2		
Swelling index.....:	-204(contracting)		
Ultimate Analysis			
Carbon.....%:	64.0		
Hydrogen.....%:	4.3		
Nitrogen.....%:	1.7		
Sulphur.....%:	3.1	3.1	3.3
Oxygen.....%:	3.5		
Classification by Rank			
A.S.T.M.....:	High volatile A bituminous		
S.V.I.....:	159-Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	53.5	47.0	56.5
cu.ft./ton:	37.4	42.6	35.4
Grindability index.....:	62		63

(1) Milford No. 2 Mine was opened in the spring of 1941, and is the successor to the Milford No. 1 Mine which operated on the George MacKay Seam. This latter mine was closed down early in 1941.

(2) Railway Mine Run is crushed to Pass a 5" screen, whereas Commercial Mine Run is crushed to pass a 7" screen.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto
Operator.....:	General
Mine (W.P. & T.B. License No.)..:	As listed
Location of mine.....:	In vicinity of Minto and Chipman
Seam.....:	Main

Size.....:	Mine Run Regular	Mine Run Soft	Mine Run Strip	Lump	Slack
Screen limits at mine.....:				+5/8,1-1/4"sq.	0x5/8",1-1/4"sq.
No. of samples.....:	129	7	38	31	37
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	3.2	10.5	3.4	2.0	5.0
Ash.....%:	19.3	6.8	16.8	18.0	20.6
Volatile matter.....%:	29.7	29.6	30.5	30.8	29.0
Fixed carbon.....%:	47.8	53.1	49.3	49.2	45.4
Fuel ratio.....:	1.61	1.79	1.62	1.60	1.57
Calorific value.....B.T.U./lb:	11,610	12,075	11,715	11,960	11,025
Ash softening temperature...°F:	2030	2280	1985	2015	2100
Caking Properties					
By Volatile button @ 950°C..:	Good	Poor	Good	Good	Good
Caking index (Gray).....:	55	35	55		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:	29.3	26.7	28.6		
Swelling index.....:	484	-168	431		
Ultimate Analysis					
Carbon.....%:	62.7	68.4	65.0		
Hydrogen.....%:	4.1	4.4	4.4		
Nitrogen.....%:	0.8	0.9	0.9		
Sulphur.....%:	7.6	2.6	7.8	7.6	7.5
Oxygen.....%:	2.3	6.4	1.7		
Classification by Rank					
A.S.T.M.....:		High volatile A bituminous			
S.V.I.....:	179(1)	154(2)			
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	57.5	43.5	57.0	52.0	56.0
cu.ft./ton:	34.8	46.0	35.1	38.5	35.7
Grindability index.....:	71	89	71		78

"Soft Coal" - This is coal which has been weathered and oxidized 'in situ' due to thinness and permeable nature of cover.

(1) Orthobituminous.

(2) Subbituminous C- on border of parabituminous D (rank depressed because of oxidation).

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (North area)
Operator.....:	H.F. Banks Coal Co.(1)
Mine (W.P. & T.B. License No.)..:	Banks (4604)
Location of mine.....:	Newcastle Creek (2-1/2mi.E.of Minto)
Seam.....:	Main
Trade name.....:	BANKS
Size.....:	Mine Run
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	3.0
Ash.....%:	21.3
Volatile matter.....%:	28.9
Fixed carbon.....%:	46.8
Fuel ratio.....:	1.62
Calorific value.....B.T.U./lb:	11,280
Ash softening temperature...°F:	2040
Caking Properties	
By Volatile button @ 950°C..:	Good
Caking index (Gray).....:	
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	7.7
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile A bituminous
S.V.I.....:	179-Orthobituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	59.5
cu.ft./ton:	33.6
Grindability index.....:	

(1) Not listed since 1943 (part of lease No. 179)

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (North area)
Operator.....:	The Minto Coal Co. Ltd.
Mine (W.P. & T.B. License No.)..:	West Slope, No.2C.shaft (Lease No.172)(465)
Location of mine.....:	2 mi. W. of Minto
Seam.....:	Top or Main
Output.....tons/annum:	100-135,000(1)
Trade name.....:	MINTO AND XLO COAL

Size.....:	Mine Run(2)	Lump	Slack
Screen limits at mine.....:	0-6"	+5/8,1-1/4 sq.x6"	0x5/8,1-1/4"sq.
No. of samples.....:	12	6	18
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.0	2.0	5.0
Ash.....%:	18.6	16.6	21.4
Volatile matter.....%:	30.1	30.8	28.3
Fixed carbon.....%:	48.3	50.6	45.3
Fuel ratio.....:	1.60	1.64	1.60
Calorific value.....B.T.U./lb:	11,840	12,275	11,010
Ash softening temperature...°F:	2050	2050	2010
Caking Properties			
By Volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	49		
Swelling Properties/FRL Test			
Volatile at 600°C.....:	28.7		
Swelling index.....:	584		
Ultimate Analysis			
Carbon.....%:	64.8		
Hydrogen.....%:	4.3		
Nitrogen.....%:	0.8		
Sulphur.....%:	6.7	6.9	6.7
Oxygen.....%:	1.8		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		181-Orthobituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	57.0	55.0	58.5
cu.ft./ton:	35.1	36.4	34.2
Grindability index.....:	73		80

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	40.4	14.3	34.6	3.0	1.1	0.2	---	0.9	0.5	0.6	5.1

(1) The output is for all the Minto Coal Co. mines.
(2) All +5" lump crushed to pass a 6" screen.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (North area)
Operator.....:	Miramichi Lumber Co.Ltd.
Mine (W.P. & T.B. License No.)..:	Northfield (Miramichi - Block II)(3357)
Location of mine.....:	1-1/2 mi. North of Minto Station
Seam.....:	Main
Output.....tons/annum:	55-80,000
Trade name.....:	NORTHFIELD (MIRAMICHI)

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:		+3/4", +1-1/4"sq.	0x3/4", 1-1/4"sq.
No. of samples.....:	10	4	3
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.0	2.0	5.0
Ash.....%:	18.6	18.8	19.5
Volatile matter.....%:	30.2	29.8	29.2
Fixed carbon.....%:	48.2	49.4	46.3
Fuel ratio.....:	1.60	1.66	1.59
Calorific value.....B.T.U./lb:	11,815	11,950	11,445
Ash softening temperature...°F:	2015	2020	2020
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	49		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	30.9		
Swelling index.....:	430		
Ultimate Analysis			
Carbon.....%:	64.3		
Hydrogen.....%:	4.2		
Nitrogen.....%:	0.7		
Sulphur.....%:	6.7	7.3	5.9
Oxygen.....%:	2.5		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		180-Orthobituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	60.0	52.0	54.0
cu.ft./ton:	33.3	38.5	37.1
Grindability index.....:	82		86

ASH ANALYSIS.....%:	SiO2	Al2O3	Fe2O3	CaO	MgO	MnO	Na2O	K2O	P2O5	TiO2	SO3
	34.7	25.6	29.6	3.2	1.4	0.2	----	1.6	0.5	0.8	2.7

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	Avon Coal Co. Ltd.
Mine (W.P. & T.B. License No.)..:	Shaft Mines & Stripping Pit[1] (1715)
Location of mine.....:	S. of Minto, near Rothwell
Seam.....:	Main
Output.....tons/annum:	50-65,000
Trade name.....:	AVON (MINTO), WINTERPORT

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:		+5/8"sq.	0x5/8",1-1/4sq.
No. of samples.....:	8	5	4
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.0	2.0	5.0
Ash.....%:	17.6	17.0	19.5
Volatile matter.....%:	29.8	30.5	28.4
Fixed carbon.....%:	49.6	50.5	47.1
Fuel ratio.....:	1.66	1.66	1.66
Calorific value.....B.T.U./lb:	11,810	11,965	11,115
Ash softening temperature...°F:	1990	2010	2020
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	54		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	28.6		
Swelling index.....:	550		
Ultimate Analysis			
Carbon.....%:	64.8		
Hydrogen.....%:	4.3		
Nitrogen.....%:	0.8		
Sulphur.....%:	7.9	8.0	7.7
Oxygen.....%:	1.6		
Classification by Rank			
A.S.T.M.....:	High volatile A bituminous		
S.V.I.....:	175-Border of ortho and parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	60.5	54.0	56.5
cu.ft./ton:	33.1	37.1	35.4
Grindability index.....:	79		87

ASH ANALYSIS.....%:

SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
30.1	20.3	41.0	3.2	---	0.1	0.5	1.0	1.3	0.8	1.5

(1) Leases Nos. 162 & 178.

Province	NEW BRUNSWICK
District or area	Minto (South area)
Operator	Crawford, E.S.& Sons
Mine (W.P. & T.B. License No.)	Thurott Lease No.166(4160)
Location of mine	2-1/2 mi. E. of Minto on Lake Road
Seam	Main
Output.....tons/annum	6-9,000
Trade name	CRAWFORD

Size	Mine Run*	Lump*	Nut*	Slack*	Mine Run**
Screen limits at mine		+1-1/4"sq.	5/8x1-1/4"sq.	0x5/8"sq.	
No. of samples	1	1	1	1	1
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture....%:	3.5	2.5	3.0	5.0	15.0
Ash....%:	20.5	19.9	19.6	18.1	5.8
Volatile matter....%:	29.6	29.4	29.8	29.5	27.6
Fixed carbon....%:	46.4	48.2	47.6	47.4	51.6
Fuel ratio:	1.57	1.64	1.60	1.61	1.87
Calorific value.....B.T.U./lb:	11,170	11,330	11,400	11,380	11,560
Ash softening temperature...°F:	2150	2020	2030	2000	2340
Caking Properties					
By volatile button @ 950°C..:	Good	Good	Good	Good	Poor
Caking index (Gray):					
Swelling Properties/FRL Test					
Volatile at 600°C....%:					
Swelling index:					
Ultimate Analysis					
Carbon....%:					
Hydrogen....%:					
Nitrogen....%:					
Sulphur....%:	9.7	9.9	9.0	8.2	1.7
Oxygen....%:					
Classification by Rank					
A.S.T.M.:	High volatile A bituminous				
S.V.I.:	175-Border of ortho and parabituminous 152(1)				
PHYSICAL PROPERTIES					
Bulk density....lb./cu.ft.:	62.0	53.5	51.0	53.0	46.0
cu.ft./ton:	32.2	37.4	39.2	37.7	43.4
Grindability index:					

* Crawford shaft mine.

** Crawford slope mine - This is so-called "soft coal", i.e. weathered in the seam.

(1) Subbituminous C - border of parabituminous D.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	W.B. Evans (Rothwell Coal Co.)
Mine (W.P. & T.B. License No.)..:	Rothwell (New & Old - block 18)(466)
Location of mine.....:	South Rothwell & Rothwell
Seam.....:	Main
Output.....tons/annum:	50-60,000
Trade name.....:	ROTHWELL (MINTO)

Size.....:	Mine Run(1)	Lump(2)	Nut(2)	Slack(2)
Screen limits at mine.....:		+5/8,1-1/4"sq.	5/8x1-1/4"sq	0x5/8,1-1/4"sq
No. of samples.....:	21	3	1	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	3.0	2.0	2.5	5.0
Ash.....%:	17.3	21.0	20.4	24.8
Volatile matter.....%:	30.9	29.5	29.9	27.6
Fixed carbon.....%:	48.8	47.5	47.2	42.6
Fuel ratio.....:	1.58	1.61	1.58	1.54
Calorific value.....B.T.U./lb:	11,960	11,380	11,560	10,320
Ash softening temperature...°F:	2020	2050	2040	2025
Caking Properties				
By volatile button @ 950°C..:	Good	Good	Good	Good
Caking index (Gray).....:	62			
Swelling Properties/FRL Test				
Volatile @ 600°C.....%:	29.6			
Swelling index.....:	404			
Ultimate Analysis				
Carbon.....%:	65.1			
Hydrogen.....%:	4.4			
Nitrogen.....%:	0.8			
Sulphur.....%:	7.3	9.0	7.5	8.1
Oxygen.....%:	2.1			
Classification by Rank				
A.S.T.M.....:		High volatile A bituminous		
S.V.I.....:		177-Orthobituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	57.0	48.0	45.0	54.0
cu.ft./ton:	35.1	41.7	44.4	37.0
Grindability index.....:	73			79

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	27.6	5.4	57.2	3.7	0.3	0.2	----	0.9	0.9	0.6	3.7

(1) These are analyses from the old mine.
(2) These are analyses from the new mine (1942-1943) and the coal is all from development work.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	H.L. Flower
Mine (W.P. & T.B. License No.)..:	Lease No.197(3643)
Location of Mine.....:	Flower's Cove S.of Minto
Seam.....:	Main
Output.....tons/annum:	
Trade name.....:	MINTO
Size.....:	Mine Run(1)
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	3.0
Ash.....%:	21.6
Volatile matter.....%:	30.0
Fixed Carbon.....%:	45.4
Fuel ratio.....:	1.51
Calorific value.....B.T.U./lb:	11,060
Ash softening temperature...°F:	2050
Caking Properties	
By volatile button @ 950°C..:	Good
Caking index (Gray).....:	
Swelling Properties/FRL Test	
Volatile @ 600°C.....%:	
Swelling index.....:	
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	11.0
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile A bituminous
S.V.I.....:	177-Orthorbituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	60.5
cu.ft./ton:	33.0
Grindability index.....:	

(1) P. & C. survey

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	MacDonald, J.F. - McMann, H.H.
Mine (W.P. & T.B. License No.)..:	Rothwell Lease Lake Road (Lease No.176)(2194)(463)
Location of mine.....:	2-1/2 mi. E. of Minto on Lake road, Newcastle Creek
Seam.....:	Main No.141
Output.....tons/annum:	
Trade name.....:	

Size.....:	Mine Run (MacDonald Mine)	Mine Run (McMann Mine)
No. of samples.....:	1	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	3.0	3.0
Ash.....%:	20.9	17.2
Volatile matter.....%:	28.4	30.1
Fixed carbon.....%:	47.7	49.7
Fuel ratio.....:	1.68	1.65
Calorific value.....B.T.U./lb:	11,170	11,865
Ash softening temperature...°F:	2060	2040
Caking Properties		
By volatile button @ 950°C..:	Good	Good
Caking index (Gray)		
Swelling Properties/FRL Test		
Volatile at 600°C.....%:		
Swelling index.....:		
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	8.7	8.7
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	High volatile A bituminous	
S.V.I.....:	173-Parabituminous E	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	60.0	58.0
cu.ft./ton:	33.3	34.5
Grindability index.....:		

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	McDougal Bros(1)
Mine (W.P. & T.B. License No.)..:	McDougal - Shaft and Strip
Location of mine.....:	Newcastle Bridge, 3 mi.E. of Minto
Seam.....:	Main
Output.....tons/annum:	
Trade name.....:	McDOUGAL

Size.....:	MINE RUN(2) "Soft"(3)	"Hard"	Mixed
No. of samples.....:	2	2	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	10.0	3.5	4.0
Ash.....%:	6.6	18.1	14.3
Volatile matter.....%:	29.7	30.2	30.0
Fixed carbon.....%:	53.7	48.2	51.7
Fuel ratio.....:	1.81	1.60	1.72
Calorific value.....B.T.U./lb:	12,120	11,725	11,980
Ash softening temperature...°F:	2250	2000	1960
Caking Properties			
By volatile button @ 950°C..:	Poor	Good	Good
Caking index (Gray).....:	44	55	52
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	25.3	27.5	26.7
Swelling index.....:	-158	728	430
Ultimate Analysis			
Carbon.....%:	68.7	62.2	
Hydrogen.....%:	4.4	4.0	
Nitrogen.....%:	0.9	0.7	
Sulphur.....%:	2.4	7.2	5.9
Oxygen.....%:	7.0	4.3	
Classification by Rank			
A.S.T.M.....:	High volatile A bituminous		
S.V.I.....:	151(5)	177-orthobituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	42.5	58.0	55.0
cu.ft./ton:	47.1	34.5	36.4
Grindability index.....:	89	65	74

ASH ANALYSIS(4).....:

	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	39.1	24.5	29.2	2.6	0.4	0.04	0.2	1.1	0.6	0.9	1.8

(1) Not listed since 1942.
(2) The "hard" and "soft" coal do not occur in equal quantities. There is approximately 1/3 "soft" to 2/3 "hard" coal.
(3) The so-called "soft" coal is weathered 'in situ' and very wet.
(4) Of mixed mine run.
(5) Subbituminous C.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	The Minto Coal Co. Ltd.
Mine (W.P. & T.B. License No.)..:	Tweedie (C1, C2 & C3) - Strip[1] (465)
Location of mine.....:	South Minto, near Rothwell
Seam.....:	Main
Output.....tons/annum:	
Trade name.....:	(2) TWEEDIE, MINTO, XLO COAL

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:		+5/8,+1-1/4"sq.	0x5/8"sq.
No. of samples.....:	21	4	5
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.0	2.0	5.0
Ash.....%:	17.2	14.7	17.4
Volatile matter.....%:	30.0	31.0	29.1
Fixed carbon.....%:	49.8	52.3	48.5
Fuel ratio.....:	1.66	1.69	1.67
Calorific value.....B.T.U./lb:	11,825	12,450	11,480
Ash softening temperature...°F:	2045	2050	2055
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	60		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	28.1		
Swelling index.....:	362		
Ultimate Analysis			
Carbon.....%:	64.5		
Hydrogen.....%:	4.2		
Nitrogen.....%:	0.8		
Sulphur.....%:	8.3	7.6	7.3
Oxygen.....%:	2.0		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		174-Parabituminous E	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	56.0	50.0	55.0
cu.ft./ton:	35.7	40.0	36.4
Grindability index.....:	74		81

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	24.2	8.0	61.1	2.3	0.3	0.09	--	0.8	0.8	0.6	1.6

(1) Mostly stripping since 1941.
(2) Output included with Minto Coal Co., North area - see page 27.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	Welton Ltd, Harvey
Mine (W.P. & T.B. License No.)..:	Welton (Lease #181)(4670)
Location of mine.....:	Newcastle Creek, 3/4 mi. from power plant
Seam.....:	Main
Output.....tons/annum:	5-10,000
Trade name.....:	WELTON

Size.....:	Mine Run(1)	Lump(2)	Slack(2)
Screen limits at mine.....:		+3/4"sq.	0x3/4"sq
No. of samples.....:	2	2	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.5	2.0	5.0
Ash.....%:	17.9	15.7	17.9
Volatile matter.....%:	29.6	30.7	29.5
Fixed carbon.....%:	49.0	51.6	47.6
Fuel ratio.....:	1.66	1.68	1.61
Calorific value.....B.T.U./lb:	11,735	12,415	11,345
Ash softening temperature...°F:	1990	1995	2005
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	50		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	29.3		
Swelling index.....:	390		
Ultimate Analysis			
Carbon.....%:	63.7		
Hydrogen.....%:	4.4		
Nitrogen.....%:	0.9		
Sulphur.....%:	7.9	6.8	7.1
Oxygen.....%:	1.7		
Classification by Rank			
A.S.T.M.....:	High volatile A bituminous		
S.V.I.....:	177-Orthobituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	58.0	50.0	54.5
cu.ft./ton:	34.5	40.0	36.8
Grindability index.....:	69		78

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	31.5	20.9	39.2	3.5	0.6	0.15	--	0.6	0.9	0.8	2.2

(1) From P&C Survey 1938.
(2) P&C Survey and tipple samples.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	Welton & Henderson Ltd.
Mine (W.P. & T.B. License No.)..:	Kelley (Lease No.179)(1)(4019)
Location of mine.....:	Rothwell (1-1/2 mi. S.E. of Minto)
Seam.....:	Main
Output.....tons/annum:	30-45,000
Trade name.....:	KELLEY, OR WELTON & HENDERSON MINTO

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:		+5/8,+1-1/4"sq.	0x5/8,1-1/4"sq.
No. of samples.....:	72	3	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.6	1.5	5.7
Ash.....%:	19.7	19.2	25.8
Volatile matter.....%:	29.8	30.5	27.2
Fixed carbon.....%:	46.9	48.8	41.3
Fuel ratio.....:	1.57	1.60	1.52
Calorific value.....B.T.U./lb:	11,550	11,950	9980
Ash softening temperature...°F:	2030	1980	2000
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking index (Gray).....:	59		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	29.5		
Swelling index.....:	462		
Ultimate Analysis			
Carbon.....%:	63.4		
Hydrogen.....%:	4.1		
Nitrogen.....%:	0.8		
Sulphur.....%:	6.7	6.8	8.1
Oxygen.....%:	1.7		
Classification by Rank			
A.S.T.M.....:		High volatile A bituminous	
S.V.I.....:		180-Orthobituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	60.0	53.0	58.5
cu.ft./ton:	33.3	37.7	34.2
Grindability index.....:	65	72	69

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	30.4	17.8	41.9	3.7	0.6	0.18	0.2	1.0	1.2	0.7	2.7

(1) The Black Diamond Mines situated in the Newcastle Bridge area have been closed down for several years and the output is now entirely from the Kelley Mines. The mine run analysis contains a large proportion of Black Diamond Mine samples, and have been included because they do not vary from the more recent Kelley Mine samples.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (South area)
Operator.....:	Yeamens, C.S.
Mine (W.P. & T.B. License No.)..:	Lake Road No.2(3142)
Location of mine.....:	Newcastle Bridge, 1-1/2 mi.S.E. of Minto
Seam.....:	Main
Output.....tons/annum:	5-15,000
Trade name.....:	YEAMENS MINTO

Size.....:	Mine Run	Lump	Nut	Slack
Screen limits at mine.....:		+5/8,1-1/4"sq.	5/8x1-1/4"sq.	0x5/8,1-1/4"sq.
No. of samples.....:	2	2	2	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	3.5	2.0	2.5	5.0
Ash.....%:	16.9	15.8	19.2	19.6
Volatile matter.....%:	27.0	31.7	30.3	29.5
Fixed carbon.....%:	45.7	50.5	48.0	45.9
Fuel ratio.....:	1.69	1.59	1.58	1.56
Calorific value.....B.T.U./lb:	12,310	12,340	11,750	11,250
Ash softening temperature...°F:	2005	1995	2040	2035
Caking Properties				
By volatile button @ 950°C..:	Good	Good	Good	Good
Caking index (Gray).....:	57			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	29.1			
Swelling index.....:	438			
Ultimate Analysis				
Carbon.....%:	66.0			
Hydrogen.....%:	4.4			
Nitrogen.....%:	0.9			
Sulphur.....%:	7.0	7.5	7.2	7.1
Oxygen.....%:	1.3			
Classification by Rank				
A.S.T.M.....:		High volatile A bituminous		
S.V.I.....:		182-Orthobituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	56.0	52.0	51.0	59.0
cu.ft./ton:	35.7	38.5	39.2	33.9
Grindability index.....:	70			75

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	27.8	24.2	36.1	4.5	0.3	0.3	1.4	0.8	0.5	1.2	3.3

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (New Castle Bridge Area)
Operator.....:	New Castle Coal Co.
Mine (W.P. & T.B. Licence No.)..:	Shaft No. 2 (Lease No. 191) (3517)
Location of mine.....:	New Castle Bridge (2 mi. N.E. of Minto)
Seam.....:	Main Seam
Output.....tons/annum:	19-22,000
Trade name.....:	NEW CASTLE (MINTO)

Size.....:	Mine Run	Lump	Slack
Screen limits at mine.....:	---	+1-1/4" sq.	0x1-1/4" sq.
No. of samples.....:	12	1	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.5	2.5	5.0
Ash.....%:	17.2	19.8	23.1
Volatile matter.....%:	30.5	30.0	28.0
Fixed carbon.....%:	48.8	47.7	43.9
Fuel ratio.....:	1.60	1.59	1.57
Calorific value....B.T.U./lb..:	11,930	11,675	10,720
Ash softening temperature...°F:	1995	2010	2080
Caking Properties			
By volatile button @ 950°C..:	Good	Good	Good
Caking Index (Gray).....:	49	--	--
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	30.4	--	--
Swelling Index.....:	511	--	--
Ultimate Analysis			
Carbon.....%:	64.9		
Hydrogen.....%:	4.2		
Nitrogen.....%:	0.9		
Sulphur.....%:	6.8	6.5	6.4
Oxygen.....%:	2.5		
Classification by Rank			
A.S.T.M.....:	High Volatile A Bituminous		
S.V.I.....:	177 - Orthobituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	55.5	54.0	58.0
cu.ft./ton.	36.0	37.0	34.5
Grindability Index.....:	64		70

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	34.5	25.2	30.3	3.2	1.7	0.14	--	1.2	1.1	0.7	2.4

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (Chipman area)
Operator.....:	Horgan, F.J.(Contractor)
Mine (W.P. & T.B. License No.)..:	Lockowan, Copeland & Mills Leases, Stripping[1] (5366)
Location of mine.....:	Salmon Harbour & Coal Creek
Seam.....:	Main
Output.....tons/annum:	Up to 7,000
Trade name.....:	HORGAN
Size.....:	Mine Run
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	4.2
Ash.....%:	15.9
Volatile matter.....%:	30.4
Fixed carbon.....%:	49.5
Fuel ratio.....:	1.63
Calorific value.....B.T.U./lb:	11,960
Ash softening temperature...°F:	1980
Caking Properties	
By volatile button @ 950°C..:	Good
Caking index (Gray).....:	
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	7.5
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile A bituminous
S.V.I.....:	176-Orthobituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	52.5
cu.ft./ton:	38.1
Grindability index.....:	

(1) Since 1943 stripping has been conducted on Copeland & Mills leases.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (Chipman area)
Operator.....:	King, G.H.
Mine (W.P. & T.B. License No.)..:	Elkin Shaft (Lease No. 179)(1)(2643)
Location of mine.....:	Four miles South of Chipman
Seam.....:	Main
Output.....tons/annum:	22-24,000
Trade name.....:	

Size.....:	Mine Run	Lump	Nut	Slack
Screen limits at mine.....:		+1-1/4"sq.	5/8x1-1/4"sq.	0x5/8,1-1/4"sq.
No. of samples.....:	21	3	2	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	2.8	1.5	2.0	5.0
Ash.....%:	23.4	18.6	18.6	20.3
Volatile matter.....%:	30.9	33.3	33.2	31.2
Fixed carbon.....%:	42.9	46.6	46.2	43.5
Fuel ratio.....:	1.39	1.40	1.39	1.39
Calorific value.....B.T.U./lb:	11,060	12,075	11,860	11,270
Ash softening temperature...°F:	2040	1960	2060	1990
Caking Properties				
By volatile button @ 950°C..:	Good	Good	Good	Fair
Caking index (Gray).....:	60			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	30.3			
Swelling index.....:	485			
Ultimate Analysis				
Carbon.....%:	60.2			
Hydrogen.....%:	4.2			
Nitrogen.....%:	0.9			
Sulphur.....%:	6.4	6.5	6.1	6.2
Oxygen.....%:	2.1			
Classification by Rank				
A.S.T.M.....:	High volatile A bituminous			
S.V.I.....:	177-Orthobituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	54.0	48.0	46.0	54.5
cu.ft./ton:	37.1	41.7	43.5	36.8
Grindability index.....:	64			76

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	37.7	25.5	26.8	4.2	0.8	0.2	0.3	1.4	0.5	0.9	2.3

(1) Strip mining conducted on this property since 1943.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (Chipman area)
Operator.....:	Myles & Co., Geo. H. (Myles & Wisely)(1)
Mine (W.P.& T.B. License No.)...:	Long Creek & Burpee Strips, & No.1 Slope(2892)
Location of mine.....:	Long Creek 6 mi.S. of Chipman, Burpee-8 mi.S. of Chipman No. 1 slope-6 mi.S. of Chipman
Seam.....:	Main
Output.....tons/annum:	
Trade name.....:	

Size.....:	Mine Run Hard Coal	Mine Run(2) Soft Coal
No. of samples.....:	3	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	3.5	7.0(3)
Ash.....%:	16.0	6.1
Volatile matter.....%:	32.3	32.0
Fixed carbon.....%:	48.2	54.9
Fuel ratio.....:	1.49	1.71
Calorific value.....B.T.U./lb:	12,100	12,780
Ash softening temperature...°F:	1915	2430
Caking Properties		
By volatile button @ 950°C..:	Good	Poor
Caking index (Gray).....:	55	26
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	29.5	28.1
Swelling index.....:	438	-178
Ultimate Analysis		
Carbon.....%:	66.8	72.3
Hydrogen.....%:	4.7	4.7
Nitrogen.....%:	1.0	0.9
Sulphur.....%:	6.7	2.3
Oxygen.....%:	1.3	6.7
Classification by Rank		
A.S.T.M.....:	High volatile A bituminous	
S.V.I.....:	175-Border of para and orthobituminous	156-subbituminous C
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	59.0	40.0
cu.ft./ton:	33.9	50.0
Grindability index.....:	70	89

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
Hard coal %	33.8	13.8	42.0	4.7	0.4	0.11	0.05	1.4	1.0	0.9	2.2
Soft coal %	69.8	15.5	6.6	2.5	0.6	0.02	0.6	1.6	0.4	1.6	0.5

N.B.-only the analyses of 1938 P&C survey samples were available.

(1) Myles and Wisely not listed since 1940. The Long Creek and Burpee strip pits, as well as the slope, have been closed for several years, but Geo. H. Myles has been operating a strip mine at Flower's Cove, 3-1/2 mi.S. of Minto on Lease No.198, and W.B. Wisely has been operating a strip mine on Lease No.206, 4 mi.S.W. of Chipman.

(2) The Burpee stripping mine yielded both "hard" and "soft" or weathered coal. The above analysis for "soft" coal is from the Burpee strip.

(3) Air-dried.

Province.....:	NEW BRUNSWICK
District or area.....:	Minto (Chipman area)
Operator.....:	Pennlyn Coal Co.Ltd.
Mine (W.P. & T.B. License No.)..:	Pennlyn (Broderick Strip)(Crossman Strip) (457 & 3644)(1)
Location of mine.....:	Seven miles S. of Chipman, near Coal Creek
Seam.....:	Main
Output.....tons/annum:	Up to 26,000
Trade Name.....:	PENNLYN ("HARD" AND "SOFT" COAL)

Size.....:	Mine Run "hard"	Lump "hard"	Slack "hard"	Mine Run "soft"
Screen limits at mine.....:		+1-1/4"sq.	0x1-1/4"sq.	
No. of samples.....:	2	1	2	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	3.0	2.0	5.0	10.0
Ash.....%:	19.9	18.9	19.4	8.7
Volatile matter.....%:	30.7	32.3	30.7	29.3
Fixed carbon.....%:	46.4	46.8	44.9	52.0
Fuel ratio.....:	1.51	1.45	1.45	1.77
Calorific value.....B.T.U./lb:	11,250	11,620	10,995	11,845
Ash softening temperature...°F:	2025	1980	1990	2100
Caking Properties				
By volatile button @ 950°C..:	Good	Good	Good	Fair
Caking index (Gray).....:	54			34
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	28.0			27.5
Swelling index.....:	374			140
Ultimate Analysis				
Carbon.....%:	60.6			67.3
Hydrogen.....%:	3.9			4.5
Nitrogen.....%:	0.8			0.9
Sulphur.....%:	10.3	9.2	10.3	3.9
Oxygen.....%:	1.5			4.7
Classification by Rank				
A.S.T.M.....:		High volatile A bituminous		
S.V.I.....:		164-Parabituminous D		156(2)
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	49.8	53.0	57.5	45.8
cu.ft./ton:	40.2	37.7	34.8	43.7
Grindability index.....:	67		79	89

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
"Hard" coal %	27.3	26.8	39.5	2.8	0.2	0.03	0.1	0.6	0.8	0.4	1.9

(1) Although these particular stripping pits have been exhausted the company is still operating in the same area and the coal is very much the same.
(2) Subbituminous C

Province.....:	NEW BRUNSWICK		
District or area.....:	Beersville (Kent County)		
Operator.....:	Girvan, Glencross, Reid		
Mine (W.P. & T.B. License No.)..:	Girvan, Glencross, Reid(1)(8057)(4047)(3780)		
Location of mine.....:	Beersville, Jailletville		
Seam.....:	Beersville		
output.....tons/annum:			
Trade names.....:	GLENCROSS, GIRVAN, REID		
Size.....:	Mine Run(2)	Lump(3)	Slack(3)
Screen limits at mine.....:		+1"sq.	0x1"sq.
No. of samples.....:	1	3	3
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	4.3	4.4	4.2
Ash.....%:	14.8	15.0	21.9
Volatile matter.....%:	32.5	32.8	30.2
Fixed carbon.....%:	48.4	47.8	43.7
Fuel ratio.....:	1.49	1.46	1.45
Calorific value.....B.T.U./lb:	11,705	11,725	10,695
Ash softening temperature...°F:	2230	2110	2130
Caking Properties			
By volatile button @ 950°C..:	Fair to good	Fair to good	Poor to fair
Caking index (Gray).....:			
Swelling Properties/FRL Test			
Volatile at 600°C.....%:			
Swelling index.....:			
Ultimate Analysis			
Carbon.....%:	64.8		
Hydrogen.....%:	4.2		
Nitrogen.....%:	0.8		
Sulphur.....%:	5.8	6.0	5.5
Oxygen.....%:	5.3		
Classification by Rank			
A.S.T.M.....:	High volatile A bituminous		
S.V.I.....:	157-subbituminous C		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	53.0	49.0	49.0
cu.ft./ton:	37.7	40.8	40.8
Grindability index.....:			

(1) Girvan, H.H. (Lease No. 203) - Jailletville (on Coal Branch river)
Glencross, Wm. Irving (Lease No. 188) - Beersville (on Coal Branch river)
Reid, Thos. (Lease No. 168) - Beersville (on Coal Branch river).
(2) Girvan coal.
(3) Average of all three mines.

Province.....:	ONTARIO
District or area.....:	Onakawana
Operator.....:	Ontario Department of Mines
Mine.....:	Strip Mines
Location of mine.....:	Onakawana, West side of Abitibi River, 126 miles N. of Cochrane on the T. & N.O. Ry.
Output.....tons/annum:	(1)
Trade name.....:	ONAKAWANA LIGNITE
Size.....:	Mine Run
No. of samples.....:	35
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	50.0
Ash.....%:	6.3
Volatile matter.....%:	21.3
Fixed carbon.....%:	22.4
Fuel ratio.....:	1.05
Calorific value.....B.T.U./lb:	5,090
Ash softening temperature...°F:	2200
Caking Properties	
By volatile button at 950°C.:	Non coking
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.7
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignitic
S.V.I.....:	88 - Lignitic (unconsolidated)
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) No operations in 1947. During 1946 operations were confined to stripping an area capable of producing up to 25,000 tons of raw lignite during winter of 1946-1947, but only two carloads of run-of-mine raw lignite were shipped.

Province.....:	MANITOBA
District or area.....:	Turtle Mountain
Operator.....:	General (1)
Location of mines.....:	Twp. 1, R. 24, W. of 1, near Goodlands Man.(2)
Seam.....:	----
Output.....tons/annum:	----
Size.....:	Mine Run
No. of samples.....:	3

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	31.7
Ash.....%:	7.5
Volatile matter.....%:	26.9
Fixed carbon.....%:	33.9
Fuel ratio.....:	1.26
Calorific value.....B.T.U./lb:	6,995
Ash softening temperature...°F:	----
Caking Properties	
By volatile button @ 950°C..:	Non coking
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.5
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignitic
S.V.I.....:	79 - Border of Lignite & Peat

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Area last listed in 1944, with one operator: Cain, Geo. E. - Henderson Mine - Twp. 1, R. 24, W. of 1.

(2) Some mining has also been conducted in the Duck Mountain district (Twp. 33, R. 22, W. of 1.), but no analyses are available.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Bienfait division
Operators.....:	General[1]
Mine (W.P. & T.B. License No.)..:	(1)
Location of mines.....:	Twps. 1 & 2, R. 6 & 7, W. of 2nd
Seams.....:	Upper (No.2, No.3) Deep (No.4)
Output.....tons/annum:	(3)
Trade name.....:	

Size.....:	Lump & Cobble	Stove	Nut, Stoker[2]	Bug Dust
Screen limits at mine.....:	+8.,4x8in.	2-4in.	1/2x1-1/2,2"	0-1/2in.
No. of samples.....:	40	23	34	9
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	32.0	32.0	32.0	32.0
Ash.....%:	6.0	6.3	7.0	9.0
Volatile matter.....%:	27.8	26.8	27.5	24.3
Fixed carbon.....%:	34.2	34.9	33.5	34.7
Fuel ratio.....:	1.23	1.30	1.22	1.43
Calorific value.....B.T.U./lb:	7705	7695	7660	7325
Ash softening temperature...°F:	2185	2270	2230	2195
Caking Properties				
By volatile button @ 950°C..:		Non-agglomerate		
Caking index (Gray).....:				
Swelling Properties/FRL Test				
Volatile at 600°C.....%:				
Swelling index.....:		Non-caking		
Ultimate Analysis				
Carbon.....%:	45.5			
Hydrogen.....%:	3.1			
Nitrogen.....%:	0.7			
Sulphur.....%:	0.5	0.5	0.5	0.5
Oxygen.....%:	12.2			
Classification by Rank				
A.S.T.M.....:		Lignite		
S.V.I.....:		101-Black lignite		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	43.5	41.5	40.7	43.3
cu.ft./ton:	46.0	48.2	49.1	46.6
Grindability index.....:	59.1			66.5

(1) Banks,Harry - Harry Banks Mine.
Eastern Collieries of Bienfait Ltd. - Eastern Mine.
Manitoba and Saskatchewan Coal Co., Ltd. - M & S Mines.
South Cambrian Ltd. - Lignite mine.
Western Dominion Coal Mines Ltd. - W.D. Mines (Klimax).
(2) 1/4" or 1/2" sq. to 1-1/2" or 2" rd.
(3) Output for whole of Souris area varies from 1,300,000 to 1,800,000 tons/annum.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Roche Percee Division
Operators.....:	General(1)
Mines.....:	(1)
Location of mines.....:	Twp. 1, R. 6 & 7, W. of 2nd.
Seam.....:	Upper
Output.....tons/annum:	See Page 45
Trade names.....:	

Size.....:	Lump & Cobble	Stove	Stoker Nut (2)	Bug Dust
Screen limits at mine.....:	+8"rd,4x8"	2x4in.	1/2x1,2	0-1/2"
No. of samples.....:	6	4	9	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	32.0	32.0	32.0	32.0
Ash.....%:	6.7	6.7	7.1	8.7
Volatile matter.....%:	26.7	27.1	27.5	25.6
Fixed carbon.....%:	34.6	34.2	33.4	33.7
Fuel ratio.....:	1.30	1.26	1.24	1.32
Calorific value.....B.T.U./lb:	7660	7735	7665	7435
Ash softening temperature...°F:	2100	2180	2155	2140
Caking Properties				
By volatile button @ 950°C..:		Non-agglomerate		
Caking index (Gray).....:		0		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:				
Swelling index.....:		Non-caking		
Ultimate Analysis				
Carbon.....%:	45.8			
Hydrogen.....%:	3.2			
Nitrogen.....%:	0.8			
Sulphur.....%:	0.5	0.5	0.5	0.5
Oxygen.....%:	11.0			
Classification by Rank				
A.S.T.M.....:		Lignite		
S.V.I.....:		103-Black lignite		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	46.5	40.5	40.6	39.0
cu.ft./ton:	43.0	49.4	49.6	51.3
Grindability index.....:	53.2		54.6	

(1) Roche Percee Coal Mining Co., Ltd. - Econo mine (strip)
Zieglgansberger, F. - Golden Glow Mine (not listed since 1943)
Several other mines operating in past.
(2) 1/4" or 1/2"sq. to 1-1/2" or 2"rd.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Estevan Division
Operators.....:	General(1)
Mines.....:	(1)
Location of mines.....:	Twps. 1 & 2, R. 7 & 8, W. of 2nd
Seam.....:	
Output.....tons/annum:	See Page 45
Trade name.....:	

Size.....:	Lump & Cobble	Stove	Nut Stoker
Screen limits at mine.....:	+8"rd,4x8"	2x4"	1/2x2in.
No. of samples.....:	5	1	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	32.0	32.0	32.0
Ash.....%:	8.9	8.9	11.2
Volatile matter.....%:	26.8	26.3	25.6
Fixed carbon.....%:	32.3	32.8	31.2
Fuel ratio.....:	1.20	1.25	1.22
Calorific value.....B.T.U./lb:	7315	7390	6965
Ash softening temperature...°F:	2145	2110	2125
Caking Properties			
By volatile button @ 950°C..:		Non-agglomerate	
Caking index (Gray).....:		0	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:			
Swelling index.....:		Non-caking	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.3	0.3	0.3
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Lignite	
S.V.I.....:		98-lignite	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	41.0	42.5	41.3
cu.ft./ton:	38.8	37.0	38.4
Grindability index.....:			

(1) Andersen, Niels - Andersen deep seam mine
Jenish Bros. - Foord-Jenish mine
Parkinson & Son, Geo. - Pioneer Valley mine
Tisdale, A.E. - Tisdale mine
Several other mines operating in the past.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area, Bienfait Division
Operator.....:	Banks, Harry
Mine (W.P. & T.B. License No.)..:	Harry Banks (83)
Location of Mine.....:	Taylorton (Twp. 1, R.6, W. of 2nd)
Seam.....:	
Output.....tons/annum:	5-15,000
Trade name.....:	HARRY BANKS
Size.....:	Lump
No. of samples.....:	1

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	32.0
Ash.....%:	5.7
Volatile matter.....%:	26.7
Fixed carbon.....%:	35.6
Fuel ratio.....:	1.33
Calorific value.....B.T.U./lb:	7695
Ash softening temperature...°F:	2110
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	Non-caking
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignite
S.V.I.....:	95-lignite

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

Province.....:	SASKATCHEWAN
District or area.....:	Souris area, Bienfait Division
Operator.....:	Eastern Collieries of Bienfait, Ltd.
Mine (W.P. & T.B. License No.)..:	Eastern+(3629)
Location of mine.....:	Bienfait (Twp. 2, R.7, W. of 2nd)
Seam.....:	Upper
Output.....tons/annum:	90-100,000
Trade name.....:	EASTERN

Size.....:	Lump, Cobble	Stove	Stoker	Bug Dust
Screen limits at mine.....:	+8"rd,4x8"rd	2x4"rd	1/2x2"rd	0x1/2"rd
No of samples.....:	4	3	3	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	32.0	32.0	32.0	32.0
Ash.....%:	5.2	5.4	6.5	7.3
Volatile matter.....%:	28.1	28.2	27.6	26.9
Fixed carbon.....%:	34.7	34.4	33.9	33.8
Fuel ratio.....:	1.23	1.22	1.23	1.26
Calorific value.....B.T.U./lb:	7805	7770	7680	7490
Ash softening temperature...°F:	2390	2415	2315	2280
Caking Properties				
By volatile button @ 950°C::		Non-agglomerate		
Caking index (Gray).....:		0		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:				
Swelling index.....:		Non-caking		
Ultimate Analysis				
Carbon.....%:	46.5			
Hydrogen .....%:	3.0			
Nitrogen.....%:	0.8			
Sulphur.....%:	0.5	0.5	0.5	0.7
Oxygen.....%:	12.0			
Classification by Rank				
A.S.T.M.....:		Lignite		
S.V.I.....:		101-Black lignite		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	47.0	41.8	40.1	41.3
cu.ft./ton:	42.5	47.9	49.9	48.5
Grindability index.....:	51.8			59.8

+ Strip mine.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area, Bienfait Division
Operator.....:	Manitoba & Saskatchewan Coal Co.Ltd.
Mine (W.P. & T.B. License No.)..:	M. & S. Mines (3526)
Location of mine.....:	Taylorton (Twps. 1 & 2, R.6, W. of 2nd)
Seam.....:	No.4 (Deep seam) & Upper seam+
Output.....tons/annum:	300-500,000
Trade name.....:	SILKSTONE, M & S

Size.....:	Lump & Cobble	Stove	Stoker	Slack(1) 0x1-1/2"rd
Screen limits at mine.....:	+8"rd,4x8"rd.	2x3,4"rd.	1/4,1/2x1-1/2 2"	
No. of samples.....:	11	4	6	4
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	32.0	32.0	32.0	32.0
Ash.....%:	6.5	6.7	8.1	10.7
Volatile matter.....%:	27.5	27.8	26.9	26.1
Fixed carbon.....%:	34.0	33.5	33.0	31.2
Fuel ratio.....:	1.24	1.21	1.23	1.20
Calorific value.....B.T.U./lb:	7670	7575	7475	7110
Ash softening temperature...°F:	2115	2140	2115	2130
Caking Properties				
By volatile button @ 950°C..:		Non-agglomerate		
Caking index (Gray).....:		0		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:				
Swelling index.....:		Non-caking		
Ultimate Analysis				
Carbon.....%:	45.2			
Hydrogen.....%:	3.2			
Nitrogen.....%:	0.7			
Sulphur.....%:	0.4	0.4	0.4	0.5
Oxygen.....%:	12.0			
Classification by Rank				
A.S.T.M.....:		Lignite		
S.V.I.....:		103-Black lignite		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	41.7	39.9	40.0	43.0
cu.ft./ton:	37.9	50.1	50.0	46.5
Grindability index.....:	62.5			68.9

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	31.1	13.3	5.4	19.4	5.8	---	6.8	0.8	0.9	0.8	16.0

+ Stripping pit operating since 1943 in upper seam.
(1) Also "bug dust" 0-1/2"

Province.....:	SASKATCHEWAN	
District or area.....:	Souris area; Bienfait Division	
Operator.....:	South Cambrian Ltd.(1)	
Mine (W.P. & T.B. License No.)..:	Lignite Coal Mine (8062)	
Location of mine.....:	Pinto (Twp. 1, R.6, W. of 2nd)	
Seam.....:	No. 4 Deep	
Output.....tons/annum:	25-40,000	
Trade name.....:	PINTO HIGH/TEST	
Size.....:	Lump	Stoker
Screen limits at mine.....:	+8"rd.	1/2x-2in.
No. of samples.....:	1	2
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	32.0	32.0
Ash.....%:	7.1	8.8
Volatile matter.....%:	27.1	26.6
Fixed carbon.....%:	33.8	32.6
Fuel ratio.....:	1.25	1.23
Calorific value.....B.T.U./lb:	7670	7460
Ash softening temperature...°F:	2090	2095
Caking Properties		
By volatile button @ 950° C.:	Non-agglomerate	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:		
Swelling index.....:	Non-caking	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.5	0.5
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	Lignite	
S.V.I.....:	102-Black lignite	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		41.0
cu.ft./ton:		48.8
Grindability index.....:		

(1) Formerly Lignite Coal Mines Ltd.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Bienfait Division
Operator.....:	Western Dominion Coal Mines Ltd.
Mine (W.P. & T.B. License No.)..:	W.D.-Underground, W.D.-Strip-(485)
Location of mine.....:	Taylorton (Twp. 2, R.6, W. of 2nd)
Seam.....:	Deep seam (No.4), Upper seam (No.2 or 3)
Output.....tons/annum:	600-900,000
Trade name.....:	DOMINION; KLIMAX

Size.....:	Lump	Cobble	Stove	Stoker(1)	Bug Dust
Screen limits at mine.....:	+8"rd.	4x8"rd.	2x4"rd.	1/2x1,2"rd.	0-1/2"
No. of samples.....:	6	17	16	23	3
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	32.0	32.0	32.0	32.0	32.0
Ash.....%:	6.3	5.6	6.3	6.6	8.0
Volatile matter.....%:	27.5	28.2	27.5	27.3	26.7
Fixed carbon.....%:	34.2	34.2	34.2	34.1	33.3
Fuel ratio.....%:	1.24	1.21	1.24	1.25	1.25
Calorific value.....B.T.U./lb:	7705	7810	7710	7720	7505
Ash softening temperature...°F:	2280	2275	2275	2265	2225
Caking Properties					
By volatile button @ 950°C..:			Non-agglomerate		
Caking index (Gray).....:			0		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:					
Swelling index.....:			Non-caking		
Ultimate Analysis					
Carbon.....%:	45.5				
Hydrogen.....%:	3.0				
Nitrogen.....%:	0.6				
Sulphur.....%:	0.5	0.5	0.5	0.5	0.5
Oxygen.....%:	12.1				
Classification by Rank					
A.S.T.M.....:			Lignite		
S.V.I.....:			100-Black lignite		
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	44.0	43.6	41.8	41.0	45.0
cu.ft./ton:	45.5	45.9	47.8	48.8	44.4
Grindability index.....:	57.7				68.4

ASH ANALYSIS.....:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
%	22.8	14.3	5.6	22.6	6.8	---	6.0	1.2	1.2	0.4	17.2

(1) Stoker prepared in so called large and small size:- large 1/2-2"rd; Small - 1/4, 1/2-1" rd. Small stoker also called pea.

It should be noted that most of the coal mined by this company now comes from the strip Mines Operating in the upper seam. The coal from the underground mine, working on the No. 4 or deep seam was closed down in 1945.

Province.....:	SASKATCHEWAN				
District or area.....:	Souris area; Roche Percee Division				
Operator.....:	Roche Percee Coal Mining Co,Ltd.				
Mine (W.P. & T.B. License No.)..:	Roche Percee (4746)+				
Location of mine.....:	Roche Percee (Twp.1, R.7, W. of 2nd)				
Seam.....:	Upper				
Output.....tons/annum:	100-150,000				
Trade name.....:	ECONO				
Size.....:	Lump & Cobble	Stove	Nut	Stoker*	Bug Dust
Screen limits at mine.....:	+8,10,12" 4x8,12,10"	2x4"rd.	1x2"rd.	1/4,1/2x1-1/8 2"rd.	0x1/2"rd.
No. of samples.....:	5	4	3	6	2
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	32.0	32.0	32.0	32.0	32.0
Ash.....%:	6.8	6.7	7.1	7.1	8.7
Volatile matter.....%:	26.5	27.1	28.5	27.0	25.6
Fixed carbon.....%:	34.7	34.2	32.4	33.9	33.7
Fuel ratio.....:	1.31	1.26	1.14	1.26	1.32
Calorific value.....B.T.U./lb:	7635	7735	7725	7635	7435
Ash softening temperature...°F:	2095	2180	2130	2170	2140
Caking Properties					
By volatile button @ 950°C...:	Non-agglomerate				
Caking index (Gray).....:	0				
Swelling Properties/FRL Test					
Volatile at 600°C.....%:					
Swelling index.....:	Non-caking				
Ultimate Analysis					
Carbon.....%:	45.8				
Hydrogen.....%:	3.2				
Nitrogen.....%:	0.8				
Sulphur.....%:	0.5	0.5	0.5	0.5	0.5
Oxygen.....%:	10.9				
Classification by Rank					
A.S.T.M.....:	Subbituminous C, border of Lignite				
S.V.I.....:	106-Black lignite				
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	46.5	40.5	41.7	40.0	39.0
cu.ft./ton:	43.0	49.4	47.9	50.0	51.3
Grindability index.....:	53.2		58.0		

ASH ANALYSIS.....: %	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3

+ Strip mine.
* Pea - 1/2x1-1/8.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Roche Percee Division
Operator.....:	Zieglgansberger, F.(1)
Mine (W.P. & T.B. License No.)..:	Golden Glow (1630)
Location of mine.....:	Roche Percee (Twp.1, R.6 & 7, W. of 2nd)
Seam.....:	
Output.....tons/annum:	Under 1000
Trade name.....:	GOLDEN GLOW
Size.....:	Lump
Screen limits at mine.....:	+8"rd.
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	32.0
Ash.....%:	6.0
Volatile matter.....%:	27.5
Fixed carbon.....%:	34.5
Fuel ratio.....:	1.25
Calorific value.....B.T.U./lb:	7785
Ash softening temperature...°F:	2130
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	Non-caking
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignite
S.V.I.....:	101-Black lignite
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Not listed since 1943.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Estevan Division
Operator.....:	Andersen, Niels
Mine (W.P. & T.B. License No.)..:	Andersen Deep Seam(1538)
Location of mine.....:	Estevan (Twp. 1, R.8, W. of 2nd)
Seam.....:	Deep Seam
Output.....tons/annum:	Under 1000
Trade name.....:	ANDERSEN DEEP SEAM
Size.....:	Lump
Screen limits at mine.....:	+8"rd.
No. of samples.....:	1

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	32.0
Ash.....%:	8.9
Volatile matter.....%:	25.8
Fixed carbon.....%:	33.3
Fuel ratio.....:	1.29
Calorific value.....B.T.U./lb:	7210
Ash softening temperature...°F:	2130
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	Non-caking
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignite
S.V.I.....:	92-lignite

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Estevan Division
Operator.....:	Bourquin & Sons, Geo.[1]
Mine (W.P. & T.B. License No.)..:	Woodlawn (Pioneer Valley)-(1407)
Location of mine.....:	Estevan (Twp. 2, R.8, W. of 2nd)
Seam.....:	
Output.....tons/annum:	3-4000
Trade name.....:	PIONEER VALLEY
Size.....:	Lump
Screen limits at mine.....:	+8"
No. of samples.....:	
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	32.0
Ash.....%:	10.0
Volatile matter.....%:	27.8
Fixed carbon.....%:	30.2
Fuel ratio.....:	1.09
Calorific value.....B.T.U./lb:	7210
Ash softening temperature...°F:	2170
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	Non-caking
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignite
S.V.I.....:	102-Black lignite
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Prior to 1945 listed as Geo. Parkinson & Son.

Province.....:	SASKATCHEWAN
District or area.....:	Souris area; Estevan Division
Operator.....:	Jenish Bros. (Jos. & Egne)
Mine (W.P. & T.B. License No.)..:	Jenish Bros.(1161)
Location of mine.....:	Estevan (Twp. 2, R.8, W. of 2nd)
Seam.....:	
Output.....tons/annum:	15-30,000
Trade name.....:	VALLEY GEM

Size.....:	Lump	Cobble	Stove	Stoker
Screen limits at mine.....:	+8"rd.	4x8"rd.	2x4"rd.	
No. of samples.....:	1	1	1	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	32.0	32.0	32.0	32.0
Ash.....%:	10.0	8.0	8.9	11.0
Volatile matter.....%:	26.8	26.9	26.3	25.7
Fixed carbon.....%:	31.2	33.1	32.8	31.3
Fuel ratio.....:	1.16	1.23	1.25	1.21
Calorific value.....B.T.U./lb:	7210	7465	7390	7035
Ash softening temperature...°F:	2170	2110	2110	2130
Caking Properties				
By volatile button @ 950°C..:	Non-agglomerate			
Caking index (Gray).....:	0			
Swelling Properties/FRL Test				
Volatile at 600°C.....%:				
Swelling index.....:	Non-caking			
Ultimate Analysis				
Carbon.....%:				
Hydrogen.....%:				
Nitrogen.....%:				
Sulphur.....%:	0.3	0.3	0.3	0.3
Oxygen.....%:				
Classification by Rank				
A.S.T.M.....:	Lignite			
S.V.I.....:	100-Black lignite			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:		41.0	42.5	41.5
cu.ft./ton:		48.8	47.1	48.2
Grindability index.....:				

Province.....:	SASKATCHEWAN	
District or area.....:	Souris area; Estevan Division	
Operator.....:	Tisdale, A.E.	
Mine (W.P. & T.B. License No.)..:	Tisdale (4272)	
Location of mine.....:	Estevan (Twp. 1, R.8, W. of 2nd)	
Seam.....:		
Output.....tons/annum:	2-3000	
Trade name.....:	TISDALE	
Size.....:	Lump	Nut Slack (stoker)
Screen limits at mine.....:	+8"rd.	
No. of samples.....:	1	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	32.0	32.0
Ash.....%:	7.8	11.4
Volatile matter.....%:	26.7	25.5
Fixed carbon.....%:	33.5	31.1
Fuel ratio.....:	1.25	1.25
Calorific value.....B.T.U./lb:	7470	6895
Ash softening temperature...°F:	2150	2120
Caking Properties		
By volatile button @ 950°C..:	Non-agglomerate	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:		
Swelling index.....:	Non-caking	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.3	0.3
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	Lignite	
S.V.I.....:	98-lignite	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		41.0
cu.ft./ton:		48.8
Grindability index.....:		

Province.....:	SASKATCHEWAN
District or area.....:	Bengough, Willow Bunch & Wood mt. Areas
Operators.....:	General
Mines (W.P. & T.P. License Nos.):	(1)
Locations of mines.....:	Twps. 1 to 10, R.19-30, W. of 2nd. Twps. 1-6, R.1-8, W. of 3rd.
Seams.....:	
Output.....tons/annum:	10-20,000
Trade name.....:	
Size.....:	Mine run or lump
No. of samples.....:	32

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	40.0
Ash.....%:	8.2
Volatile matter.....%:	24.6
Fixed carbon.....%:	27.2
Fuel ratio.....:	1.11
Calorific value.....B.T.U./lb:	6175
Ash softening temperature...°F:	2275
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	Non-caking
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	1.0
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignite
S.V.I.....:	91-lignite

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) See "Coal Mines of Canada" published annually by the Division of Economics, Mines & Geology Branch, Ottawa.
The area contains some 35 very small operations.

Province.....:	SASKATCHEWAN
District or area.....:	Shaunavon & East End Areas
Operator.....:	General
Mine.....:	(1)
Location of mine.....:	Twps. 6 to 9, R.18 to 22, W. of 3rd
Seam.....:	
Output.....tons/annum:	5-10,000
Trade name.....:	
Size.....:	Mine Run or Lump
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	40.0
Ash.....%:	8.2
Volatile matter.....%:	25.7
Fixed carbon.....%:	26.1
Fuel ratio.....:	1.02
Calorific value.....B.T.U./lb:	5880
Ash softening temperature...°F:	
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	
Swelling index.....:	Non-caking
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Lignite
S.V.I.....:	82-lignite

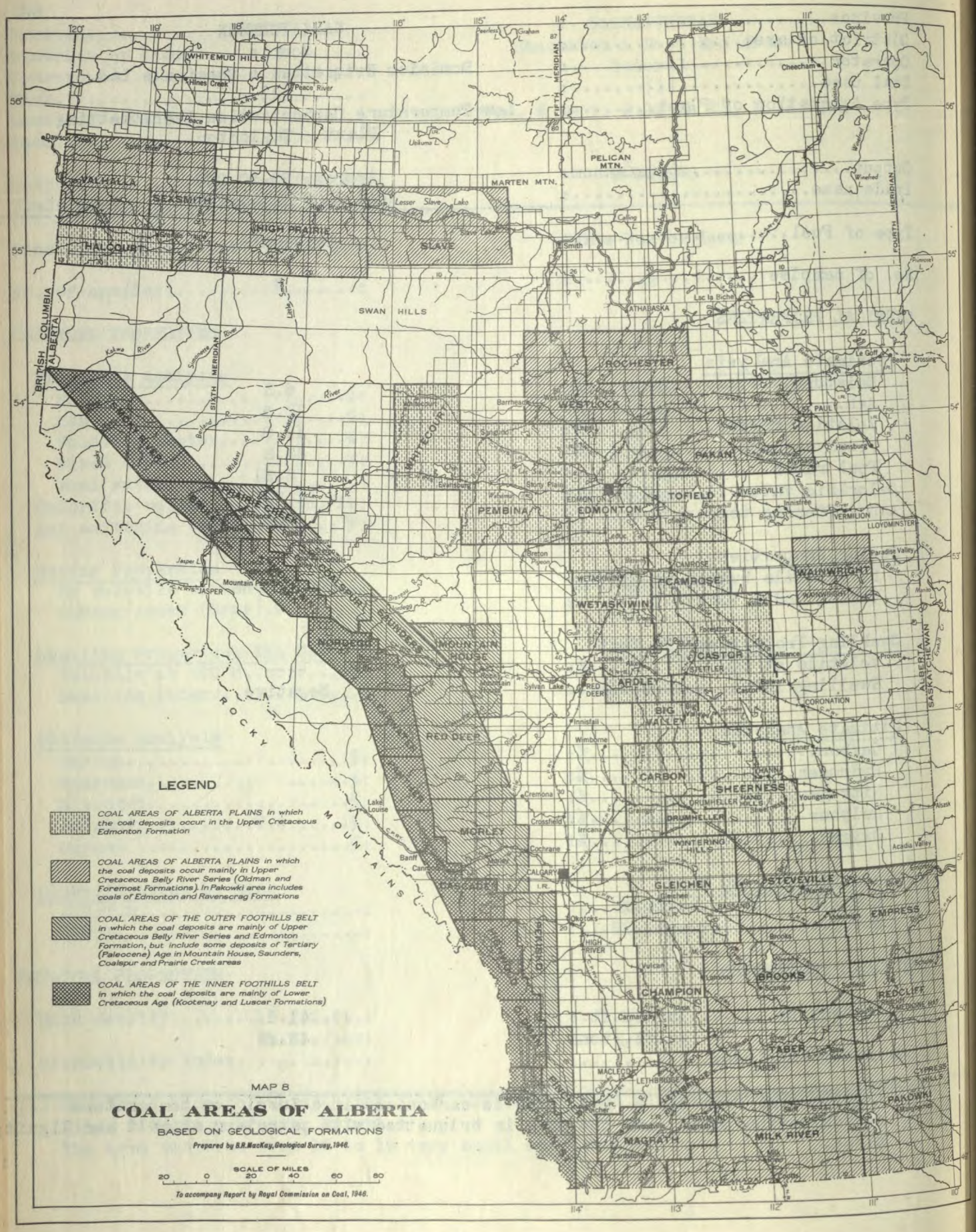
PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) See "Coal Mines of Canada" published annually by the Division of Economics, Mines & Geology Branch, Ottawa.
The area contains some 12 to 15 very small operations.

Province.....:	SASKATCHEWAN
District or area.....:	Souris
Operator.....:	Dominion Briquettes & Chemicals Ltd.
Coal used.....:	(1)
Type & Location of Plant.....:	Low Temperature Carbonization & Briquetting Plant - Taylorton
Output.....tons/annum:	Approx. 55-60,000
Trade name.....:	HEAT GLOW BRIQUETTES
Type of Fuel.....:	Briquettes
No. of samples.....:	4
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	6.3
Ash.....%:	12.5
Volatile matter.....%:	18.0
Fixed carbon.....%:	63.2
Fuel ratio.....:	3.51
Calorific value.....B.T.U./lb:	11,770
Ash softening temperature...°F:	2105
Caking Properties	
By volatile button at 950°C.:	Non coking
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	1.0
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	
S.V.I.....:	
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	41.1
cu.ft./ton:	48.6
Grindability index.....:	

(1) Lignite coal from the M. & S. mine is carbonized in a Lurgi low temperature carbonization plant, and the char is briquetted with petroleum asphalt and lignit pitch.



LEGEND

▥	COAL AREAS OF ALBERTA PLAINS in which the coal deposits occur in the Upper Cretaceous Edmonton Formation
▨	COAL AREAS OF ALBERTA PLAINS in which the coal deposits occur mainly in Upper Cretaceous Belly River Series (Oldman and Foremost Formations). In Pakowki area includes coals of Edmonton and Ravenscrag Formations
▧	COAL AREAS OF THE OUTER FOOTHILLS BELT in which the coal deposits are mainly of Upper Cretaceous Belly River Series and Edmonton Formation, but include some deposits of Tertiary (Paleocene) Age in Mountain House, Saunders, Coalspur and Prairie Creek areas
▩	COAL AREAS OF THE INNER FOOTHILLS BELT in which the coal deposits are mainly of Lower Cretaceous Age (Kootenay and Luscar Formations)

MAP 8

COAL AREAS OF ALBERTA

BASED ON GEOLOGICAL FORMATIONS

Prepared by B.R.MacKay, Geological Survey, 1946.

SCALE OF MILES
20 0 20 40 60 80

To accompany Report by Royal Commission on Coal, 1946.

Province.....:	ALBERTA
District or area.....:	Ardley
Operator.....:	General
Mine.....:	(1)
Location of mines.....:	Tps. 37 to 39; R. 22 & 23; W. of 4
Seam.....:	No. 14 (Ardley); No. 11 (Carbon) (Edmonton Formation)
Output.....tons/annum:	10,000
Size.....:	Mine Run (2)

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	19.8
Ash.....%:	8.2
Volatile matter.....%:	28.0
Fixed carbon.....%:	44.0
Fuel ratio.....%:	1155
Calorific value.....B.T.U./lb:	9,260
Ash Softening Temperature...°F:	2100
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	-------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	55.3
Hydrogen.....%:	3.5
Nitrogen.....%:	0.9
Sulphur.....%:	0.3
Oxygen.....%:	12.0
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	105-Lignitic

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) See "Coal Mines in Canada"--Published annually by the Mineral Resources Division, Dept. of Mines & Resources, Mines & Geology Branch, Ottawa.

(2) As insufficient data was available at these laboratories the typical analysis for the district given in Report No. 35 Scientific & Industrial Research Council of Alberta (1944) was used.

Province.....:	ALBERTA
District or area.....:	Big Valley
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 34 to 36; R. 20 to 22; W. of 4
Seams.....:	No. 14 (Ardley) No. 12 (Thompson) No. 11 (Carbon)(2) (Edmonton Formation)
Output.....tons/annum:	8,000-12,000
Size.....:	Mine Run
No. of samples.....:	3
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	19.5
Ash.....%:	10.2
Volatile matter.....%:	28.3
Fixed carbon.....%:	42.0
Fuel ratio.....:	1.48
Calorific value.....B.T.U./lb:	8,875
Ash Softening Temperature....°F:	2060
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	102-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) See "Coal Mines in Canada"--Published annually by the Mineral Resources Division, Dept. of Mines & Resources, Mines & Geology Branch, Ottawa.
(2) Most of mining is conducted in No. 12 or Thompson Seam.

Province.....:	ALBERTA
District or area.....:	Brooks
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 16 & 17; R. 17; W. of 4
Seam.....:	No. 2 (Middle Seam) (Belly River Formation)
Output.....tons/annum:	90,000
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	4
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	16.5
Ash.....%:	10.7
Volatile matter.....%:	31.2
Fixed carbon.....%:	41.6
Fuel ratio.....:	1.33
Calorific value.....B.T.U./lb:	9,480
Ash Softening Temperature...°F:	2380
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index(Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	56.0
Hydrogen.....%:	3.8
Nitrogen.....%:	1.1
Sulphur.....%:	0.7
Oxygen.....%:	11.2
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	117-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	56.0
cu.ft./ton:	35.7
Grindability Index.....:	37.0

(1) Only one operator listed in 1947, as shown below.
Kleenbirn Collieries Ltd.--Kleenbirn Mines, strip and shaft, Eyremore, Alberta.

Province.....:	ALBERTA
District or area.....:	Brooks
Operator.....:	Kleenbirn Collieries Ltd. (1)
Mine.....:	Birnwel (2)
Location of mine.....:	Eyremore (Kitsim) Tp. 17; R. 17; W. of 4
Seam.....:	No. 2 (Middle)
Output.....tons/annum:	80-90,000
Trade name.....:	Birnwel

Size.....:	Mine Run	Egg	Nut	Pea	Slack
Screen limits at mine.....:	------	2x4"rd.	1-1/4x2"rd.	3/8sq.x1-1/4"rd.	0x2in.
No. of samples.....:	2	2	2	2	3
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	16.0	16.0	16.0	16.0	19.0
Ash.....%:	12.4	11.4	12.8	15.3	20.3
Volatile matter.....%:	30.2	29.9	30.2	30.2	27.0
Fixed carbon.....%:	41.4	42.7	41.0	38.5	33.7
Fuel ratio.....:	1.37	1.43	1.36	1.27	1.25
Calorific value.....B.T.U./lb:	9,405	9,490	9,255	8,950	7,725
Ash Softening Temperature...°F:	2380	2365	2360	2360	2280
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index(Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	54.9				
Hydrogen.....%:	3.7				
Nitrogen.....%:	1.1				
Sulphur.....%:	0.7	0.7	0.7	0.7	1.0
Oxygen.....%:	11.2				
Classification by Rank					
A.S.T.M.....:			Subbituminous B		
S.V.I.....:			117-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:	56.1	47.1	45.8	46.5	50.0
cu.ft./ton:	35.7	42.5	43.7	43.0	40.0
Grindability Index.....:	37.3				36.3

(1) Formerly Birnwel Coal Ltd., an Emergency Strip operation.
(2) Strip mine.
(3) Slack also 0x3/8" sq.

Province.....:	ALBERTA
District or area.....:	Brooks
Operator.....:	Kleenbirn Collieries Ltd.(1)
Mine.....:	Kleenbirn (2)
Location of mine.....:	Eyremore-Tp. 17; R. 17; W. of 4
Seam.....:	No. 2 (Middle Seam)
Output.....tons/annum:	10,000
Trade name.....:	BIRNWEL (3)
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	17.0
Ash.....%:	9.0
Volatile matter.....%:	32.2
Fixed carbon.....%:	42.4
Fuel ratio.....:	1.32
Calorific value.....B.T.U./lb:	9,550
Ash Softening Temperature...°F:	----
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.8
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	lll-Lignitic

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Not listed from 1944 to 1947.
(2) Underground operation.
(3) Previously trade named Kleenbirn.

Province.....:	ALBERTA
District or area.....:	Camrose
Operator.....:	General
Mine(W.P. & T.B. Licence No.)...:	(1)
Location of mines.....:	Tps. 46 to 48; R. 18 to 20; W. of 4
Seam.....:	(Edmonton Formation)
Output.....tons/annum:	55-70,000
Size.....:	Lump, Stove, Mine Run

District in Area.....:	District A Tp.46;R.19 & 20	District B Tp.48;R.19 & 20	District C Tp48;R.18
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	25.5	26.5	28.5
Ash.....%:	6.1	5.3	5.5
Volatile matter.....%:	28.4	29.2	27.7
Fixed carbon.....%:	40.0	39.0	38.3
Fuel ratio.....:	1.41	1.34	1.38
Calorific value.....B.T.U./lb:	8,760	8,650	8,310
Ash Softening Temperature...°F:	2060	----	2130
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0
Swelling Properties FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	51.2	51.0(2)	50.0
Hydrogen.....%:	3.5	3.5	3.3
Nitrogen.....%:	1.1	1.0	1.0
Sulphur.....%:	0.4	0.4	0.4
Oxygen.....%:	12.2	12.3	11.3
Classification by Rank			
A.S.T.M.....:		Subbituminous C	
S.V.I.....:		Lignitic	
	109	105	98
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:			
cu.ft./ton:			
Grindability Index.....:			

(1) See "Coal Mines in Canada"-1947
(2) Calculated from analyses by Stansfield (Alberta Research Council--Report No. 35)

Province.....:	ALBERTA
District or area.....:	Camrose (District A)
Operator.....:	Alberta Coal Co., Ltd.
Mine(W.P. & T.B. Licence No.)...:	Camcoal (2)
Location of mine.....:	Camrose-Tp. 46; R. 19; W. of 4 (3)
Seam.....:	(Edmonton Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	CAMCOAL
Size.....:	Lump
Screen limits at mine.....:	+2"
No. of samples.....:	2
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	25.5
Ash.....%:	5.4
Volatile matter.....%:	28.8
Fixed carbon.....%:	40.3
Fuel ratio.....%:	1.40
Calerific value.....B.T.U./lb:	8,860
Ash Softening Temperature...°F:	2055
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	106-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Up to 1947 listed as Camrose Collieries Ltd., as war emergency operation.
(2) Stripping Pit.
(3) In Dixtrict A of Camrose Area according to Stansfield (Research Council of Alberta--Report No. 35.)

Province.....:	ALBERTA		
District or area.....:	Camrose (District A)		
Operator.....:	Canadian Dinant Coal Co., Ltd.(1)		
Mine.....:	Canadian Dinant		
Location of mine.....:	Dinant-Tp. 48; R. 20; W. of 4		
Seam.....:	----		
	(Edmonton Formation)		
Output.....tons/annum:	20-30,000		
Trade name.....:	Canadian Dinant		
Size.....:	D.S.Lump*	Stove	Nut Slack
Screen limits at mine.....:	+6" rd.	1-1/2x6" rd.	0x3/4" rd.
No. of samples.....:	5	1	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	25.5	25.5	26.5
Ash.....%:	6.0	6.9	11.4
Volatile matter.....%:	28.5	27.7	25.5
Fixed carbon.....%:	40.0	39.9	36.6
Fuel ratio.....:	1.41	1.44	1.43
Calorific value.....B.T.U./lb.:	8,755	8,755	7,780
Ash Softening Temperature....°F:	2065	2020	2170
Caking Properties			
By volatile button @ 950°C...:	N.A.	N.A.	N.A.
Caking Index(Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis(2)			
Carbon.....%:	51.2		
Hydrogen.....%:	3.5		
Nitrogen.....%:	1.1		
Sulphur.....%:	0.4	0.3	0.4
Oxygen.....%:	12.3		
Classification by Rank			
A.S.T.M.....:		Subbituminous C	
S.V.I.....:		104-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:		47.0	47.5
cu.ft./ton:		42.6	42.1
Grindability Index.....:			

(1) Not operating since 1942.
* D.S.-Double screened.
(2) Calculated from analysis by Stansfield (Alberta Research Council-Report No. 35).

Province.....:	ALBERTA
District or area.....:	Camrose (District B)
Operator.....:	Proskow, Joseph
Mine(W.P. & T.B. Licence No.)...:	Proskow (1)
Location of mine.....:	Dinant-Tp. 48; R. 19; W. of 4 (2)
Seam.....:	Dinant (Edmonton Formation)
Output.....tons/annum:	Under 20,000
Trade name.....:	Proskow
Size.....:	Mine Run, Lump
Screen limits at mine.....:	----
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	26.5
Ash.....%:	5.3
Volatile matter.....%:	29.2
Fixed carbon.....%:	39.0
Fuel ratio.....:	1.34
Calorific value.....B.T.U./lb:	8,650
Ash Softening Temperature...°F:	----
Caking Properties	
By volatile button @ 950°C...:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	105-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Stripping Pit.
(2) In District B of Camrose area according to Stansfield. (Research Council of Alberta Report No. 35.)

Province.....:	ALBERTA	
District or area.....:	Camrose (District C)	
Operator.....:	Red Flame Coal Co., Ltd.	
Mine(W.P. & T.B. Licence No.)...:	Banner (4889)	
Location of mine.....:	Round Hill-Tp. 48; R. 18; W. of 4	
Seam.....:	---- (Edmonton Formation)	
Output.....tons/annum:	2-6,000	
Trade name.....:	BANNER	
Size.....:	Screened Mine Run	Lump
Screen limits at mine.....:	+1-1/2" B.	+2-1/2" B.
No. of samples.....:	1	2
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	28.5	28.5
Ash.....%:	5.2	4.9
Volatile matter.....%:	27.2	28.1
Fixed carbon.....%:	39.1	38.5
Fuel ratio.....:	1.44	1.37
Calorific value.....B.T.U./lb:	8,350	8,415
Ash Softening Temperature...°F:	2080	2155
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking Index(Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	--------	
Swelling Index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	50.2	
Hydrogen.....%:	3.3	
Nitrogen.....%:	1.0	
Sulphur.....%:	0.4	0.4
Oxygen.....%:	11.4	
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	98-Lignitic	
PHYSICAL PROPERTIES		
Bulk Density.....lb./cu.ft.:		
cu.ft./ton:		
Grindability Index.....:		

Province.....:	ALBERTA	
District or area.....:	Camrose (District C)	
Operator.....:	Red Flame Coal Co.; Ltd.	
Mine(W.P. & T.B. Licence No.)...:	Red Flame (4889)	
Location of mine.....:	Round Hill-Tp. 48; R. 18; W. of 4	
Seam.....:	---- (Edmonton Formation)	
Output.....tons/annum:	30-40,000	
Trade name.....:	Red Flame	
Size.....:	Mine Run	Lump
Screen limits at mine.....:	------	+2-1/2" B.
No. of samples.....:	1	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	28.5	28.5
Ash.....%:	8.7	5.4
Volatile matter.....%:	26.0	27.3
Fixed carbon.....%:	36.8	38.8
Fuel ratio.....:	1.42	1.42
Calorific value.....B.T.U./lb:	7,765	8,310
Ash Softening Temperature...°F:	2100	2080
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking Index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	--------	
Swelling Index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	47.9	
Hydrogen.....%:	3.1	
Nitrogen.....%:	1.0	
Sulphur.....%:	0.4	0.4
Oxygen.....%:	10.4	
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	93-Lignitic	
PHYSICAL PROPERTIES		
Bulk Density.....lb./cu.ft.:		
cu.ft./ton:		
Grindability Index.....:		

Province.....:	ALBERTA
District or area.....:	Camrose (District A)
Operator.....:	Stoney Creek Collieries Ltd. (1)
Mine(W.P. &.T.B. Licence No.)...:	Stoney Creek (2151)
Location of mine.....:	Camrose-Tp. 46; R. 20; W. of 4
Seam.....:	(Edmonton Formation)
Output.....tons/annum:	10-20,000
Trade name.....:	STONEY CREEK
Size.....:	Lump & Stove
Screen limits at mine.....:	1-1/2x8 in.-2x4 in.
No. of samples.....:	5
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	25.5
Ash.....%:	6.6
Volatile matter.....%:	28.2
Fixed carbon.....%:	39.7
Fuel ratio.....:	8,1241
Calorific value.....B.T.U./lb:	8,720
Ash Softening Temperature...°F:	2055
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	116-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	44.9
cu.ft./ton:	44.6
Grindability Index.....:	

(1) Not listed since 1944-probably Camrose Collieries Ltd. in 1945 in Tp. 46; R. 19; W. of 4.

Province.....:	ALBERTA
District or area.....:	Camrose (District C)
Operator.....:	Strilchuk, Leo
Mine(W.P. & T.B. Licence No.)...:	Strilchuk (1)
Location of mine.....:	Ohaton-Tp. 48; R. 18; W. of 4 (2)
Seam.....:	Upper (Edmonton Formation)
Output.....1.....tons/annum:	Under 2,000
Trade name.....:	Strilchuk
Size.....:	Mine Run, Lump
Screen limits at mine.....:	----
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	28.5
Ash.....%:	3.9
Volatile matter.....%:	29.4
Fixed carbon.....%:	38.2
Fuel ratio.....:	1.30
Calorific value.....B.T.U./lb:	8,590
Ash Softening Temperature...°F:	2210
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index.(Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	105-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft...:	
cu.ft./ton..:	
Grindability Index.....:	

(1) Stripping Pit.
(2) In District C of Camrose Area according to Stansfield (Research Council of Alberta Report No. 35.)

Province.....:	ALBERTA
District or area.....:	Carbon
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Tp, 29 to 32; R. 21 to 24; W. of 4
Seam.....:	No. 11 (Carbon) No. 14 (Ardley) (Edmonton Formation)
Output.....tons/annum:	52,000

Size.....:	Lump & Stove	Slack
Screen limits at mine.....:	---	---
No. of samples.....:	7	3
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	17.5	18.5
Ash.....%:	10.0	11.2
Volatile matter.....%:	28.7	27.6
Fixed carbon.....%:	43.8	42.7
Fuel ratio.....:	1.53	1.55
Calorific value.....B.T.U./lb:	9,525	9,260
Ash Softening Temperature...°F:	2190	2235
Caking Properties		
By volatile button @ 950°C...:	N.A.	N.A.
Caking Index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	N-------	
Swelling Index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	55.9	
Hydrogen.....%:	3.5	
Nitrogen.....%:	1.1	
Sulphur.....%:	0.3	0.4
Oxygen.....%:	11.6	
Classification by Rank		
A.S.T.M.....:	Subbituminous B	
S.V.I.....:	111-Lignitic	
PHYSICAL PROPERTIES		
Bulk Density.....lb./cu.ft.:	48.5	52.5
cu.ft./ton:	41.2	38.1
Grindability Index.....:		

(1) See "Coal Mines in Canada"-1947 Bureau of Mines Publication No.4-1.

Province.....:	ALBERTA
District or area.....:	Carbon
Operator.....:	Carbon Black Coals (1)
Mine.....:	Radiant
Location of mine.....:	Carbon-Tp. 29; R. 23; W. of 4 (2)
Seam.....:	No. 11 (Carbon)
Output.....tons/annum:	10-20,000
Trade name.....:	RADIANT
Size.....:	Lump
Screen limits at mine.....:	----
No. of samples.....:	2
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	17.5
Ash.....%:	10.4
Volatile matter.....%:	29.8
Fixed carbon.....%:	42.6
Fuel ratio.....:	1.43
Calorific value.....B.T.U./lb:	9,535
Ash Softening Temperature...°F:	2100
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis (3)	
Carbon.....%:	56.4
Hydrogen.....%:	3.7
Nitrogen.....%:	1.2
Sulphur.....%:	0.3
Oxygen.....%:	10.8
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	113-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Not listed since 1941.
(2) In District C of Carbon Area according to Stansfield (Research Council of Alberta--Report No. 35)
(3) Calculated from Stansfield's results--Report No. 35.

Province.....:	ALBERTA		
District or area.....:	Carbon		
Operator.....:	Inland Coal Co., Ltd. (1)		
Mine(W.P. & T.B. Licence No.)...:	Knee Hill Valley (Union) (869)		
Location of mine.....:	Three Hills (Tp. 31; R. 24; W. of 4 (2)		
Seam.....:	No. 14 (Ardley)		
Output.....tons/annum:	20-40,000		
Trade name.....:	KNEE HILL VALLEY (THREE HILLS)		
Size.....:	D.S.Lump	S Stove	Nut Slack
Screen limits at mine.....:	+6" B.	1-1/4x2"	0x1-1/4"
No. of samples.....:	3	2	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	17.5	17.5	18.5
Ash.....%:	9.7	10.3	12.1
Volatile matter.....%:	28.1	28.2	26.5
Fixed carbon.....%:	44.7	44.0	42.9
Fuel ratio.....%:	1.59	1.56	1.62
Calorific value.....B.T.U./lb:	9,530	9,510	9,100
Ash Softening Temperature...°F:	2215	2250	2220
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	55.6		
Hydrogen.....%:	3.4		
Nitrogen.....%:	0.9		
Sulphur.....%:	0.4	0.4	0.4
Oxygen.....%:	12.5		
Classification by Rank			
A.S.T.M.....:		Subbituminous B.	
S.V.I.....:		108-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:		48.5	52.5
cu.ft./ton:		41.2	38.1
Grindability Index.....:			

(1) Listed previously as Canadian Dinant Coal Co., Ltd.
(2) In District A of Carbon Area according to Stansfield (Research Council of Alberta--Report No. 35)

Province.....:	ALBERTA
District or area.....:	Carbon
Operator.....:	Knee Hill Coal Co., Ltd. (1)
Mine (W.P. & T.B. Licence No.)..:	Old Ghost Pine (2635)
Location of mine.....:	Ghost Pine Creek-Tp. 31;R. 22; W. of 4 (3)
Seam.....:	No. 14 (Ardley)
Output.....tons/annum:	2,000-6,000
Trade name.....:	OLD GHOST PINE

Size.....:	Mine Run	Slack
Screen limits.stamine.....:	--------	0x1"
No. of samples.....:	1	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	17.5	18.5
Ash.....%:	11.6	9.5
Volatile matter.....%:	27.2	27.1
Fixed carbon.....%:	43.7	44.9
Fuel ratio.....%:	1.61	1.66
Calorific value.....B.T.U./lb:	9,300	9,495
Ash Softening Temperature...°F:	2370	2250
Caking Properties..		
By volatile button @ 950°C..:	N.A.	N.A.
Caking Index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	--------	
Swelling Index.....:	Negative	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.4	0.4
Oxygen.....%:		
Classification by Rank...		
A.S.T.M.....:	Subbituminous B	
S.V.I.....:	110-Lignitic	
PHYSICAL PROPERTIES		
Bulk Density.....lb./cu.ft.:		
cu.ft./ton:		
Grindability Index.....:		

(1) Pastorchik and Partners.
(2) Stripping Pit.
(3) In District A of Carbon Area according to Stansfield (Research Council of Alberta--Report No. 35.)

Province.....:	ALBERTA
District or area.....:	Carbon
Operator.....:	Peerless Coal Co.
Mine(W.P. & T.B. Licence No.)...:	No. 1600 (7871)
Location of mine.....:	Carbon-Tp. 29; R. 23; W. of 4 (1)
Seam.....:	No. 11 (Carbon)
Output.....tons/annum:	7-18,000
Trade name.....:	PEERLESS ; CARBON
Size.....:	Slack
Screen limits at mine.....:	-----
No. of samples.....:	1

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	18.5
Ash.....%:	11.9
Volatile matter.....%:	29.1
Fixed carbon.....%:	40.5
Fuel ratio.....:	1.39
Calorific value.....B.T.U./lb:	9,180
Ash Softening Temperature...°F:	---
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	114-Lignitic

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) In District C of Carbon Area according to Stansfield (Research Council of Alberta-Report No. 35.)

Province.....:	ALBERTA
District or area.....:	Cascade
Operator.....:	Wheatley & Sons, Frank
Mine.....:	Wheatley
Location of mine.....:	Tp. 26, R. 11, W. of 5
Seam.....:	----
	(Kootenay Formation)
Output.....tons/annum:	1500-2500
Trade name.....:	WHEATLEY
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	3
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	3.0
Ash.....%:	6.6
Volatile matter.....%:	11.1
Fixed carbon.....%:	79.3
Fuel ratio.....:	7.14
Calorific value.....B.T.U./lb:	13,990
Ash softening temperature...°F:	----
Caking Properties	
By volatile button at 950°C.:	Non caking to slight agglomerate
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	83.2
Hydrogen.....%:	3.9
Nitrogen.....%:	1.2
Sulphur.....%:	1.5
Oxygen.....%:	0.6
Classification by Rank	
A.S.T.M.....:	Semianthracite (1)
S.V.I.....:	248 - Semianthracite
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Some of the samples were slightly agglomerating and thus might be classed as Low Volatile Bituminous.

Province.....:	ALBERTA
District or area.....:	Cascade
Operator.....:	The Canmore Mines Ltd.
Mine.....:	No. 4 (New Mine) ; Morrison (Old Mine)
Location of mine.....:	Canmore-Tp. 24; R. 10; W. of 5
Seam.....:	No. 4 Seam (New Mine) ; No. 2 Seam (Old Mine) (Kootenay Formation)
Output.....tons/annum:	300-400,000
Trade name.....:	CANMORE SMOKELESS ; CANMORE NUSEAM

Size.....:	Commercial(1) Mine Run	Lump	Stove
Screen limits at mine.....:	+1/4"sq.	+2-3/8" rd.	1-1/2x2-3/8" rd.
No. of samples.....:	6	4	7
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	1.5	1.0	1.5
Ash.....%:	9.9	8.2	9.2
Volatile matter.....%:	13.8	13.1	12.4
Fixed carbon.....%:	74.8	77.7	76.9
Fuel ratio.....:	5.42	5.93	6.20
Calorific value.....B.T.U./lb:	13,615	13,985	13,705
Ash Softening Temperature...°F:	2260 to 2850+	2500 to 2850+	2500 to 2850+
Caking Properties			
By volatile button @ 950°C...:	W.A.	W.A.	W.A.
Caking Index (Gray).....:		0 to 10 (2)	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	7.3	---	---
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	80.4		
Hydrogen.....%:	3.8		
Nitrogen.....%:	1.5		
Sulphur.....%:	0.7	0.7	0.7
Oxygen.....%:	2.2		
Classification by Rank			
A.S.T.M.....:	Low Volatile Bituminous to Semianthracite		
S.V.I.....:	204-Meta to Semibituminous		
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:	56.0	54.0	52.0
cu.ft./ton:	35.7	37.0	38.5
Grindability Index (3).....:	73.8		

(1) Most of the commercial coal comes from No. 4 Seam and is trade named "Nuseam", all sizes of commercial coal may be dust-proofed by a hot-oil process.
(2) Caking Index:-No. 2 seam- Up to 10; No. 4 seam- non-caking.
(3) No. 4 seam coal somewhat more amenable to grinding than No. 2 seam.

Province.....:	ALBERTA
District or area.....:	Cascade
Operator.....:	The Canmore Mines Ltd.
Mine.....:	No. 4 (New Mine) ; Morris (Old Mine)
Location of mine.....:	Canmore-Tp. 24; R. 10; W. of 5
Seam.....:	No. 4 Seam (New Mine) ; No. 2 Seam (Old Mine) (Kootenay Formation)
Output.....tons/annum:	300-400,000
Trade name.....:	CANMORE SMOKELESS ; CANMORE NUSEAM

Size.....:	Stoker (4)	Slack	Briquettes
Screen limits at mine.....:	1/4" sq.x1-1/2" rd.	0x1/4" sq.	----
No. of samples.....:	8	7	27
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	1.5	2.0	1.8
Ash.....%:	7.4	9.5	6.6
Volatile matter.....%:	12.6	13.7	16.9
Fixed carbon.....%:	78.5	74.8	74.7
Fuel ratio.....:	6.23	5.46	4.42
Calorific value.....B.T.U./lb:	13,870	13,685	14,385
Ash Softening Temperature...°F:	2850+	2270 to 2850+	2850+
Caking Properties			
By volatile button @ 950 °C..:	W.A.	W.A.	Agglomerate
Caking Index (Gray).....:		0 to 10	
Swelling Properties/FRL Test			
Volatile at 600 °C.....%:	----	----	----
Swelling Index.....:	Negative	Negative	(5)
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.7	0.7	0.7
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:	Low Volatile bituminous to Semianthracite		
S.V.I.....:	204-Meta to Semibituminous		
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:	51.0	52.0	43.5
cu.ft./ton:	39.2	38.5	46.0
Grindability Index.....:		85.3	

ASH ANALYSIS (6).....%:

SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
60.0	24.9	7.7	1.7	1.4	0.03	0.1	1.2	0.4	1.1	1.5

(4) Stoker also referred to as "blower" and "pea".
(5) Very slightly swelling as a result of added petroleum asphalt binder.
(6) Analysis of No. 2 and No. 4 seams mixed.

Province.....:	ALBERTA
District or area.....:	Castor
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 37 to 44; R. 14 to 20; W. of 4 near Castor
Seam.....:	Several (Edmonton Formation)
Output.....tons/annum:	40-60,000
Size.....:	Mine Run & Lump
No. of samples.....:	17

CHEMICAL PROPERTIES

Proximate Analysis(2)	
Moisture.....%:	28.5
Ash.....%:	7.0
Volatile matter.....%:	28.9
Fixed carbon.....%:	35.6
Fuel ratio.....%:	7,2082
Calorific value.....B.T.U./lb:	7,800
Ash Softening Temperature,..°F:	2290
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	46.6
Hydrogen.....%:	3.0
Nitrogen.....%:	0.9
Sulphur.....%:	0.4
Oxygen.....%:	13.6
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	98-Lignitic

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) See "Coal Mines in Canada" for list of mines.

(2) The analysis is for coal coming from the Districts included in Tps. 37 to 39; R. 14 and 15; and listed as Districts B & C in Report No. 35, Scientific & Industrial Research Council of Alberta (1944)

According to Report No. 35 the districts and typical analyses are as follows:-

	District A	District B	District C
	Tps.41-44;R.17-20	Tps.39-41;R.15-16	Tps.37-38; R. 14
Moisture...%	25.2	26.4	29.5
Ash.....%	6.7	6.3	6.2
B.T.U./lb..:	8,710	8,550	7,980

Province.....:	ALBERTA
District or area.....:	Castor (District C)(1)
Operator.....:	Castor Coal and Construction Co.
Mine(Alberta Mine Nos.).....:	No. 1608 & (Haden) No. 1343
Location of mine.....:	Castor-Tp. 38; R. 14; W. of 4
Seam.....:	Castor (Upper) (Edmonton Formation)
Product name.....:	CASTOR CREEK
Size.....:	Lump
Screen limits at mine.....:	----
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	28.5
Ash.....%:	8.5
Volatile matter.....%:	28.9
Fixed carbon.....%:	34.1
Fuel ratio.....:	1.18
Calorific value.....B.T.U./lb:	7,710
Ash Softening Temperature...°F:	2560
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	46.1
Hydrogen.....%:	3.1
Nitrogen.....%:	0.9
Sulphur.....%:	0.4
Oxygen.....%:	12.5
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	98-Lignitic

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) From 1944 to 1947 operated as an Emergency operation under the name Castor Creek Collieries Ltd. This is a strip operation.

Province.....:	ALBERTA
District or area.....:	Castor (District C)
Operator.....:	Easton, James (1)
Mine(Alberta Mine No.).....:	No. 1417
Location of mine.....:	Castor-Tp. 37; R. 14; W. of 4
Seam.....:	----
	(Edmonton Formation)
Output.....tons/annum:	Under 6,000
Trade name.....:	BURN-RITE (2)
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	2
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	28.5
Ash.....%:	5.9
Volatile matter.....%:	28.8
Fixed carbon.....%:	36.8
Fuel ratio.....:	1.28
Calorific value.....B.T.U./lb:	8,105
Ash Softening Temperature...°F:	2270
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	98-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Formerly J. Armstrong.
(2) Formerly "Home Comfort".

Province.....:	ALBERTA
District or area.....:	Castor (District C)
Operator.....:	Remillard, O. V.
Mine(Alberta Mine No.).....:	Remillard-No. 902
Location of mine.....:	Castor-Tp. 37; R. 14; W. of 4
Seam.....:	---- (Edmonton Formation)
Output.....tons/annum:	Under 6,000
Trade name.....:	REMILLARD
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	2
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	28.5
Ash.....%:	10.2
Volatile matter.....%:	28.0
Fixed carbon.....%:	33.3
Fuel ratio.....:	1.19
Calorific value.....B.T.U./lb:	7,470
Ash Softening Temperature...°F:	2180
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	97-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

Province.....:	ALBERTA
District or area.....:	Castor (District C)
Operator.....:	Shaw, Mrs. Dan
Mine(Alberta Mine No.).....:	No. 1361
Location of mine.....:	Castor-Tp. 37; R. 14; W. of 4
Seam.....:	----
	(Edmonton Formation)
Output.....tons/annum:	Under 6,000
Trade name.....:	HILLTOP
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	28.5
Ash.....%:	6.9
Volatile matter.....%:	29.4
Fixed carbon.....%:	35.2
Fuel ratio.....:	1.20
Calorific value.....B.T.U./lb:	7,935
Ash Softening Temperature...°F:	2220
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	98-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Not listed since 1945.

Province.....:	ALBERTA
District or area.....:	Champion
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Near Champion, Tps. 14, 15, 16, R. 21, 22 & 23
Seam.....:	(Edmonton Formation)
Output.....tons/annum:	8,000
Size.....:	Face Samples (2)
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	12.7
Ash.....%:	6.6
Volatile Matter.....%:	32.8
Fixed carbon.....%:	47.9
Fuel ratio.....%:	1.46
Calorific value.....B.T.U./lb:	10,470
Ash softening temperature...°F:	1990
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	61.5
Hydrogen.....%:	4.2
Nitrogen.....%:	1.2
Sulphur.....%:	0.5
Oxygen.....%:	13.3
Classification by Rank	
A.S.T.M.....:	Subbituminous A
S.V.I.....:	107 - Lignitic

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Operators in 1947: (a) McGaw, Albert, M.S. - Champion - McGaw Mine.
(b) Popovich, Mike - Champion - New Vulcan Mine.
(c) Rhodes, Geo. - Champion - Therriault Mine.

(2) The samples are from Twps. 15 & 16, R. 23, and corresponds to District A, as listed in Research Council of Alberta Report No. 35.

Province.....:	ALBERTA			
District or area.....:	Coalspur			
Operators.....:	General			
Mines.....:	(1)			
Location of mines.....:	Tps. 47 to 49, R. 20 & 21, W. of 5			
Seams.....:	Mynheer & Val d'Or (Saunders Formation)			
Coal seam mined.....:	Mynheer		Val d'Or	
Size.....:	Mine Run, Lump, Stove	Nut, Pea Stoker	Lump, Egg	Nut, Pea
No. of samples.....:	31	36	53	10
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	8.9	9.0	8.8	9.1
Ash.....%:	13.7	16.0	11.1	12.3
Volatile matter.....%:	31.9	31.1	33.7	33.2
Fixed carbon.....%:	45.5	43.9	46.4	45.4
Fuel ratio.....:	1.48	1.41	1.38	1.37
Calorific value.....B.T.U./lb:	10,340	10,095	10,690	10,525
Ash softening temperature...°F:	2375	2500	2175	2180
Caking Properties				
By volatile button at 950°C.:	W.A.	W.A.	W.A.	W.A.
Caking index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	----		----	
Swelling index.....:	Negative		Negative	
Ultimate Analysis				
Carbon.....%:	59.9		62.5	
Hydrogen.....%:	4.1		4.0	
Nitrogen.....%:	0.9		0.8	
Sulphur.....%:	0.3	0.3	0.2	0.2
Oxygen.....%:	11.8		12.6	
Classification by Rank				
A.S.T.M.....:	High Volatile C Bituminous		High Vol. C Bit. to Subbituminous A	
S.V.I.....:	122		123	
	Lignitic - border of subbituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	54.4	49.8	51.1	50.4
cu.ft./ton:	36.8	40.2	39.1	39.7
Grindability index.....:	54.5		43.6	

(1) Mynheer Seam - Coal Valley Mining Co., Ltd.-Cova Mine*
The Sterling Collieries Co., Ltd.-Sterling Mine*

* Strip Mining

Val d'Or Seam - The Foothills Collieries Ltd.,-Foothills Mine.
McLeod River Hard Coal Co.,(1941) Ltd.-Mcleod River Mine
Lakeside Coals Ltd.-Mine No. 2
Bryan Hard Coal Co., Ltd.-Bryan Mine.

Province.....:	ALBERTA
District or area.....:	Coalspur
Operator.....:	Bryan Hard Coal Co., Ltd. (1)
Mine (W.P. & T.B. Licence No.)..:	Bryan (7764)
Location of mine.....:	Near Robb (Twp. 49, R. 21, W. of 5)
Seam.....:	Val d'Or (Saunders Formation)
Output.....tons/annum:	Up to 12,000
Trade name.....:	BRYAN

Size.....:	Lump	Mine Run
Screen limits at mine.....:	----	----
No. of samples.....:	2	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	10.4	11.3
Ash.....%:	11.1	14.3
Volatile matter.....%:	33.9	32.3
Fixed carbon.....%:	44.6	42.1
Fuel ratio.....:	1.32	1.30
Calorific value.....B.T.U./lb:	10,460	9,735
Ash softening temperature...°F:	2170	----
Caking Properties		
By volatile button at 950°C.:	W.A.	W.A.
Caking index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.3	0.2
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	High Volatile C Bituminous to Subbituminous A	
S.V.I.....:	122 - Lignitic, border of Subbituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		
cu.ft./ton:		
Grindability index.....:		

(1) Formerly Thirty-Two Collieries Ltd.

Province.....:	ALBERTA
District or area.....:	Coalspur
Operator.....:	Coal Valley Mining Co., Ltd.(1)
Mine (W.P. & T.B. Licence No.)..:	Cova (1146)
Location of mine.....:	Coal Valley (Tp. 47, R. 20, W. of 5)
Seam.....:	Mynheer (Saunders Formation)
Output.....tons/annum:	100-200,000
Trade name.....:	COVA

Size.....:	Mine Run(2)	Lump	Stoker(3) Nut,Pea	Slack
Screen limits at mine.....:	17/64x6 in.	1-1/2x6"	17/64x1-1/4"	0x5/8 in.
No. of samples.....:	9	7	24	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	9.0	8.9	9.0	9.5
Ash.....%:	13.8	14.2	16.9	17.9
Volatile matter.....%:	31.1	31.8	30.7	29.5
Fixed carbon.....%:	46.1	45.1	43.4	43.1
Fuel ratio.....:	1.48	1.42	1.42	1.46
Calorific value.....B.T.U./lb:	10,340	10,330	9,995	9,730
Ash softening temperature...°F:	2590	2300	2535	2640
Caking Properties				
By volatile button at 950°C.:		W.A.		
Caking index (Gray).....:		0		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	24.0			
Swelling index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	60.3			
Hydrogen.....%:	3.9			
Nitrogen.....%:	0.9			
Sulphur.....%:	0.3	0.3	0.3	0.3
Oxygen.....%:	11.8			
Classification by Rank				
A.S.T.M.....:		High Volatile C Bituminous		
S.V.I.....:		122 - Lignitic, border subbituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	53.0	52.0	49.8	54.0
cu.ft./ton:	37.7	38.5	40.2	37.1
Grindability index.....:	52.5	55.0		60.5

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	60.2	21.8	4.7	8.5	1.6	0.03	--	0.4	0.12	0.7	2.2

(1) Stripping pit.
(2) Rly. coal (all coal plus 7/16 in. sq.)
(3) Nut - 5/8" x 1-1/4 ") Stoker mixture.
Pea - 17/64 x 5/8")

Province.....:	ALBERTA
District or area.....:	Coalspur
Operator.....:	Foothills Collieries Ltd.
Mine (W.P. & T.B. Licence No.)..:	Foothills (3301)
Location of mine.....:	Foothills (Tp. 47, R. 20, W. of 5)
Seam.....:	Val d'Or (Saunders Formation)
Output.....tons/annum:	100-150,000
Trade name.....:	FOOTHILLS

Size.....:	Lump	Egg,Stove	Nut,Pea Stoker	Slack
Screen limits at mine.....:	Plus 4" rd.	2" sq.x4" rd.	1x2 in. 5/8x1"	0x5/8,1'
No. of samples.....:	15	6	2	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	8.5	8.5	8.5	10.0
Ash.....%:	10.0	11.1	10.6	11.3
Volatile matter.....%:	34.1	33.7	34.5	33.5
Fixed carbon.....%:	47.4	46.7	46.4	45.2
Fuel ratio.....:	1.39	1.39	1.35	1.35
Calorific value.....B.T.U./lb:	10,985	10,830	10,800	10,630
Ash softening temperature...°F:	2180	2150	2135	2170
Caking Properties				
By volatile button at 950°C.:	W.A.	W.A.	W.A.	W.A.
Caking index(Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	28.7	----	----	----
Swelling index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	63.7			
Hydrogen.....%:	4.1			
Nitrogen.....%:	0.8			
Sulphur.....%:	0.3	0.2	0.3	0.3
Oxygen.....%:	12.6			
Classification by Rank				
A.S.T.M.....:	High Volatile C Bituminous to Subbituminous A			
S.V.I.....:	123 - Subbituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	48.8	48.8	49.8	51.0
cu.ft./ton:	41.0	41.0	40.2	39.2
Grindability index.....:	44.2			44.2

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	46.3	16.7	6.9	19.7	1.7	0.07	1.0	0.7	0.1	0.4	6.2

Province.....:	ALBERTA
District or area.....:	Coalspur
Operator.....:	Lakeside Coals Ltd.
Mine (W.P. & T.B. Licence No.)..:	Mine No. 2 (Minehead) (4271)
Location of mine.....:	Robb (Tp. 49, R. 21, W. of 5)
Seam.....:	Val d'Or (Saunders Formation)
Output.....tons/annum:	40-75,000
Trade name.....:	MINEHEAD INFERNO

Size.....:	Lump(1)	Egg(2)	Nut, Pea	Nut Slack
Screen limits at mine.....:	Plus 1,2, or 4 in.	2x4 or 6 in.	1-1/4x2-1/2 in. 7/16x1-1/4 in.	0x1,1-1/4 in.
No. of samples.....:	13	7	3	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	9.0	9.0	9.9	12.5
Ash.....%:	12.2	12.9	13.2	12.5
Volatile matter.....%:	33.3	32.5	32.3	31.7
Fixed carbon.....%:	45.5	45.6	44.6	43.3
Fuel ratio.....:	1.37	1.40	1.38	1.37
Calorific value.....B.T.U./lb:	10,410	10,440	10,230	10,070
Ash softening temperature...°F:	2165	2195	2180	2160
Caking Properties				
By volatile button at 950°C.:			W.A.	
Caking index (Gray).....:			0	
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			----	
Swelling index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	61.1			
Hydrogen.....%:	3.9			
Nitrogen.....%:	0.7			
Sulphur.....%:	0.2	0.1	0.1	0.1
Oxygen.....%:	12.9			
Classification by Rank				
A.S.T.M.....:	High volatile C Bituminous to Subbituminous A			
S.V.I.....:	119 - Lignitic			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	54.2	47.6	50.4	51.5
cu.ft./ton:	36.9	42.0	39.7	38.8
Grindability index.....:	46.0			

(1) Lump - most commonly prepared as plus 2 in; the plus 4 in. or 4 x 8 in. sometimes called "Cobble". Also prepare plus 1 in. lump.

(2) Egg - usually prepared as 2 x 4 in. Referred to as "stove" when 1 x 4 in.

Province.....:	ALBERTA
District or area.....:	Coalspur
Operator.....:	McLeod River Hard Coal Co.,(1941) Ltd.(1)
Mine (W.P. & T.B. Licence No.)..:	McLeod River (7719)
Location of mine.....:	Mercoal (Tp. 48, R. 22, W. of 5)
Seam.....:	Val d'Or (Saunders Formation)
Output.....tons/annum:	200,000-290,000
Trade name.....:	McLEOD RIVER HARD

Size.....:	Lump	Egg	Nut	Stoker, Pea	Slack
Screen limits at mine.....:	Plus 4 in.	2x5 in.	1x2 in.	1/4x3/4"	0x1,1-1/2"
No. of samples.....:	8	1	1	4	2
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	8.5	8.5	8.5	9.0	10.0
Ash.....%:	9.2	12.2	12.7	12.3	11.9
Volatile matter.....%:	35.0	32.9	32.8	33.4	32.7
Fixed carbon.....%:	47.3	46.4	46.0	45.3	45.4
Fuel ratio.....:	1.35	1.41	1.40	1.36	1.39
Calorific value.....B.T.U./lb:	11,180	10,720	10,455	10,630	10,475
Ash softening temperature...°F:	2180	2205	2160	2210	2190
Caking Properties					
By volatile button at 950°C.:	W.A.	W.A.	W.A.	W.A.	W.A.
Caking index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			----		
Swelling index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	64.4				
Hydrogen.....%:	4.0				
Nitrogen.....%:	0.8				
Sulphur.....%:	0.2	0.2	0.2	0.3	0.2
Oxygen.....%:	12.9				
Classification by Rank					
A.S.T.M.....:	High Volatile C Bituminous to Subbituminous A				
S.V.I.....:	122 - Subbituminous				
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	52.5	51.0	50.5	51.0	53.0
cu.ft./ton:	38.1	39.2	39.6	39.2	37.7
Grindability index.....:	40.7				41.4

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	45.9	16.2	4.2	22.4	2.6	0.1	1.2	1.2	0.1	0.4	3.1

(1) Owned and operated by Canadian Collieries (Dunsmuir) Ltd., Vancouver, B.C.

Province.....:	ALBERTA
District or area.....:	Coalspur
Operator.....:	Sterling Collieries Co., Ltd.(1)
Mine (W.P. & T.B. Licence No.)..:	Sterling (2328)
Location of mine.....:	Sterco (Tp. 47, R. 20, W. of 5)
Seam.....:	Mynheer (Saunders Formation)
Output.....tons/annum:	100-200,000
Trade name.....:	STERLING AIR-CLEANED

Size.....:	Mine Run(2)	Lump, Cobble	Nut, Pea(3) Stoker
Screen limits at mine.....:	17/64x6 in.	2-1/4x6 in.	1/8x5/8 or 1-1/4 in.
No. of samples.....:	6	9	12
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	9.0	8.7	9.0
Ash.....%:	13.1	13.6	14.3
Volatile matter.....%:	32.2	32.7	31.9
Fixed carbon.....%:	45.7	45.0	44.8
Fuel ratio.....:	1.42	1.38	1.40
Calorific value.....B.T.U./lb:	10,460	10,260	10,290
Ash softening temperature...°F:	2330	2255	2440
Caking Properties			
By volatile button at 950°C.:		W.A.	
Caking index (Gray).....:		0	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		23.9	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	60.4		
Hydrogen.....%:	4.2		
Nitrogen.....%:	0.9		
Sulphur.....%:	0.3	0.3	0.3
Oxygen.....%:	12.1		
Classification by Rank			
A.S.T.M.....:	High volatile C Bituminous		
S.V.I.....:	124 - Border Lignitic & Subbituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	60.0	54.0	49.8
cu.ft./ton:	33.3	37.1	40.2
Grindability index.....:	56.0(4)		

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	62.2	24.7	3.1	5.7	0.7	0.02	--	0.7	0.14	0.9	2.1

(1) Stripping pit.
(2) This is really screened and crushed mine-run as supplied to railway.
(3) Pea is often 5/16" x 5/8", the nut size 5/8" x 1-1/4" may also be included with the pea and buckwheat (1/16" or 1/8" x 5/16") and called stoker size.
(4) Grindability for 0 x 1/8 in. fines - 67.4.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Mines.....:	General (1)
Location of mines.....:	Twps. 6 to 8, R. 2 to 4, W. of 5
Seams.....:	No. 1, No. 2 & No. 4 (Kootenay Formation)
Output.....tons/annum:	1,750,000-2,000,000

Size.....:	Mine Run	Lump	Egg, Stove Nut, Pea	Slack
Screen limits at mine.....:		(See individual mines)		
No. of samples.....:	90	15	50	46
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	2.5	1.3	1.7	3.1
Ash.....%:	15.3	14.0	12.1	14.4
Volatile matter.....%:	24.8	26.0	26.1	24.2
Fixed carbon.....%:	57.4	58.7	60.1	58.3
Fuel ratio.....:	2.32	2.26	2.30	2.41
Calorific value.....B.T.U./lb:	12,425	12,850	13,000	12,460
Ash softening temperature...°F:	2850+	2750	2850+	2850+
Caking Properties				
By volatile button at 950°C.:	F to G	Good	Good	F to G
Caking index (Gray).....:	-	27 - 40		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		18.0 - 20.0		
Swelling index.....:		0 - 500 (2)		
Ultimate Analysis				
Carbon.....%:	71.6			
Hydrogen.....%:	4.3			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.6	0.7	0.6	0.6
Oxygen.....%:	4.6			
Classification by Rank				
A.S.T.M.....:		Medium volatile bituminous		
S.V.I.....:		165 - E-Parabituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	57.5	54.0	50.0-57.5	56.0
cu.ft./ton:	34.8	37.0	---	35.7
Grindability index.....:	60-78			66-83

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	52.6	30.4	6.8	3.8	1.1	0.03	0.3	0.6	0.7	1.7	2.6

(1) West Canadian Collieries Ltd.:- Bellevue, Adanac & Greenhill Mines.
Hillcrest Mohawk Collieries Ltd.:- Maple Leaf Mine.
International Coal & Coke Co., Ltd.:- Denison Mine.
McGillivray Creek Coal & Coke Co., Ltd.:- Carbondale Mine.
(2) There is some variation in the field, see individual mine results.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	Wilson, B.A. (1)
Mine (W.P. & T.B. Licence No.)..:	Christie (3024)
Location of Mine.....:	Pincher Creek - Twp. 5, R. 1, W. of 5
Seam.....:	7 Foot & 6 Foot (Kootenay Formation)
Output.....tons/annum:	3-4,000
Trade name.....:	CHRISTIE
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	4
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	3.0
Ash.....%:	13.0
Volatile matter.....%:	31.5
Fixed carbon.....%:	52.5
Fuel ratio.....:	1.67
Calorific value.....B.T.U./lb:	12,635
Ash softening temperature...°F:	2200 - 2850+ (2)
Caking Properties	
By volatile button at 950°C.:	Fair to Good
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	----
Ultimate Analysis	
Carbon.....%:	71.2
Hydrogen.....%:	4.3
Nitrogen.....%:	1.0
Sulphur.....%:	1.4
Oxygen.....%:	6.1
Classification by Rank	
A.S.T.M.....:	High volatile A bituminous
S.V.I.....:	155 - Subbituminous (agglomerating)
PHYSICAL PROPERTIES	
Bulk density. .....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Not listed since 1943. (Formerly Great Northern Townsite Co.) Neumann Bros. (Alta. Mine No. 1623) listed in 1947 near site of abandoned Christie Mine.

(2) 7 Foot seam coal - F.P.A. - 2200°F.
6 Foot seam coal - F.P.A. - 2850+°F.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	Hillcrest Mohawk Collieries Ltd.
Mine (W.P. & T.B. Licence No.)..:	Maple Leaf (3328)
Location of mine.....:	Bellevue - Tp. 7, R. 3, W. of 5
Seam.....:	No. 2 (Kootenay Formation)
Output.....tons/annum:	250-300,000
Trade name.....:	HILLCREST-MOHAWK

Size.....:	Mine Run	Lump(1)	Nut, Pea(2)	Buck-wheat	Slack(3)
Screen limits at mine.....:		+1-3/4"	1/4, 1x1-5/8"		0x1-5/8
No. of samples.....:	1	4	5	1	8
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	1.5	1.0	1.5	1.5	2.5
Ash.....%:	16.5	18.1	14.3	15.8	14.9
Volatile matter.....%:	25.6	26.4	26.3	25.2	25.3
Fixed carbon.....%:	56.4	54.5	57.9	57.5	57.3
Fuel ratio.....:	2.20	2.06	2.20	2.28	2.26
Calorific value.....B.T.U./lb:	12,250	12,160	12,630	12,370	12,380
Ash softening temperature...°F:	2850+	2850+	2850+	2850+	2850+
Caking Properties					
By volatile button at 950°C.:	Fair	F to G	Good	F to G	Fair
Caking index (Gray).....:			27		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			19.5		
Swelling index.....:			40 (4)		
Ultimate Analysis					
Carbon.....%:	70.6				
Hydrogen.....%:	4.3				
Nitrogen.....%:	1.1				
Sulphur.....%:	0.6	0.7	0.5	0.5	0.5
Oxygen.....%:	5.4				
Classification by Rank					
A.S.T.M.....:		Medium Volatile Bituminous			
S.V.I.....:		159 - D-Parabituminous			
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	59.0	53.0	54.6	---	54.6
cu.ft./ton:	33.9	37.7	36.6	---	36.6
Grindability index.....:	67.8				69.5

(1) Ordinary lump varies from +1-1/4 in. to +1-5/8 in. Furnace lump is 1-5/8 in. x 4 in
(2) Also stoker 1/4 x 1 in.
(3) Varies at times from 0 x 1-1/4 in. to 0 x 2 in.
(4) The unwashed high ash coal exhibits a negative swelling. This coal, washed down to a low ash, will exhibit an index approaching 800.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	International Coal & Coke Co., Ltd. (1)
Mine (W.P. & T.B. Licence No.)..:	Denison (734)
Location of mine.....:	Coleman - Tp. 8, R. 4, W. of 5
Seam.....:	No. 2 and No. 4 (Kootenay Formation)
Output.....tons/annum:	400-500,000
Trade name.....:	INTERNATIONAL

	Mine Run	Slack
Size.....:	Mine Run	Slack
No. of samples.....:	44	9
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	2.5	3.5
Ash.....%:	14.5	14.2
Volatile matter.....%:	24.7	24.0
Fixed carbon.....%:	58.3	58.3
Fuel ratio.....:	2.36	2.43
Calorific value.....B.T.U./lb:	12,575	12,475
Ash softening temperature...°F:	2750	2850+
Caking Properties		
By volatile button at 950°C.:	Fair	Fair
Caking index (Gray).....:	26.8(2)	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	17.9	
Swelling index.....:	40(3)	
Ultimate Analysis		
Carbon.....%:	72.0	
Hydrogen.....%:	4.3	
Nitrogen.....%:	1.1	
Sulphur.....%:	0.6	0.6
Oxygen.....%:	5.0	
Classification by Rank		
A.S.T.M.....:	Medium volatile bituminous	
S.V.I.....:	167 - E-Parabituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	55.5	57.0
cu.ft./ton:	36.0	35.1
Grindability index.....:	78.4(4)	82.9(4)

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.4	29.3	3.3	5.1	1.4	0.01	0.5	0.9	0.8	1.7	2.7

(1) "International" coke produced in bee-hive ovens at Coleman.
(2) Caking Index of No. 2 Seam = 33. Caking Index of No. 4 Seam = 20.5.
(3) Swelling Index of No. 2 Seam = 116. Swelling Index of No. 4 Seam = -41.
(4) Grindability of No. 2 Seam = 79.6. Grindability of No. 4 Seam = 83.2

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	McGillivray Creek Coal & Coke., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Carbondale (640)
Location of mine.....:	Coleman - Tp. 8, R. 5, W. of 5
Seam.....:	No. 2 (Kootenay Formation)
Output.....tons/annum:	200-300,000
Trade name.....:	McGILLIVRAY CREEK

Size.....:	Mine Run	Lump(1)	Stove,Egg	Stoker	Slack(2)
Screen limits at mine.....:		+5-1/2"	1-3/4x5-1/2"	1/2"rd.x 1-3/4"sq.	0x1-3/4"sq.
No. of samples.....:	11	1	5	2	5
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	3.0	1.0	1.5	2.5	3.5
Ash.....%:	15.3	18.1	16.7	14.9	14.8
Volatile matter.....%:	24.6	25.3	26.0	25.3	23.9
Fixed carbon.....%:	57.1	55.6	55.8	57.3	57.8
Fuel ratio.....:	2.32	2.20	2.15	2.26	2.42
Calorific value.....B.T.U./lb:	12,310	12,180	12,260	12,380	12,295
Ash softening temperature...°F:	2770	2800	2535	2850+	2780+
Caking Properties					
By volatile button at 950°C.:	Good	Good	Good	Good	Fair
Caking index (Gray).....:			37		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			19.0		
Swelling index.....:			432		
Ultimate Analysis					
Carbon.....%:	70.5				
Hydrogen.....%:	4.1				
Nitrogen.....%:	1.1				
Sulphur.....%:	0.9	1.1	1.1	1.4	1.0
Oxygen.....%:	5.1				
Classification by Rank					
A.S.T.M.....:		Medium volatile bituminous			
S.V.I.....:		164 - E-Parabituminous			
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	59.0	57.0	57.5	51.5	56.5
cu.ft./ton:	33.9	35.1	34.8	38.8	35.4
Grindability index.....:	76.1				80.9

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	51.1	26.2	15.2	1.8	1.0	0.1	0.4	0.5	0.2	2.0	1.4

(1) Also +1-3/4 in. sq. Lump.
(2) Also 0 x 1/2 in. rd. Slack.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	West Canadian Collieries Ltd.
Mine (W.P. & T.B. Licence No.)..:	Adanac (No. 9) (642)
Location of mine.....:	Near Bellevue - Twp. 6, R. 3, W. of 5
Seam.....:	No. 1 (Kootenay Formation) (1)
Output.....tons/annum:	
Trade name.....:	ADANAC

	Mine Run	Slack	Washed Slack
Size.....:			
Screen limits at mine.....:		0x1-1/2"	
No. of samples.....:	1	1	1
CHEMICAL PROPERTIES(2)			
Proximate Analysis			
Moisture.....%:	2.5	2.5	2.5
Ash.....%:	19.6	20.2	13.0
Volatile matter.....%:	23.9	23.5	24.3
Fixed carbon.....%:	54.0	53.8	60.2
Fuel ratio.....:	2.26	2.29	2.48
Calorific value.....B.T.U./lb:	11,545	11,415	12,740
Ash softening temperature...°F:	2800	2850	2850+
Caking Properties			
By volatile button at 950°C.:	Poor	Poor	Poor
Caking index (Gray).....:	34	--	--
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	17.9	---	19.0
Swelling index.....:	-419	---	-303
Ultimate Analysis			
Carbon.....%:	67.1		
Hydrogen.....%:	3.9		
Nitrogen.....%:	0.9		
Sulphur.....%:	0.6	0.5	0.4
Oxygen.....%:	5.4		
Classification by Rank			
A.S.T.M.....:	Medium volatile bituminous		
S.V.I.....:	167 - E-Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	61.9	57.3	
cu.ft./ton:	32.3	34.9	
Grindability index.....:	64.6	65.7	

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.6	32.1	2.7	3.5	1.1	*	0.3	0.5	0.5	1.9	3.0

(1) This is a new mine and still under development.
(2) The analyses given are for coal collected for the Physical & Chemical Survey of Canadian coals, and does not represent marketed products. As this is development coal it may be somewhat weathered.
* Trace.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	West Canadian Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	Bellevue (642)
Location of mine.....:	Bellevue - Tp. 7, R. 3, W. of 5
Seam.....:	No. 1 (Kootenay Formation)
Output.....tons/annum.:	(See Greenhill Mine)
Trade name.....:	BELLEVUE

Size.....:	Mine Run	Lump(1)	Slack
Screen limits at mine.....:		+2" rd.	0x1-5/8" or 7/8" sq.
No. of samples.....:	17	5	9
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	3.0	1.5	3.5
Ash.....%:	16.7	14.0	14.2
Volatile matter.....%:	25.3	26.5	25.3
Fixed carbon.....%:	55.0	58.0	57.0
Fuel ratio.....:	2.18	2.19	2.25
Calorific value.....B.T.U./lb:	12,060	12,745	12,150
Ash softening temperature...°F:	2735	2625	2785
Caking Properties			
By volatile button @ 950°C..:	F to G	G	F to G
Caking index (Gray).....:		40	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		20.2	
Swelling index.....:		387	
Ultimate Analysis			
Carbon.....%:	69.9		
Hydrogen.....%:	4.2		
Nitrogen.....%:	1.1		
Sulphur.....%:	0.5	0.7	0.4
Oxygen.....%:	4.6		
Classification by Rank			
A.S.T.M.....:	Medium Volatile Bituminous		
S.V.I.....:	163 - E-Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	60.4	51.5	58.0
cu.ft./ton:	33.1	38.8	34.5
Grindability index.....:	60.5		66.3

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	50.0	31.9	6.6	5.4	1.4	0.03	0.4	0.4	1.1	1.4	3.6

(1) This includes:- Lump: +6 in. rd., and Washed Furnace: 2x6 in. rd.

Province.....:	ALBERTA
District or area.....:	Crowsnest
Operator.....:	West Canadian Collieries Ltd.
Mine (W.P. & T.B. Licence No.)...:	Greenhill (642)
Location of mine.....:	Blairmore - Tp. 8, R. 4, W. of 5
Seam.....:	No. 1 & No. 2 (Kootenay Formation)
Output.....tons/annum:	900-990,000 (4)
Trade name.....:	GREENHILL

Size.....:	Mine Run	Lump	Stove(1)	Stoker(2)	Slack
Screen limits at mine.....:		+1-1/4" sq.	2x5" rd.	1/4x1-5/8" sq.	0x1-5/8" sq.
No. of samples.....:	16	5	31	7	14
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	2.5	1.5	1.5	2.5	2.5
Ash.....%:	14.7	9.8	11.4	9.6	13.7
Volatile matter.....%:	23.6	24.8	23.5	23.4	22.6
Fixed carbon.....%:	59.2	63.9	63.6	64.5	61.2
Fuel ratio.....:	2.51	2.58	2.71	2.76	2.71
Calorific value.....B.T.U./lb:	12,540	13,670	13,300	13,500	12,810
Ash softening temperature...°F.:	2700+	2620	2525	2780+	2780
Caking Properties					
By volatile button @ 950°C...:	Good	Good	Good	Good	Good
Caking index (Gray).....:			35		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			17.0		
Swelling index.....:			490		
Ultimate Analysis					
Carbon.....%:	72.6				
Hydrogen.....%:	4.3				
Nitrogen.....%:	1.0				
Sulphur.....%:	0.5	0.5	0.5	0.4	0.4
Oxygen.....%:	4.4				
Classification by Rank					
A.S.T.M.....:	Medium Volatile Bituminous				
S.V.I.....:	172 - Orthobituminous				
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	58.5	57.5	49.7	50.0	53.0(3)
cu.ft./ton:	34.2	34.8	40.2	40.0	47.7
Grindability Index.....:	76.1				78.9

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	53.1	32.3	6.0	3.0	0.9	0.01	Nil	0.7	0.7	1.5	2.2

(1) Also known as washed furnace size, and egg.
(2) Stoker also called Nut-pea
(3) The bulk density of the slack varies from about 48.0 to 58.0 lbs./cu.ft. dependent largely upon the size distribution.
(4) This is the output for all the West Canadian Collieries Mines, namely Greenhill, Bellevue and Adanac.

Province.....:	ALBERTA
District or area.....:	Drumheller(I Drumheller District)
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Drumheller-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (Lower) (Edmonton Formation)
Output.....tons/annum:	360,000

Size.....:	Lump	Egg, Stove	Pea,Nut-Pea Stoker	Slack
Screen limits at mines.....:	+4-1/2", +5" rd.	2,3x4, 5" rd.	3/8,3/4x1-1/4, 1-1/2" sq.	0x3/4,1-1/2, 2"sq
No. of samples.....:	16	13	43	8
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	17.3	17.2	17.0	18.3
Ash.....%:	6.7	8.4	11.6	11.8
Volatile matter.....%:	30.6	30.0	28.9	28.4
Fixed carbon.....%:	45.4	44.4	42.1	41.5
Fuel ratio.....:	1.48	1.48	1.46	1.46
Calorific value.....B.T.U./lb:	10,020	9,810	9,400	9,090
Ash Softening Temperature...°F:	2150	2270	2265	2300
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	57.7			
Hydrogen.....%:	4.0			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:	12.8			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			115-Lignitic	
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:	53.2	49.3	45.0	53.1
cu.ft./ton:	37.6	40.6	44.4	37.7
Grindability Index.....:	37.1			37.4

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	48.9	21.6	8.2	8.5	2.2	0.18	4.0	0.9	1.5	0.5	3.7

(1) See "Coal Mines in Canada"-Dept. of Mines & Resources Publication No. 4-1.

Province.....:	ALBERTA
District or area.....:	Drumheller(II Drumheller,Rosedale,Wayne & Willow Creek)
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Drumheller-Tp. 29; R. 20; W. of 4
	Rosedale,Wayne,Willow Creek-Tp.28; R. 18,19 & 20; W.of 4
Seams.....:	No. 1 (Lower) & No. 5 (Upper)
	(Edmonton Formation)
Output.....tons/annum:	950,000

Size.....:	Lump	Egg,Stove	Nut,Pea,Stoker	Slack
Screen limits at mines.....:	+4,+5"rd.	2x4,5"rd.	3/8,3/4,5/8 x1,1-1/2,2"sq.	0x3/4,1,1-1/2, 2" sq.
No. of samples.....:	64	65	64	16
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	18,1	18.2	18.0	19.3
Ash.....%:	7.2	8.0	11.9	10.9
Volatile matter.....%:	30.7	30.1	28.5	28.4
Fixed carbon.....%:	44.0	43.7	41.6	41.4
Fuel ratio.....:	1.43	1.45	1.46	1.46
Calorific value.....B.T.U./lb:	9,775	9,640	9,175	9,065
Ash Softening Temperature...°F:	2115	2145	2260	2180
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	56.5			
Hydrogen.....%:	3.7			
Nitrogen.....%:	1.3			
Sulphur.....%:	0.5	0.5	0.5	0.5
Oxygen.....%:	12.7			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			113-Lignitic	
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:	50.7	48.5	45.6	50.7
cu.ft./ton:	39.4	41.2	43.9	39.5
Grindability Index.....:	38.7			35.7

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	48.8	20.5	6.5	9.1	1.9	0.05	4.3	0.5	1.0	0.4	5.0

(1) See "Coal Mines in Canada"-Dept. of Mines & Resources Publication No.4-1.

Province.....:	ALBERTA
District or area.....:	Drumheller(III East Coulee,Willow Creek,N. Drumheller)
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	East Coulee & Willow Creek-Tp. 27,28; R. 18,19; W. of 4 North Drumheller-Tp. 29; R. 30; W. of 4
Seam.....:	No. 2, No. 7 & No. 1 (Edmonton Formation)
Output.....tons/annum:	525,000

Size.....:	Lump	Stove, Egg	Nut Stoker	Nut Slack
Screen limits at mine.....:	+2,3,4 or 5"rd.	2-1/2x5"rd.*	3/8x1-1/4"sq.	0x1-1/4,1-1/2"sq
No. of samples.....:	24	15	27	19
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	18.7	18.9	19.0	19.9
Ash.....%:	7.8	7.4	9.5	9.9
Volatile matter.....%:	30.2	29.9	29.1	28.8
Fixed carbon.....%:	43.3	43.8	42.4	41.4
Fuel ratio.....:	1.43	1.46	1.45	1.44
Calorific value.....B.T.U./lb:	9,495	9,540	9,170	9,060
Ash Softening Temperature...°F:	2085	2060	2030	2075
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	55.3			
Hydrogen.....%:	3.8			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.5	0.5	0.6	0.6
Oxygen.....%:	12.8			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			108-Lignitic	
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		48.7	46.5	50.0
cu.ft./ton:		41.1	43.0	40.0
Grindability Index.....:				

(1) See "Coal Mines in Canada"-Dept. of Mines & Resources Publication No. 4-1

* Also smaller:-1-3/4x4-1/2" etc.

Province.....:	ALBERTA
District or area.....:	Drumheller (I)
Operator.....:	Brilliant Coal Co.
Mine(W.P. & T.B. Licence No.)...:	Brilliant (2823)
Location of mine.....:	Drumheller-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (1) (Edmonton Formation)
Output.....tons/annum:	75-150,000
Trade name.....:	BRILLIANT

Size.....:	D.S.Lump(2)	Stove(3) Egg	Nut Pea	Slack
Screen limits at mine.....:	+5" rd.	3x5" rd.	3/4,1x1-3/4" sq.	0x3/4",1"
No. of samples.....:	5	3	2	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	17.5	17.5	17.5	18.5
Ash.....%:	7.6	9.5	11.5	13.9
Volatile matter.....%:	30.8	29.9	30.4	28.2
Fixed carbon.....%:	44.1	43.1	40.6	39.4
Fuel ratio.....:	1.41	1.44	1.34	1.40
Calorific value.....B.T.U./lb:	9,865	9,575	9,195	8,800
Ash Softening Temperature...°F:	2210	2335	2300	2280
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	57.0			
Hydrogen.....%:	3.9			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:	12.5			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			115-Lignitic	
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	55.0	50.0	44.5	52.5
cu.ft./ton:	36.4	40.0	44.9	38.1
Grindability index.....:	36.6			36.6

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	52.5	22.8	4.9	8.5	2.1	0.04	4.0	0.7	1.4	0.4	2.2

(1) The Upper Bench of the seam consists of "Granular" Coal and in preparation is picked out and sold as +1-1/2" "Granular Lump".

(2) D.S.-Double Screened.

(3) Stove is also 1-3/4" x 3".

Province.....:	ALBERTA
District or area.....:	Drumheller (I)
Operator.....:	Commander Coal Mine-Regal Coal Co., Ltd.
Mine(W.P. & T.B. Licence No.)...:	Commander (1671)
Location of mine.....:	Drumheller-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	60-80,000
Trade name.....:	COMMANDER (Wildfire)

Size.....:	D.S.Lump	Stove	Nut Slack
Screen limits at mine.....:	+4-1/2" rd.	1-1/2x4" rd.	0x1-1/2" sq.
No. of samples.....:	2	2	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	17.5	17.5	18.5
Ash.....%:	6.8	7.4	10.3
Volatile matter.....%:	30.5	30.3	28.7
Fixed carbon.....%:	45.2	44.8	42.5
Fuel ratio.....:	1.48	1.48	1.48
Calorific value.....B.T.U./lb:	9,910	9,800	9,195
Ash Softening Temperature...°F:	2200	2290	2415
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index.(Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	58.1		
Hydrogen.....%:	3.9		
Nitrogen.....%:	1.1		
Sulphur.....%:	0.4	0.4	0.4
Oxygen.....%:	12.2		
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		113-Lignitic	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	52.0	49.0	53.5
cu.ft./ton:	38.5	40.8	37.4
Grindability Index.....:			42.5

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	42.9	21.2	15.0	8.3	2.3	0.3	3.5	1.6	1.6	0.4	3.0

(1) This mine was opened in 1943.

Province.....:	ALBERTA
District or area.....:	Drumheller (I)
Operator.....:	The Elgin Coal Co., Ltd.(1)
Mine.....:	Elgin(Lower)
Location of mine.....:	Drumheller-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	ELGIN
Size.....:	Lump
Screen limits at mine.....:	----
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	18.0
Ash.....%:	5.2
Volatile matter.....%:	31.1
Fixed carbon.....%:	45.7
Fuel ratio.....:	1.47
Calorific value.....B.T.U./lb:	10,110
Ash Softening Temperature...°F:	1995
Caking Properties	
By Volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	115-Lignitic

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Closed down since 1941.

ovince.....:	ALBERTA
strict or area.....:	Drumheller (I)
erator.....:	Red Deer Valley Coal Co., Ltd.
ine(W.P. & T.B. Licence No.)...:	Red Deer Valley (3504)
cation of mine.....:	Nacmine-Tp. 29; R. 20; W. of 4
am.....:	No. 1 (Edmonton Formation)
tput.....tons/annum:	150-225,000
rade name.....:	GLOCOAL and "10-5"

ize.....:	D.S.Lump(1)	Stove(2)	Nut Pea	Nut Slack(4)
reen limits at mine(3).....:	+5" rd.	2x5" rd.	3/8x1-1/2" sq.	0x2" rd.
o. of samples.....:	7	8	41	3
EMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	17.0	17.0	17.0	18.0
Ash.....%:	6.4	8.3	11.6	10.8
Volatile matter.....%:	30.4	30.0	28.8	28.5
Fixed carbon.....%:	46.2	44.7	42.6	42.7
Fuel ratio.....:	1.52	1.49	1.48	1.50
Calorific value.....B.T.U./lb:	10,140	9,900	9,415	9,310
Ash Softening Temperature...°F:	2135	2245	2265	2240
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	52.4			
Hydrogen.....%:	4.1			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:	13.6			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			115-Lignitic	
YSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	52.3	49.2	45.0	53.5
cu.ft./ton:	38.2	40.7	44.5	37.4
Grindability Index.....:				35.1

H ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	51.2	20.7	4.7	8.7	2.4	0.2	4.6	0.4	1.5	0.4	6.0

1) Double Screened. Also single screened (+1-1/4 in. sq.)
2) Also known as egg and may be 2x6" rd., or 2x3" rd.
3) Other sizes prepared; Super Lump: +10"; Shovel Lump (Grate): 5x10"; Nut Pea: 1x2"; Stoker: 3/8x1".
4) Also 0x3/4" and 0x1-1/4 Slack produced.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Arcadia Coal Mines Ltd.(Sask.Fed.Co-Op's.,Ltd.)(1)
Mine(W.P. & T.B. Licence No.)...:	Arcadia (7741)
Location of mine.....:	Willow Creek-Tp. 28; R. 18; W. of 4
Seam.....:	No. 1 (Bottom Bench) (Edmonton Formation)
Output.....tons/annum:	50-60,000
Trade name.....:	PURITY HARD

Size.....:	D.S.Lump(2)	Stove(3)	Nut	Slack
Screen limits at mine(4).....:	+5" sl.	2x5" sl.	3/4x2" sq.	0x3/4, 1-1/2" sq.
No. of samples.....:	5	3	2	4
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	19.0	19.0	19.0	20.0
Ash.....%:	6.2	7.1	8.4	8.6
Volatile matter.....%:	30.9	30.1	29.5	29.2
Fixed carbon.....%:	43.9	43.8	43.1	42.2
Fuel ratio.....:	1.42	1.46	1.46	1.45
Calorific value...B.T.U./lb...:	9,765	9,580	9,455	9,290
Ash Softening Temperature...°F:	1950	1985	2070	2020
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	56.3			
Hydrogen.....%:	3.6			
Nitrogen.....%:	1.3			
Sulphur.....%:	0.6	0.6	0.6	0.6
Oxygen.....%:	13.0			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			112-Lignitic	
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:		51.0		46.0
cu.ft./ton:		39.2		43.5
Grindability Index.....:				35.4

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	47.6	16.8	5.0	10.3	1.8	0.02	5.6	0.7	0.8	0.4	9.9

(1) Listed as Empire Collieries Ltd., until 1944.
(2) Also single screened lump:-+1-1/2 in.
(3) Also called Egg and may be 2x3" or 2x4".
(4) Other sizes prepared: Stoker or Pea: 5/8x1-1/4 in. sq.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Ideal Coal Co., Ltd. (1)
Mine(W.P. & T.B. Licence No.)...:	Ideal (7710)
Location of mine.....:	Wayne-Tp. 28; R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	IDEAL

Size.....:	Lump(2)	Stove	Nut Slack
Screen limits at mine.....:	+4" B.	3/4" Sl.x4" B.	0x5/8,1/2" Sl.
No. of samples.....:	4	1	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	17.5	18.5	18.5
Ash.....%:	8.3	7.0	10.8
Volatile matter.....%:	30.9	30.8	29.7
Fixed carbon.....%:	43.3	43.7	41.0
Fuel ratio.....:	1.40	1.42	1.38
Calorific value.....B.T.U./lb:	9,755	9,790	9,045
Ash Softening Temperature...°F:	2225	2190	2220
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.5	0.5	0.4
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		114-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:	52.3	50.5	53.5
cu.ft./ton:	38.2	39.6	37.4
Grindability Index.....:			

(1) Closed for several years and reopened in 1941.
(2) Also Furnace Lump: +2" B.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Hy-Grade Coal Mining Co., Ltd.
Mine(W.P. & T.B. Licence No.)...:	Hy-Grade (4607)
Location of mine.....:	Drumheller-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	90-120,000
Trade name.....:	HY-GRADE

Size.....:	D.S.Lump(1)	Stove, Egg	Nut Slack
Screen limits at mine(2).....:	+5-1/2" rd.	2-1/2x5-1/2" rd.	0x1-1/2"
No. of samples.....:	3	2	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	17.5	17.5	18.5
Ash.....%:	6.8	7.8	10.2
Volatile matter.....%:	30.9	30.4	28.9
Fixed carbon.....%:	44.8	44.3	42.4
Fuel ratio.....:	1.45	1.46	1.47
Calorific value.....B.T.U./lb:	9,975	9,810	9,265
Ash Softening Temperature...°F:	2150	2300	2210
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	58.0		
Hydrogen.....%:	3.5		
Nitrogen.....%:	1.2		
Sulphur.....%:	0.4	0.4	0.5
Oxygen.....%:	12.6		
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		113-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb/cu.ft..:	52.0	49.5	56.0
cu.ft./ton:	38.5	40.4	35.7
Grindability Index.....:	35.2		34.9

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	48.0	21.0	6.5	10.6	2.0	0.01	5.1	0.6	1.4	0.3	1.5

(1) Double Screened.
(2) Other sizes produced: Single Screened Lump (Mine Run); +1-3/8" lip.; nut: 3/4"x1-3/5" lip.; Pea (Stoker) 3/4" sq.x3/4" lip.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Midland Coal Mining Co., Ltd.
Mine(W.P. & T,B. Licence No.)...:	Midland & Mercury (3828)
Location of mine.....:	Midlandvale-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	175-250,000
Trade name.....:	MIDLAND ; MERCURY

Size(1).....:	Lump	Egg, Stove(2)	Nut	Nut Pea(3) (Stoker)	Slack
Screen limits at mine.....:	+5" rd.	2x6" rd. 1-3/4x4" rd.	(4)	3/8x1-1/2" rd.	0x1-1/2" rd
No. of samples.....:	7	6	1	11	2

CHEMICAL PROPERTIES

Proximate Analysis					
Moisture.....%:	17.0	17.0	17.0	17.0	18.3
Ash.....%:	7.6	6.6	11.5	12.0	13.9
Volatile matter.....%:	30.4	30.2	29.0	29.1	27.3
Fixed carbon.....%:	45.0	45.2	42.5	41.9	40.5
Fuel ratio.....:	1.48	1.50	1.45	1.44	1.48
Calorific value.....B.T.U./lb:	9,875	9,860	9,375	9,310	8,830
Ash Softening Temperature...°F:	2130	2080	2280	2290	2330
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	57.0				
Hydrogen.....%:	3.7				
Nitrogen.....%:	1.3				
Sulphur.....%:	0.4	0.4	0.4	0.4	0.4
Oxygen.....%:	13.0				
Classification by Rank					
A.S.T.M.....:			Subbituminous B		
S.V.I.....:			110-Lignitic		

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:		47.4	47.2		50.0
cu.ft./ton:		42.2	42.4		40.0
Grindability Index.....:					36.7

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	48.4	20.1	9.6	8.8	2.0	0.1	2.4	0.5	0.6	0.4	5.2

(1) Other sizes prepared-Lump 4-1/2 or 5x10".
(2) Stove=Stove-Nut Mixture, where Stove is 2x5" and Nut 1" or 1-3/4"x2".
(3) Nut Pea may be 1x1-3/4 in., and Stoker may be 5/8x15/16 in.
(4) This was 15/16x1-13/16".

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	The Monarch Coal Mining Co., Ltd.(4)
Mine(W.P. & T.B. Licence No.)...:	Western Monarch (3016)
Location of mine.....:	Drumheller-Tp. 29; R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	100-200,000
Trade name.....:	WESTERN MONARCH

Size (3).....:	D.S.Lump(1)	Egg, Stove	Pea(2)	Nut Slack
Screen limits at mine.....:	+4-1/2"rd.	2x4-1/2" rd.	1x2" rd.	0x2" rd.
No. of samples.....:	3	3	2	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	18.0	18.0	18.3	20.0
Ash.....%:	7.1	7.2	9.4	10.1
Volatile matter.....%:	30.2	29.7	29.2	27.6
Fixed carbon.....%:	44.7	45.1	43.1	42.3
Fuel ratio.....:	1.48	1.52	1.48	1.53
Calorific value.....B.T.U./lb:	9,650	9,700	9,375	9,150
Ash Softening Temperature...°F:	2160	2140	2185	2260
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:				
Hydrogen.....%:				
Nitrogen.....%:				
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:				
Classification by Rank				
A.S.T.M.....:		Subbituminous B		
S.V.I.....:		107-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		46.2	46.5	50.4
cu.ft./ton:		43.3	43.0	39.7
Grindability Index.....:				35.4

(1) Double Screened
(2) Also called "Nut-Pea"
(3) Other sizes prepared: "Stoker" 5/8x1"
(4) Although up to 1947 this company operated the Western Monarch mine near Drumheller, this mine was closed down and the Western Crown mine, operated by the same company near East Coulee, was apparently renamed Western Monarch.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Newcastle Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	Newcastle (1499)
Location of mine.....:	Drumheller-Tp. 29. R. 20; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	75-150,000
Trade name.....:	NEWCASTLE (A.B.C.)

Size(1).....:	D.S.Lump	Egg, Stove	Stoker	Nut Slack
Screen limits at mine.....:	+5" rd.	2-1/2x5-1/2" rd. 1-1/2 B.x2-1/2"rd.	3/8x1-1/2" B.	0x1-1/2" B
No. of samples.....:	4	14	32	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	18.0	18.0	18.0	20.0
Ash.....%:	8.5	10.1	11.9	11.8
Volatile matter.....%:	30.4	29.3	28.5	27.3
Fixed carbon.....%:	43.1	42.6	41.6	41.9
Fuel ratio.....:	1.42	1.45	1.46	1.53
Calorific value.....B.T.U./lb:	9,940	9,285	9,190	8,830
Ash Softening Temperature...°F:	2325	2160	2280	2280
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		-------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	55.6			
Hydrogen.....%:	3.7			
Nitrogen.....%:	1.2			
Sulphur.....%:	0.4	0.5	0.5	0.4
Oxygen.....%:	12.6			
Classification by Rank				
A.S.T.M.....:		Subbituminous B		
S.V.I.....:		107-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		50.0	44.5	52.0
cu.ft./ton:		40.0	44.9	38.5
Grindability Index.....:	39.3			36.3

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.8	23.2	4.8	7.0	2.2	0.03	3.9	0.7	1.0	0.4	1.5

(1) Other sizes prepared:-Range-nut: 1-1/2"x2-1/2"; Slack: 0x3/4" sq.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Rosedale Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	Rosedale (4382) Star (7926)
Location of mine.....:	Rosedale-Tp. 28; R. 19; W. of 4-Rosedale Star-Tp. 28; R. 19; W. of 4-Ariel
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	175-250,000
Trade name.....:	ROSEDALE ; STAR

Size(1).....:	D.S.Lump	Granular Lump	Egg, Stove	Pea (Stoker)	Nut Slack
Screen limits at mine.....:	+4" rd.	+4" rd.	2-1/4x4,5" rd.	5/8x1" sq.	0x1" sq
No. of samples.....:	28	9	31	14	2
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	18.5	18.0	18.5	18.5	20.0
Ash.....%:	7.1	12.6	7.6	13.4	10.7
Volatile matter.....%:	30.6	28.7	30.2	27.6	28.4
Fixed carbon.....%:	43.8	40.7	43.7	40.5	40.9
Fuel ratio.....:	1.43	1.42	1.45	1.47	1.44
Calorific value.....B.T.U./lb:	9,770	9,090	9,740	8,865	8,995
Ash Softening Temperature...°F:	2100	2290	2100	2250	2175
Caking Properties					
By volatile button.@ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	56.5				
Hydrogen.....%:	3.9				
Nitrogen.....%:	1.3				
Sulphur.....%:	0.5	0.5	0.6	0.6	0.6
Oxygen.....%:	12.2				
Classification by Rank					
A.S.T.M.....:			Subbituminous B		
S.V.I.....:			116-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:	50.5	52.3	48.0	46.5	54.0
cu.ft./ton:	39.6	38.2	41.7	43.0	37.0
Grindability Index.....:	39.0				34.7

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	45.4	21.4	6.5	9.0	1.7	0.1	4.5	0.5	1.1	0.6	7.0

(1) Other sizes produced: Grate: 4x10", and Range(Nut): 1x2-1/4 in. No samples of these have been received for analysis.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Superior Grade Coal Co., Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Sunshine (737)
Location of mine.....:	Wayne-Tp. 28; R. 19; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	10-20,000
Trade name.....:	SUNSHINE
Size.....:	Lump
Screen limits at mine.....:	----
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	18.0
Ash.....%:	5.2
Volatile matter.....%:	30.8
Fixed carbon.....%:	46.0
Fuel ratio.....:	1.49
Calorific value.....B.T.U./lb:	10,295
Ash Softening Temperature...°F:	1960
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.5
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	120-Lignitic

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Closed down since 1941.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Wayne Coal Producers Assn. Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Mutual (703)
Location of mine.....:	Wayne-Tp. 28; R. 19; W. of 4
Seam.....:	No. 5 (Edmonton Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	MUTUAL

Size.....:	D.S.Lump	Stove	Nut Slack
Screen limits at mine.....:	+4" rd.	2x4-1/2" rd.	0x2" rd.
No. of samples.....:	4	2	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	18.0	18.0	19.0
Ash.....%:	7.4	7.8	15.8
Volatile matter.....%:	30.9	32.0	27.0
Fixed carbon.....%:	43.7	42.2	38.2
Fuel ratio.....:	1.41	1.32	1.41
Calorific value.....B.T.U./lb:	9,800	9,690	8,385
Ash Softening Temperature...°F:	2145	2280	2320
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.5	0.5	0.4
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		114-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:		48.5	51.0
cu.ft./ton:		41.2	39.2
Grindability Index.....:			

(1) Abandoned in 1941.

Province.....:	ALBERTA
District or area.....:	Drumheller (II)
Operator.....:	Western Gem & Jewel Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	Cambrian (3085)
Location of mine.....:	Cambria-Tp. 28; R. 19; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum:	70-80,000
Trade name.....:	NEW WESTERN GEM ; NEW JEWEL

Size (1).....:	D.S.Lump	Stove, Egg	Nut Pea	Stoker	Nut Slac
Screen limits at mine.....:	+5" rd.	2,2-1/2x5"rd.	5/8"sq.x2"rd.	5/8x1"sq.	0x2-1/2"r
No. of samples.....:	4	1	1	1	1
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	18.0	18.0	18.5	18.5	19.0
Ash.....%:	6.7	5.6	5.4	7.6	8.6
Volatile matter.....%:	31.0	31.5	29.9	29.9	29.6
Fixed carbon.....%:	44.3	44.9	46.2	44.0	42.8
Fuel ratio.....:	1.43	1.43	1.55	1.47	1.45
Calorific value.....B.T.U./lb:	9,880	9,950	9,830	9,690	9,425
Ash Softening Temperature...°F:	2045	1970	2000	2060	2000
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index(Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....%:			Negative		
Ultimate Analysis					
Carbon.....%:					
Hydrogen.....%:					
Nitrogen.....%:					
Sulphur.....%:	0.4	0.4	0.5	0.5	0.5
Oxygen.....%:					
Classification by Rank					
A.S.T.M.....:			Subbituminous B		
S.V.I.....:			113-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:		47.7	47.0	47.0	48.0
cu.ft./ton:		41.9	42.6	42.6	41.7
Grindability Index.....:					

(1) In addition to above sizes Cobble: 5x10", is also prepared.

Province.....:	ALBERTA		
District or area.....:	Drumheller (III)		
Operator.....:	Aetna Coal Co.		
Mine (W.P. & T.B. Licence No.)..:	Aetna (2158)		
Location of mine.....:	Rosedale Ferry-Tp. 28; R. 19; W. of 4		
Seam.....:	No. 1 (Edmonton Formation)		
Output.....tons/annum.:	20-30,000		
Trade name.....:	AETNA		
Size.....:	D.S.Lump	Stove	Nut Slack
Screen limits at mine.....:	+4" rd.	1-3/4" sq. x 4-1/2" rd.	0 x 1-3/4" sq.
No. of samples.....:	2	1	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	19.0	19.0	20.0
Ash.....%:	7.4	7.9	11.8
Volatile matter.....%:	30.1	30.0	28.0
Fixed carbon.....%:	43.5	43.1	40.2
Fuel ratio.....:	1.45	1.44	1.44
Calorific value.....B.T.U./lb:	9565	9540	8880
Ash softening temperature...°F:	2025	2060	2120
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		....	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.7	0.6	0.7
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		109-Lignitic	
PHYSICAL PROPERTIES			
Bulk density.....lb/cu.ft..:		48.0	55.5
cu.ft./ton:		41.7	36.0
Grindability index.....:			

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	Regal Coal Co., Ltd.-Atlas Coal Mine
Mine(W.P. & T.B. Licence No.)...:	Atlas (1672)
Location of mine.....:	East Coulee-Tp. 27; R. 18; W. of 4
Seam.....:	No. 2 (East Coulee) (Edmonton Formation)
Output.....tons/annum:	150-200,000
Trade name.....:	REGAL ; WILDFIRE

Size(1).....:	D.S.Lump	Egg(2)	Nut Pea	Stoker	Slack
Screen limits at mine.....:	+5" rd.	2-1/2x5" rd.	1x2" rd.	3/8x1" rd.	0x3/4,1-1/2" r
No. of samples.....:	10	4	1	1	4
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	19.0	19.0	19.5	19.5	20.0
Ash.....%:	7.3	7.0	8.0	8.1	8.9
Volatile matter.....%:	30.5	30.1	30.3	29.3	28.8
Fixed carbon.....%:	43.2	43.9	42.2	43.1	42.3
Fuel ratio.....:	1.42	1.46	1.39	1.47	1.47
Calorific value.....B.T.U./lb:	9,470	9,700	9,245	9,225	9,335
Ash Softening Temperature...°F:	2065	2125	2060	2010	2015
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	55.4				
Hydrogen.....%:	3.7				
Nitrogen.....%:	1.2				
Sulphur.....%:	0.5	0.5	0.7	0.6	0.6
Oxygen.....%:	12.9				
Classification by Rank					
A.S.T.M.....:			Subbituminous B		
S.V.I.....:			106-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:		49.0	47.5		47.5
cu.ft./ton:		40.8	42.1		42.1
Grindability Index.....:					37.3

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	26.7	13.1	25.7	10.0	2.1	0.9	4.7	0.9	0.6	0.4	12.6

(1) In addition to above sizes the following also prepared: Sized Lump: 6x12"; Grate Coal: 6x9"; Nut: 2x2-1/2" rd.

(2) Egg may be 2-1/2"-6" rd. Also called Stove size.

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	Comet Coal Co., Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Comet (3782)
Location of mine.....:	East Coulee-Tp. 27; R. 18; W. of 4
Seam.....:	No. 2 (East Coulee) (Edmonton Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	COMET

Size.....:	D.S.Lump	Nut Slack
Screen limits at mine.....:	+2-3/4" B.	0x2-3/4" B.
No. of samples.....:	1	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	19.5	20.5
Ash.....%:	7.6	8.5
Volatile matter.....%:	30.1	28.4
Fixed carbon.....%:	42.8	42.6
Fuel ratio.....:	1.42	1.50
Calorific value.....B.T.U./lb:	9,310	9,095
Ash Softening Temperature...°F:	2070	2140
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking Index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	--------	
Swelling Index.....:	Negative	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.7	0.8
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	Subbituminous B	
S.V.I.....:	104-Lignitic	
PHYSICAL PROPERTIES		
Bulk Density.....lb./cu.ft.:		52.5
cu.ft./ton:		38.1
Grindability Index.....:		

(1) Not listed since 1942.

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	Maple Leaf Minerals Ltd.
Mine(W.P. & T.B. Licence No.)...:	Maple Leaf (1498)
Location of mine.....:	Lehigh-Tp. 27; R. 18; W. of 4
Seam.....:	No. 2 (East Coulee) (Edmonton Formation)
Output.....tons/annum:	50-70,000
Trade name.....:	OUR NATIONAL

Size(1).....:	D.S.Lump	Stove, Egg	Nut, Stoker(2)	Nut Slack
Screen limits at mine.....:	+5" rd.	2-1/2x5" rd.	3/8x1-1/2" sq.	0x1-3/4" rd.
No. of samples.....:	4	1	2	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	18.5	18.5	19.0	20.0
Ash.....%:	7.2	7.7	10.0	8.7
Volatile matter.....%:	30.6	29.9	28.7	29.4
Fixed carbon.....%:	43.7	43.9	42.3	41.9
Fuel ratio.....:	1.48	1.47	1.47	1.43
Calorific value.....B.T.U./lb:	9,940	9,480	9,060	9,240
Ash Softening Temperature...°F:	2010	1900	2040	1870
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:				
Hydrogen.....%:				
Nitrogen.....%:				
Sulphur.....%:	0.5	0.4	0.5	0.[illegible]
Oxygen.....%:				
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			104-Lignitic	
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		50.0		53.0
cu.ft./ton:		40.0		37.7
Grindability Index.....:				

(1) Other sizes prepared are: Super Double-Screened Lump: +9x11" lip.; Stove Lump: 5" rd.x9x11" lip.; Range-Nut: 1-1/2"x2-1/2"; Nut Pea(Stoker): 3/4x1-1/2" or 5/8x2"; Single-Screened Lump: +3" rd.

(2) Samples of Nut Stoker in 1944. Analyses of other sizes from samples prior to 194[illegible]

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	The Minute Coal Co.
Mine(W.P. & T.B. Licence No.)...:	Minute (3910)
Location of mine.....:	Drumheller North-Tp. 29; R. 20; W. of 4
Seam.....:	No. 7 (Edmonton Formation)
Output.....tons/annum:	8-20,000
Trade name.....:	GOOD QUALITY

Size.....:	Lump	Stove	Nut	Slack
Screen limits at mine.....:	+3-1/2 B.	2x3-1/2" B.	5/8x2" rd.	0x5/8" rd.
No. of samples.....:	5	3	1	4
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	18.0	18.0	18.0	19.0
Ash.....%:	11.0	9.3	11.5	12.2
Volatile matter.....%:	28.7	28.9	28.6	27.6
Fixed carbon.....%:	42.3	43.8	41.9	41.2
Fuel ratio.....:	1.48	1.52	1.47	1.49
Calorific value.....B.T.U./lb:	9,230	9,635	9,090	8,850
Ash Softening Temperature...°F:	2365	2275	2330	2300
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	53.6			
Hydrogen.....%:	3.7			
Nitrogen.....%:	1.0			
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:	12.3			
Classification by Rank				
A.S.T.M.....:		Subbituminous B		
S.V.I.....:		109-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		49.5		48.5
cu.ft./ton:		40.4		41.2
Grindability Index.....:				36.6

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	55.5	22.8	3.6	1.1	0.5	0.1	2.0	1.7	0.3	0.8	4.1

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	The Monarch Coal Mining Co., Ltd.
Mine(W.P. & T.B. Licence No.)...:	Western Crown (3016)(1)
Location of mine.....:	East Coulee-Tp. 27; R. 18; W. of 4
Seam.....:	No. 2 (East Coulee) (Edmonton Formation)
Output (1944).....tons/annum:	20,703
Trade name.....:	WESTERN CROWN

Size.....:	Lump	Stove	Nut Slack	Nut
Screen limits at mine.....:	+2" B.	1-1/4x2" B.	0x1-1/4" sq.	5/8x1-1/4" sq.
No. of samples.....:	4	2	3	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	19.0	19.0	20.0	19.0
Ash.....%:	7.6	7.6	10.2	11.0
Volatile matter.....%:	30.9	30.7	29.4	29.2
Fixed carbon.....%:	42.5	42.7	40.4	40.8
Fuel ratio.....:	1.38	1.39	1.37	1.40
Calorific value.....B.T.U./lb:	9,470	9,400	8,970	9,035
Ash Softening Temperature...°F:	2070	2100	2105	2140
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	55.5			
Hydrogen.....%:	3.8			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.8	0.8	0.9	0.9
Oxygen.....%:	12.2			
Classification by Rank				
A.S.T.M.....:			Subbituminous B	
S.V.I.....:			105-Lignitic	
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		46.8	51.0	
cu.ft./ton:		42.7	39.2	
Grindability Index.....:			35.4	

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	47.2	17.0	10.1	7.4	1.4	0.8	4.5	1.2	0.5	0.4	7.1

(1) Listed as Western Monarch in 1947. Apparently the old Western Monarch Mine at Drumheller closed down and the name was transferred to the new Western Crown mine at East Coulee.

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	Murray Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	New Murray (3084)
Location of mine.....:	East Coulee-Tp. 27; R. 18; W. of 4
Seam.....:	No. 2 (East Coulee) (Edmonton Formation)
Output.....tons/annum:	150-175,000
Trade name.....:	MURRAY BLAZEMORE

Size(1).....:	D.S.Lump	Egg or Stove & Nut(2)	Stoker Nut	Nut Slack
Screen limits at mine.....:	+5" rd.	(2)	3/8x1-1/4" sq.	0x1-1/4" sq.
No. of samples.....:	4	8	16	7
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	19.0	19.0	19.3	20.0
Ash.....%:	6.8	7.8	10.0	9.7
Volatile matter.....%:	30.9	30.3	28.8	29.0
Fixed carbon.....%:	43.3	42.9	41.9	41.3
Fuel ratio.....:	1.40	1.42	1.46	1.42
Calorific value.....B.T.U./lb:	9,570	9,420	9,050	9,035
Ash Softening Temperature...°F:	1990	2005	2070	2020
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	55.9			
Hydrogen.....%:	3.7			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.6	0.5	0.6	0.6
Oxygen.....%:	12.9			
Classification by Rank				
A.S.T.M.....:		Subbituminous B		
S.V.I.....:		105-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		49.0	46.5	50.0
cu.ft./ton:		40.8	43.0	40.0
Grindability Index.....:				37.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	33.8	23.4	10.2	11.3	1.9	0.5	6.0	1.0	0.7	0.5	8.3

(1) In addition to the above the following size is prepared: Lump or Cobble: 5 or 6x12"
(2) Egg or Stove-2-1/2"x5" rd.
Nut-1-1/4"sq.x2-1/2" rd.

Province.....:	ALBERTA
District or area.....:	Drumheller (III)
Operator.....:	Sask. Fed. Co-Op's. Ltd. (1)
Mine (W.P. & T.B. Licence No.)..:	Empire (1675)
Location of mine.....:	East Coulee - Tp. 27, R. 18, W. of 4
Seam.....:	No. 2 (East Coulee) (Edmonton Formation)
Output.....tons/annum:	45-85,000
Trade name.....:	EMPIRE

Size (2).....:	D.S. Lump	Stove, Egg	Slack
Screen limits at mine.....:	+5x12" sl.	2-5/8x5x12" sl.	0x3/4" sq.
No. of samples.....:	3	2	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	20.0	20.0	21.0
Ash.....%:	6.6	7.4	8.1
Volatile matter.....%:	29.9	30.0	28.5
Fixed carbon.....%:	43.5	42.6	42.4
Fuel ratio.....:	1.45	1.42	1.49
Calorific value.....B.T.U./lb:	9,465	9,370	9,085
Ash softening temperature...°F:	1900	2005	1970
Caking Properties			
By volatile button at 950°C.:	N.A.	N.A.	N.A.
Caking index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		----	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.5	0.5	0.5
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		107 - Lignitic	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:		46.0	51.0
cu.ft./ton:		43.5	39.2
Grindability index.....:			

(1) Prior to 1946 known as the Empire Collieries Ltd.
(2) Other sizes prepared:- Stoker or Pea: 5/8" or 3/4 x 1-1/4" sq.
Nut: 1-1/4" x 2" sq.

Province.....:	ALBERTA
District or area.....:	Edmonton
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Tp. 51 to 55; R. 23 to 26; W. of 4
Seam.....:	Clover Bar (No. 4) (Edmonton Formation)
Output.....tons/annum:	450-500,000

Size.....:	Lump	Stove,Egg	Nut	Pea,Stoker	Slack
Screen limits at mine.....:	(2)	(3)	(4)	(5)	(6)
No. of samples.....:	30	12	6	4	13
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	24.0	24.2	24.3	24.6	25.1
Ash.....%:	7.5	7.4	9.7	10.4	10.6
Volatile matter.....%:	27.8	28.0	26.8	26.1	26.1
Fixed carbon.....%:	40.7	40.4	39.2	38.9	38.2
Fuel ratio.....:	1.47	1.44	1.46	1.49	1.46
Calorific value.....B.T.U./lb:	8,635	8,710	8,365	8,280	8,105
Ash Softening Temperature...°F:	2125	2205	2295	2290	2305
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	50.9				
Hydrogen.....%:	3.4				
Nitrogen.....%:	1.0				
Sulphur.....%:	0.4	0.4	0.4	0.4	0.4
Oxygen.....%:	12.8				
Classification by Rank					
A.S.T.M.....:			Subbituminous C		
S.V.I.....:			104-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:	50.4	46.8	46.4	43.9	48.9
cu.ft./ton:	39.7	42.7	43.1	45.6	40.9
Grindability Index.....:					37.1

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	42.5	24.1	4.8	12.4	1.4	0.07	3.5	2.0	1.6	0.5	6.2

(1) See "Coal Mines in Canada"-Dept. of Mines & Resources Publication No.4-1.
(2) Lump: +4,+5,+6" or larger round hole or bar screens.
(3) Stove, Egg: 2x4,5,6" round hole or bar screens; also 1-1/4x2-1/2" bar; 2-1/4x4" bar screen.
(4) Nut: 1-1/8,1-1/4 sq. x2,2-1/2" rd.; also 3/4x1-1/4" bar and 2-1/2x4" rd.
(5) Pea,Stoker: 1/2,3/4x1-1/8,1-1/4 or 1-1/2" sq.; also 5/8x3/4" sq.
(6) Slack varies from 0x1/2" rd. sq. or bar screens to 0x1-1/4".

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	Banner Coals Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Penn (4359)
Location of mine.....:	Carbondale (Sturgeon Valley)-Tp. 55; R. 24; W. of 4
Seam.....:	Clover Bar (No. 4) (Edmonton Formation)
Output.....tons/annum:	40-60,000
Trade name.....:	BANNER (PENN)

Size.....:	Lump	Stove	Nut	Pea	Slack
Screen limits at mine.....:	+4"rd.	2x4"rd.	1-1/8x2"rd.	3/4x1-1/8"sq.	0x3/4" sq.
No. of samples.....:	3	1	1	1	2
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	24.0	24.0	24.5	24.5	25.0
Ash.....%:	7.5	8.0	9.8	9,9	11.9
Volatile matter.....%:	27.3	26.4	26.8	25.6	25.0
Fixed carbon.....%:	41.2	41.6	38.9	39.8	38.1
Fuel ratio.....:	1.51	1.58	1.45	1.55	1.52
Calorific value.....B.T.U./lb:	8,750	8,655	8,300	8,390	7,990
Ash Softening Temperature...°F:	2095	2190	2240	2220	2270
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	51.8				
Hydrogen.....%:	3.4				
Nitrogen.....%:	1.1				
Sulphur.....%:	0.4	0.4	0.4	0.4	0.4
Oxygen.....%:	11.8				
Classification by Rank					
A.S.T.M.....:			Subbituminous C		
S.V.I.....:			103-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:	53.3	44.3	53.8	43.5	50.8
cu.ft./ton:	37.5	45.1	37.2	46.0	39.4
Grindability Index.....:					36.8

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	41.5	24.5	5.9	12.3	1.3	0.1	3.8	2.7	1.7	0.5	5.6

(1) Controlled by Crown Coal Co., Ltd.,-Edmonton.

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	Beverly Coal Co., Ltd.
Mine(W.P. & T.B. Licence No.)...:	Beverly (3270)
Location of mine.....:	Beverly-Tp. 53; R. 24; W. of 4
Seam.....:	---- (Edmonton Formation)
Output.....tons/annum:	45-60,000
Trade name.....:	BEVERLY

Size.....:	Lump	Egg	Nut	Slack
Screen limits at mine.....:	+10" B.	4x6" rd.	2-1/2x4" rd.	0x1" rd.
No. of samples.....:	1	1	1	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	23.2	23.7	24.0	24.6
Ash.....%:	5.2	6.8	8.2	9.0
Volatile matter.....%:	2718	27.9	28.0	26.8
Fixed carbon.....%:	43.8	41.6	39.8	39.6
Fuel ratio.....:	1.58	1.49	1.42	1.48
Calorific value.....B.T.U./lb:	9,050	8,735	8,545	8,330
Ash Softening Temperature...°F:	2130	2350	2430	2450
Caking Properties				
By volatile button @ 950°C...:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray)	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:				
Hydrogen.....%:				
Nitrogen.....%:				
Sulphur.....%:	0.4	0.3	0.3	0.3
Oxygen.....%:				
Classification by Rank				
A.S.T.M.....:		Subbituminous C		
S.V.I.....:		97-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:	54.0	48.5	46.5	49.3
cu.ft./ton:	37.0	41.2	43.0	40.6
Grindability Index.....:				

Province.....:	ALBERTA		
District or area.....:	Edmonton		
Operator.....:	Bush Mines Ltd.(1)		
Mine(W.P. & T.B. Licence No.)...:	Bush (3274)		
Location of mine.....:	Beverly (Edmonton Settlement)		
Seam.....:	----		
	(Edmonton Formation)		
Output.....tons/annum:	50-60,000		
Trade name.....:	BUSH		
Size.....:	Lump	Stove	Nut Slack
Screen limits at mine.(2).....:	+4" B.	2-1/2 rd.x4" B.	0x1-1/2" B.
No. of samples.....:	5	2	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	24.0	24.5	25.0
Ash.....%:	7.1	6.9	9.5
Volatile matter.....%:	27.8	28.0	26.4
Fixed carbon.....%:	41.1	40.6	39.1
Fuel ratio.....:	1.48	1.45	1.48
Calorific value.....B.T.U./lb:	8,755	8,695	8,275
Ash Softening Temperature...°F:	2100	2140	2270
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0.	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	50.9		
Hydrogen.....%:	3.3		
Nitrogen.....%:	1.0		
Sulphur.....%:	0.3	0.3	0.4
Oxygen.....%:	13.4		
Classification by Rank			
A.S.T.M.....:		Subbituminous C	
S.V.I.....:		103-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:	48.5	48.3	48.8
cu.ft./ton:	41.2	41.4	41.0
Grindability Index.....:			

(1) Not listed since 1944.
(2) Other sizes prepared: Nut: 1-1/2x2", or 3" rd.; Screened Mine Run: Mixed: 1/2 Stove and 1/2 Lump.

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	Dawson Coal Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Dawson (3296)
Location of mine.....:	Edmonton (Rifle Range)
Seam.....:	---- (Edmonton Formation)
Output.....tons/annum:	40-50,000
Trade name.....:	DAWSON

Size.....:	Lump	Egg	Nut	Stoker	Slack
Screen limits at mine.....:	+2-1/4"B.	1-1/4 sq.x 2-1/4" B.	3/4x1-1/4"B. 1-1/4"sq.	5/8x3/4"sq.	0x5/8"sq.
No. of samples.....:	1	1	1	1	1
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	25.0	25.0	25.0	25.5	26.0
Ash.....%:	7.2	6.2	8.8	10.7	10.9
Volatile matter.....%:	26.8	27.4	26.5	25.9	25.1
Fixed carbon.....%:	41.0	41.4	39.7	38.0	38.0
Fuel ratio.....:	8,1453	8,1751	8,1250	8,1467	7,1951
Calorific value.....B.T.U./lb:	8,740	8,870	8,520	8,180	7,990
Ash Softening Temperature...°F:	2170	2040	2120	2200	2265
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:					
Hydrogen.....%:					
Nitrogen.....%:					
Sulphur.....%:	0.4	0.4	0.4	0.3	0.3
Oxygen.....%:					
Classification by Rank					
A.S.T.M.....:			Subbituminous C		
S.V.I.....:			104-Lignitic		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:		47.5	46.0	45.5	50.0
cu.ft./ton:		42.1	43.5	44.0	40.0
Grindability Index.....:					

(1) Not listed since 1944.

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	Edmonton Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	New Black Gem (5015)
Location of mine.....:	Namao-Tp. 54; R. 25; W. of 4
Seam.....:	No. 4 (Upper) Seam (Edmonton Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	NEW BLACK GEM

Size.....:	Egg	Nut	Pea	Slack
Screen limits at mine.....:	2-1/2x4"rd.	1-1/8sq.x2-1/2"rd.	1/2x1-1/8"sq.	0x1/2"sq.
No. of samples.....:	2	1	1	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	24.0	24.5	24.5	25.0
Ash.....%:	8.1	7.9	9.1	11.7
Volatile matter.....%:	28.5	28.7	27.6	26.9
Fixed carbon.....%:	39.4	38.9	38.8	36.4
Fuel ratio.....:	1.38	1.36	1.41	1.35
Calorific value.....B.T.U./lb:	8,620	8,545	8,405	7,860
Ash Softening Temperature...°F:	2380	2370	2420	2400
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	49.9			
Hydrogen.....%:	3.4			
Nitrogen.....%:	0.8			
Sulphur.....%:	0.2	0.3	0.3	0.4
Oxygen.....%:	13.6			
Classification by Rank				
A.S.T.M.....:		Subbituminous C		
S.V.I.....:		103-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:	48.3	45.0	43.3	44.3
cu.ft./ton:	41.4	44.4	46.2	45.1
Grindability Index.....:				35.4

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	43.9	22.1	4.4	12.5	1.7	0.05	2.5	0.9	1.6	0.5	9.7

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	The Great West Coal Co., Ltd.
Mine(W.P. & T.B. Licence No.)....:	Black Diamond (2826)
Location of mine.....:	Clover Bar-Tp. 53; R. 23; W. of 4
Seam.....:	Clover Bar (No. 4) (Edmonton Formation)
Output.....tons/annum:	70-90,000
Trade name.....:	BLACK DIAMOND

Size (1).....:	Lump	Stove,Egg	Nut,Stoker	Slack
Screen limits at mine.....:	+4,+5" rd.	2x4,5" rd.	(2)	0x1-1/4" sq.
No. of samples.....:	8	3	2	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	24.0	24.0	24.0	25.0
Ash.....%:	7.3	7.8	11.8	8.9
Volatile matter.....%:	27.8	27.8	25.5	26.4
Fixed carbon.....%:	40.9	40.4	38.7	39.7
Fuel ratio.....:	1.47	1.45	1.52	1.50
Calorific value.....B.T.U./lb:	8,755	8,680	8,140	8,305
Ash Softening Temperature....°F:	2120	2140	2310	2240
Caking Properties				
By volatile button @ 950°C...:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	51.2			
Hydrogen.....%:	3.3			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:	12.7			
Classification by Rank				
A.S.T.M.....:		Subbituminous C		
S.V.I.....:		101-Lignitic		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		44.9	43.4	49.8
cu.ft./ton:		44.5	46.1	40.2
Grindability Index.....:				38.4

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	42.0	25.6	4.2	12.4	4.1	1.3	0.05	4.3	2.3	1.5	0.5	3.3

(1) Other sizes prepared: Single Screened Lump: +2" rd.; Nut: 1" sq.x2" rd.; Pea: 5/8"x1" sq.; Pea Slack: 5/8" sq.

(2) Nut: 1-1/4x2" rd. Stoker: 1/2x1-1/4" Sq.

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	Kent Coal Co., Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Kent (4358)
Location of mine.....:	South Edmonton-Tp. 52; R. 23 & 24; W. of 4
Seam.....:	Clover Bar (No. 4) (Edmonton Formation)
Output.....tons/annum:	50-70,000
Trade name.....:	KENT

Size.....:	Lump	Stove, Egg	Slack
Screen limits at mine (2).....:	+5" B.	2-1/2 rd.x5" B.	0x1" sq.
No. of samples.....:	2	1	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	24.5	24.5	25.5
Ash.....%:	7.0	8.6	12.9
Volatile matter.....%:	28.0	28.7	25.1
Fixed carbon.....%:	40.5	38.2	36.5
Fuel ratio.....:	1.45	1.33	1.45
Calorific value.....B.T.U./lb:	8,870	8,665	7,925
Ash Softening Temperature...°F:	2010	2180	2220
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.3	0.3	0.2
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous C	
S.V.I.....:		107-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:		45.0	51.0
cu.ft./ton:		44.4	39.2
Grindability Index.....:			

(1) Controlled by Crown Coal Co., Ltd.,-Edmonton. Not listed in 1947.
(2) Other sizes prepared:- Single Screened Lump: +2-1/2" rd.; Nut: 1" sq.x2-1/2" rd.; Pea: 5/8"x1" sq.; Pea Slack: 0x5/8" sq.

Province.....:	ALBERTA		
District or area.....:	Edmonton		
Operator.....	Ottewel Coal Co. (1)		
Mine(W.P. & T.B. Licence No.)...:	Ottewel (3531)		
Location of mine.....:	Clover Bar-Tp. 53; R. 23; W. of 4		
Seam.....:	----		
	(Edmonton Formation)		
Output.....tons/annum:	25,45,000		
Trade name.....:	CLOVER GEM		
Size.....:	Lump	Stove	Slack
Screen limits at mine.....:	+4" rd.	2x4" rd.	0x3/4" sq.
No. of samples.....:	1	1	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	24.0	24.0	25.0
Ash.....%:	7.0	6.0	11.7
Volatile matter.....%:	28.7	28.9	26.4
Fixed carbon.....%:	40.3	41.1	36.9
Fuel ratio.....:	1.40	1.42	1.40
Calorific value.....B.T.U./lb:	8,845	8,935	7,970
Ash Softening Temperature...°F:	2300	2230	2400
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking Index(Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		--------	
Swelling Index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.4	0.4	0.5
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous C	
S.V.I.....:		105-Lignitic	
PHYSICAL PROPERTIES			
Bulk Density.....lb./cu.ft.:		48.5	48.0
cu.ft./ton:		41.2	41.7
Grindability Index.....:			

(1) Underground Mine abandoned in 1944. Operate a strip pit in Tp. 52; R. 24; W. of 4 near Clover Bar. No samples received from this latter mine.

Province.....:	ALBERTA
District or area.....:	Edmonton
Operator.....:	Marcus Coal Co. (1)
Mine(W.P. & T.B. Licence No.)...:	Marcus (699)
Location of mine.....:	Clover Bar-Tp. 53, R. 23; W. of 4
Seam.....:	---- (Edmonton Formation)
Output.....tons/annum:	(8-9,000
Trade name.....:	MARCUS
Size.....:	Lump
Screen limits at mine(2).....:	+4" rd.
No. of samples.....:	3
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	24.0
Ash.....%:	7.9
Volatile matter.....%:	28.7
Fixed carbon.....%:	39.4
Fuel ratio.....:	1.37
Calorific value.....B.T.U./lb:	8,700
Ash Softening Temperature...°F:	2195
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	
Oxygen.....%:	0.4
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	104-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Mine abandoned in 1941.
(2) Egg or Stove: 2x4 or 6" rd. also prepared.

Province.....:	ALBERTA
District or area.....:	Gleichen
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Vicinity of Rosebud, Gleichen & Standard Tps. 20, 21, 25, 26; R. 19, 21, 22; W. of 4
Seam.....:	(Three coal seams) (Edmonton Formation)
Output (1943).....tons/annum:	21,369
Size.....:	Face sample
Screen limits at mines.....:	....
No. of samples.....:	4

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	16.5
Ash.....%:	8.4
Volatile matter.....%:	31.9
Fixed carbon.....%:	43.2
Fuel ratio.....:	1.35
Calorific value.....B.T.U./lb:	9610
Ash softening temperature...°F:	2290
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	....
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	57.3
Hydrogen.....%:	3.7
Nitrogen.....%:	1.1
Sulphur.....%:	0.4
Oxygen.....%:	12.6
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.....:	105-Black Lignite

PHYSICAL [illegible]

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) See "Coal Mines in Canada" - Dept. of Mines & Resources Publication No. 4-1.

Province.....:	ALBERTA
District or area.....:	Halcourt
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 69, 70; R. 7 to 18; W. of 6 - near Grande Prairie
Seam.....:	(2) (Belly River Formation)
Output (1943).....tons/annum:	1,872
Size.....:	Lump & Face Samples
Screen limits at mine.....:	---
No. of samples.....:	7

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	14.0
Ash.....%:	8.6
Volatile matter.....%:	30.3
Fixed carbon.....%:	47.1
Fuel ratio.....:	1.55
Calorific value.....B.T.U./lb:	10,675
Ash softening temperature...°F:	2450
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray.....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....:	61.0
Hydrogen.....:	3.9
Nitrogen.....:	1.6
Sulphur.....%:	0.4
Oxygen.....%:	10.5
Classification by Rank	
A.S.T.M.....:	High volatile C bituminous
S.V.I.....:	127-Subbituminous

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) See "Coal Mines in Canada" published annually by the Dept. of Mines & Resources, Publication No. 4-1.
(2) Coal seams thin, varying from 17 to 28" in thickness.

Province.....:	ALBERTA
District or area.....:	Halcourt
Operator.....:	Baldwin Collieries
Mine (W.P. & T.B. Licence No.)..:	Globe (5433)
Location of mine.....:	Grande Prairie-Tp. 70; R. 7; W. of 6
Seam.....:	.... (Belly River Formation)
Output.....tons/annum:	Under 1,000 tons
Trade name.....:	GLOBE
Size.....:	Lump
Screen limits at mine.....:	1-1/2 x 8"
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	14.0
Ash.....%:	8.6
Volatile matter.....%:	30.9
Fixed carbon.....%:	46.5
Fuel ratio.....:	1.50
Calorific value.....B.T.U./lb:	10,600
Ash softening temperature...°F:	2450
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile C bituminous
S.V.I.....:	125-Subbituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	48.5
cu.ft./ton:	41.2
Grindability index.....:	

Province.....:	ALBERTA
District or area.....:	Highwood
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Highwood River, Sheet Creek, Flat Creek - S.W. of High River-Tps. 15-20, R. 4-8, W. of 5.
Seams.....:	Several (2) (Kootenay Formation)
Output.....tons/annum:	Negligible
Size.....:	Mine Run, Face and Outcrop Samples (Mainly Survey Samples)
No. of Samples.....:	18

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	1.5
Ash.....%:	14.3
Volatile matter.....%:	15.6
Fixed carbon.....%:	68.6
Fuel ratio.....:	4.41
Calorific value.....B.T.U./lb:	12,765
Ash softening temperature...°F:	2850+
Caking Properties	
By volatile button @ 950°C..:	N.A. to weakly caking
Caking index (Gray).....:	0 - 27
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	9 - 13
Swelling index.....:	Negative to 230
Ultimate Analysis	
Carbon.....%:	76.9
Hydrogen.....%:	4.0
Nitrogen.....%:	1.2
Sulphur.....%:	0.6
Oxygen.....%:	1.5
Classification by Rank	
A.S.T.M.....:	Low Volatile Bituminous
S.V.I.....:	200 - 220:- meta to semibituminous

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	98

(1) The various samples have been taken from the Ford property on the Highwood River and Cat Creek, the Burns property along the Sheep River, and from property along Flat Creek. No extensive mining was ever conducted in this area, but in recent years the Flat Creek Coals Ltd., produced on a small scale. See "Coal Mines in Canada" - Dept. of Mines & Resources Publication No. 4-1.

(2) There are about 14 seams in the area - see report No.34 - Research Council of Alberta (1943).

Province.....:	ALBERTA
District or area.....:	Highwood
Operator.....:	Flat Creek Coals Ltd. (1)
Mine.....:	Flat Creek (1379)
Location of mine.....:	40 miles S.W. High River - Tp. 17, R. 5, W. of 5
Seams.....:	Several (Kootenay Formation)
Trade name.....:	FLAT CREEK
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	----
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	0.8
Ash.....%:	17.8
Volatile matter.....%:	15.2
Fixed carbon.....%:	66.2
Fuel ratio.....:	4.40
Calorific value.....B.T.U./lb:	12,395
Ash softening temperature... °F:	2850+
Caking Properties	
By volatile button at 950°C.:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	----
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.6
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Low Volatile Bituminous
S.V.I.....:	195 - Metabituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Not operated since 1942.

Province.....:	ALBERTA
District or area.....:	Lethbridge
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 7 to 10; R. 21 & 22; W. of 4
Seam.....:	Galt (Belly River Formation)
Output(1943).....tons/annum:	350-600,000

Trade Size.....:	Lump, Cobble	Egg,Stove	Nut,Pea, Stoker	Slack
Screen limits at mine.....:	+4",4x8"	1-1/4,2x4"	(2)	0x1/2,5/8,1-1/2,2"
No. of samples.....:	26	25	14	10
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	10.0	10.0	10.0	11.3
Ash.....%:	9.7	11.7	11.6	14.8
Volatile matter.....%:	35.7	35.1	34.5	33.1
Fixed carbon.....%:	44.6	43.2	43.9	40.8
Fuel ratio.....:	1.25	1.23	1.27	1.23
Calorific value.....B.T.U./lb:	11,125	10,660	10,700	9,930
Ash Softening Temperature...°F:	2275	2310	2280	2230
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (GRay).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	62.6			
Hydrogen.....%:	4.5			
Nitrogen.....%:	1.6			
Sulphur.....%:	0.6	0.6	0.6	0.7
Oxygen.....%:	11.0			
Classification by Rank				
A.S.T.M.....:		High volatile C bituminous		
S.V.I.....:		126-Subbituminous		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:	52.0	49.2	48.1	50.6
cu.ft./ton:	38.5	40.7	41.6	39.5
Grindability Index.....:				45.5

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	43.3	23.2	8.6	12.9	1.8	0	2.0	0.6	0.1	0.6	7.0

(1) See "Coal Mines in Canada"-Dept. of Mines & Resources publication No. 4-1.
(2) Nut: 1,1-1/4,1-1/2x2,2-1/2".
Pea: 1/2,5/8x1,1-1/4,1-1/2".

Province.....:	ALBERTA
District or area.....:	Lethbridge
Operator.....:	Chester, J.C.
Mine(W.P. & T.B. Licence No.)...:	Chester (1678)
Location of mine.....:	4-1/2 miles N. of Lethbridge-Tp. 9; R. 21; W. of 4
Seam.....:	Galt (Belly River Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	ROYAL

Size.....:	Lump	Stove	Nut-Pea	Slack
Screen limits at mine.....:	+4" B.	1-1/4x4" B.	1/2x1-1/4" B.	0x1/2" B.
No. of samples.....:	1	1	1	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	9.7	9.7	9.7	11.0
Ash.....%:	9.8	10.2	13.9	16.9
Volatile matter.....%:	34.5	34.9	33.8	32.3
Fixed carbon.....%:	46.0	45.2	42.6	39.8
Fuel ratio.....:	1.33	1.30	1.26	1.23
Calorific value.....B.T.U1/lb:	11,050	10,980	10,435	9,650
Ash Softening Temperature...°F:	2210	2220	2250	2180
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:				
Hydrogen.....%:				
Nitrogen.....%:				
Sulphur.....%:	0.5	0.6	0.5	0.6
Oxygen.....%:				
Classification by Rank				
A.S.T.M.....:		High volatile C. bituminous		
S.V.I.....:		127-Subbituminous		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		49.5	49.0	53.5
cu.ft./ton:		40.4	40.8	37.4
Grindability Index.....:				

Province.....:	ALBERTA
District or area.....:	Lethbridge
Operator.....:	Hamilton Coal Co.,J.J.
Mine(W.P.&.T.B..Licence.No.)...:	Federal (639)
Location of mine.....:	Near Lethbridge-Tp. 9; R. 22; W. of 4
Seam.....:	Galt (Belly River Formation)
Output.....tons/annum:	10-25,000
Trade name.....:	FEDERAL
Size.....:	Lump
Screen limits at mine.....:	+4"
No. of samples.....:	1

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	9.7
Ash.....%:	9.1
Volatile matter.....%:	34.8
Fixed carbon.....%:	46.4
Fuel ratio.....:	1.33
Calorific value.....B.T.U./lb:	11,100
Ash Softening Temperature...°F:	2140
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.5
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile C bituminous
S.V.I.....:	126-Subbituminous

PHYSICAL PROPERTIES

Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

Province.....:	ALBERTA
District or area.....:	Lethbridge
Operator.....:	Lethbridge Co-operative Mines Assn.,Ltd.(1)
Mine(W.P. & T.B. Licence No.)...:	Parkoal (969)
Location of mine.....:	Lethbridge-Tp. 9; R. 21; W. of 4
Seam.....:	Galt (Belly River Formation)
Output.....tons/annum:	10-20,000
Trade name.....:	PARKOAL

Size.....:	Lump	Stove	Nut	Slack
Screen limits at mine.....:	+4" B.	2-1/2x4" B.	1-1/2x2-1/2" B.	0x1/2,1-1/2" B.
No. of samples.....:	1	1	1	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	10.0	10.0	10.0	11.0
Ash.....%:	7.6	9.8	10.6	16.1
Volatile matter.....%:	36.3	35.8	34.6	32.2
Fixed carbon.....%:	46.1	44.4	44.8	40.7
Fuel ratio.....:	1.27	1.24	1.29	1.26
Calorific value.....B.T.U./lb:	11,415	11,070	10,835	9,795
Ash Softening Temperature...°F:	2160	2180	2230	2240
Caking Properties				
By volatile button @ 950°C...:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:				
Hydrogen.....%:				
Nitrogen.....%:				
Sulphur.....%:	0.7	0.7	0.7	0.7
Oxygen.....%:				
Classification by Rank				
A.S.T.M.....:		High volatile C. bituminous		
S.V.I.....:		130-Subbituminous		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:		48.0	54.5	50.0
cu.ft./ton:		41.7	36.7	40.0
Grindability Index.....:				

(1) Not listed since 1943.

Province.....:	ALBERTA
District or area.....:	Lethbridge.
Operator.....:	Lethbridge Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	Cadillac ; Standard (442)
Location of mine.....:	Shaughnessy-Tp. 10; R. 21; W. of 4
Seam.....:	Galt (Belly River Formation)
Output.....tons/annum:	150-250,000
Trade name.....:	CADILLAC

Size.....:	Lump, Cobble	Egg,Stove	Stoker,Pea	Slack (1)
Screen limits at mine.....:	+4" rd. 4x8" rd.	2x4" rd.	5/8x2" rd.	0x2" rd.
No. of samples.....:	7	10	4	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	10.0	10.0	10.0	12.0
Ash.....%:	10.4	12.2	11.7	14.0
Volatile matter.....%:	35.3	34.7	34.8	33.7
Fixed carbon.....%:	44.3	43.1	43.5	40.3
Fuel ratio.....:	1.24	1.24	1.25	1.20
Calorific value.....B.T.U./lb:	10,790	10,510	10,610	9,895
Ash Softening Temperature...°F:	2320	2300	2320	2260
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		--------		
Swelling Index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	61.7			
Hydrogen.....%:	4.5			
Nitrogen.....%:	1.5			
Sulphur.....%:	0.6	0.6	0.7	0.8
Oxygen.....%:	11.3			
Classification by Rank				
A.S.T.M.....:		Subbit	Subbituminous A	
S.V.I.....:		123-Subbituminous		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft...:	52.0	49.3	47.0	48.0
cu.ft./ton..:	38.5	40.6	42.6	41.7
Grindability Index.....:				47.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	47.2	27.4	5.9	9.6	1.2	0	1.8	0.9	0.1	0.7	5.4

(1) Also 0x3/4" rd. slack.

Province.....:	ALBERTA
District or area.....:	Lethbridge
Operator.....:	Lethbridge Collieries Ltd.
Mine(W.P. & T.B. Licence No.)...:	Galt No. 8 (442)
Location of mine.....:	Lethbridge-Tp. 9; R. 21; W. of 4
Seam.....:	Galt (Belly River Formation)
Output.....tons/annum:	200-300,000
Trade name.....:	GALT

Size.....:	Lump, Cobble	Egg,Stove	Stoker,Nut	Slack(1)
Screen limits at mine.....:	+4" rd. 4x8" rd.	2x4" rd.	5/8" sl. x1-1/8,2" rd.	0x5/8" sl.
No. of samples.....:	15	12	6	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	10.0	10.0	10.0	10.0
Ash.....%:	9.4	11.6	10.9	13.3
Volatile matter.....%:	36.0	35.5	34.6	33.7
Fixed carbon.....%:	44.6	42.9	44.5	42.0
Fuel ratio.....:	1.24	1.21	1.29	1.25
Calorific value.....B.T.U./lb:	11,035	10,725	10,860	10,260
Ash Softening Temperature...°F:	2275	2260	2300	2225
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:			--------	
Swelling Index.....:			Negative	
Ultimate Analysis				
Carbon.....%:	63.0			
Hydrogen.....%:	4.5			
Nitrogen.....%:	1.6			
Sulphur.....%:	0.6	0.7	0.6	0.8
Oxygen.....%:	10.9			
Classification by Rank				
A.S.T.M.....:		High volatile C bituminous		
S.V.I.....:		128-Subbituminous		
PHYSICAL PROPERTIES				
Bulk Density.....lb./cu.ft.:	52.0	49.3	47.4	52.5
cu.ft./ton:	38.5	40.6	42.2	38.1
Grindability Index.....:				44.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	39.3	19.0	11.4	16.3	2.4	0	2.1	0.2	0.2	014	8.6

(1) Also 0x1-1/8" rd.

Province.....:	ALBERTA
District or area.....:	Lethbridge
Operator.....:	New Royal View Mine(1)
Mine(W.P. & T.B. Licence No.)...:	New Royal View (39)
Location of mine.....:	Near Lethbridge-Tp. 9; R. 21; W. of 4
Seam.....:	Galt (Belly River Formation)
Output.....tons/annum:	10-20,000
Trade name.....:	NEW ROYAL VIEW

Size.....:	Lump	Stove	Nut	Pea	Slack
Screen limits at mine.....:	+4" B.	1-1/4x4" B.	7/8/8 sq. x1-1/4" B.	1/2x7/8" sq.	0x1/2" sq.
No. of samples.....:	1	1	1	1	1
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	10.0	10.0	10.0	10.0	11.0
Ash.....%:	12.9	11.6	11.0	14.8	16.6
Volatile matter.....%:	34.2	34.3	34.1	33.3	32.1
Fixed carbon.....%:	42.9	44.1	44.9	41.9	40.3
Fuel ratio.....:	1.25	1.29	1.32	1.26	1.26
Calorific value.....B.T.U./lb.	10,565	10,595	10,735	10,195	9,610
Ash Softening Temperature...°F:	2250	2200	2170	2200	2180
Caking Properties					
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.	N.A.
Caking Index (Gray).....:	0	0	0	0	0
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			--------		
Swelling Index.....:			Negative		
Ultimate Analysis					
Carbon.....%:					
Hydrogen.....%:					
Nitrogen.....%:					
Sulphur.....%:	0.5	0.6	0.6	0.6	0.6
Oxygen.....%:					
Classification by Rank					
A.S.T.M.....:			High volatile C bituminous		
S.V.I.....:			127-Subbituminous		
PHYSICAL PROPERTIES					
Bulk Density.....lb./cu.ft.:		48.5	47.5	50.5	51.0
cu.ft./ton:		41.2	42.1	39.6	39.2
Grindability.Index.....:					

(1) Previously Lund, Nelson & Hagblad. Closed down in 1946.

Province.....:	ALBERTA
District or area.....:	Magrath
Operator.....:	General
Mine.....:	(1)
Location of mine.....:	Vicinity of Cardston-Tp. 1 & 2; R. 26; W. of 4 Vicinity of Fishburn-Tp. 4; R. 28; W. of 4
Seams.....:	Several thin seams (Belly River Formation)-(2)
Output.....tons/annum:	Negligible
Size.....:	Mine Samples
No. of samples.....:	3
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	7.0
Ash.....%:	9.7
Volatile matter.....%:	35.6
Fixed carbon.....%:	47.7
Fuel ratio.....:	1.34
Calorific value.....B.T.U./lb:	11,865
Ash softening temperature...°F:	....
Caking Properties	
By volatile button @ 950°C..:	Ag.
Caking index (Gray).....:	....
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	....
Swelling index.....:	....
Ultimate Analysis	
Carbon.....%:	66.8
Hydrogen.....%:	4.6
Nitrogen.....%:	1.7
Sulphur.....%:	0.9
Oxygen.....%:	9.3
Classification by Rank	
A.S.T.M.....:	High volatile B bituminous
S.V.I.....:	139-subbituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) No operating mines in 1945. One operator in 1941: Miller, W., Fishburn Mine.
(2) Coal seams younger than the Belly River also occur in this area.

Province.....:	ALBERTA
District or area.....:	Milk River
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 2 & 3; R. 11 & 15; W. of 4
Seam.....:	Several thin seams (Belly River Formation)
Output.(1943).....tons/annum:	2,634

Size.....: Face Samples

	District A Milk River	District B Lucky Strike
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	13.3	20.0
Ash.....%:	13.5	7.8
Volatile matter.....%:	30.9	30.2
Fixed carbon.....%:	42.3	42.0
Fuel ratio.....:	1.37	1.39
Calorific value.....B.T.U./lb:	10,000	9450
Ash softening temperature...°F:	....	1950
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	....	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	56.6	
Hydrogen.....%:	3.8	
Nitrogen.....%:	1.4	
Sulphur.....%:	0.7	0.7
Oxygen.....%:	10.7	
Classification by Rank		
A.S.T.M.....:	Subbituminous A	Subbituminous B
S.V.I.....:	125-Subbituminous	111-Black Lignite

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:
cu.ft./ton:
Grindability index.....:

(1) DISTRICT A*
Wood, Matt - Oberon Mine - Milk River
DISTRICT B
Bye, E.L. -Kippenville Mine+ - Kippenville
Mueller, U.J. -Mueller Mine - Kippenville
Taylor, Thomas -Flint Mine (New Benwell) - S.W. of Groton
* No operations in this district in 1945. + Stripping pit.

Province.....:	ALBERTA		
District or area.....:	Mountain Park(Cadomin, Luscar & Mountain Park Basins)		
Operators.....:	General		
Mines.....:	(1)		
Location of mines.....:	Tps. 45 to 47, R. 23 to 24, W. of 5		
Seams.....:	Cadomin & Luscar Basins:-Main Seam Mt. Park Basin:-Kennedy (No. 1) & No. 2 & No. 3 (Luscar Formation)		
Output.....tons/annum:	850-980,000		
Size.....:	Cadomin Basin Mine Run	Luscar Basin Mine Run	Mt. Park Basin Mine Run
Screen limits at mine.....:	--	--	--
No. of samples.....:	20	74	21
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	2.5	2.5	2.5
Ash.....%:	12.0	13.0	12.7
Volatile matter.....%:	25.5	21.0	27.2
Fixed carbon.....%:	59.1	63.5	57.6
Fuel ratio.....:	2.31	3.03	2.12
Calorific value.....B.T.U./lb:	12,960	13,080	13,005
Ash softening temperature...°F:	2545	2400-2700+	2445
Caking Properties			
By volatile button at 950°C.:	Good	Fair to Good	Good
Caking index (Gray).....:	40	20-45	50
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	18.9	14.9	22.7
Swelling index.....:	52	Negative to 450	635
Ultimate Analysis			
Carbon.....%:	74.6	75.1	73.7
Hydrogen.....%:	4.5	4.3	4.5
Nitrogen.....%:	1.1	1.1	1.2
Sulphur.....%:	0.3	0.3	0.4
Oxygen.....%:	4.1	3.7	5.0
Classification by Rank			
A.S.T.M.....:	Medium Volatile Bituminous; High Volatile A Bituminous		
S.V.I.....:	174	184	171
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	59.5	60.3	54.6
cu.ft./ton:	33.6	33.2	36.6
Grindability index.....:	82.0	88.2	84.0

(1) Cadomin Basin - Cadomin Coal Co., Ltd. - Cadomin Mine.
(2) Luscar Basin - Gregg River Collieries - Gregg River Mine
Luscar Coal Co., Ltd. - Luscar Mine.
(3) Mountain Park Basin - Mountain Park Coals Ltd. - Mountain Park Mine.

Province.....:	ALBERTA
District or area.....:	Mountain Park (Cadomin Basin)
Operator.....:	Cadomin Coal Co., Ltd.+
Mine (W.P. & T.B.Licence No.)...:	Cadomin (2716)
Location of mine.....:	Cadomin - Tp. 46, R. 23, W. of 5 Main.
Seam.....:	(Luscar Formation)
Output.....tons/annum:	300-450,000
Trade name.....:	CADOMIN

Size.....:	Mine Run(1)	Stoker(1)	Slack (2)	Mine Run (Strip)
Screen limits at mine.....:		3/4x1-5/8" sq.	0x3/4,1-5/8" sq.	
No. of samples.....:	20	2	12	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	2.5	2.0	3.0	4.5
Ash.....%:	12.0	10.7	11.3	15.7
Volatile matter.....%:	25.5	25.9	25.5	24.2
Fixed carbon.....%:	59.1	61.4	60.2	55.6
Fuel ratio.....:	2.31	2.37	2.35	2.30
Calorific value.....B.T.U./lb:	12,960	13,390	13,255	11,520
Ash softening temperature...°F:	2545	2575	2770	2800
Caking Properties				
By volatile button at 950°C.:	Good	Good	Good	Fair
Caking index (Gray).....:		40		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		18.9		
Swelling index.....:		52		
Ultimate Analysis				
Carbon.....%:	74.6			
Hydrogen.....%:	4.5			
Nitrogen.....%:	1.1			
Sulphur.....%:	0.3	0.3	0.3	0.3
Oxygen.....%:	4.1			
Classification by Rank				
A.S.T.M.....:		Medium Volatile Bituminous		
S.V.I.....:		174 - Orthobituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	59.5	52.0	53.9	61.5
cu.ft./ton:	33.6	38.4	37.1	32.5
Grindability index.....:	82.0		83.5	

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.8	23.9	6.4	6.9	2.0	0	1.0	0.7	0.5	1.3	2.3

+ Strip operation as well as underground mining.
(1) Some of these samples were oil-treated.
(2) The oil treated slack has a lower bulk density - approx. 52.0 lb./cu.ft.

Province.....:	ALBERTA
District or area.....:	Mountain Park (Luscar Basin)
Operator.....:	Gregg River Collieries (1)
Mine (Alberta Licence No.).....:	Gregg River (1392)
Location of mine.....:	Kaydee - Tp. 47, R. 24, W. of 5
Seam.....:	Main (Luscar Formation)
Output.....tons/annum:	30-45,000
Trade name.....:	GREGG RIVER

Size.....:	Mine Run (2)	Slack
Screen limits at mine.....:	--	--
No. of samples.....:	65	2
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	2.5	3.5
Ash.....%:	12.9	13.4
Volatile matter.....%:	20.7	20.4
Fixed carbon.....%:	63.9	62.7
Fuel ratio.....:	3.08	3.07
Calorific value.....B.T.U./lb:	13,110	12,835
Ash softening temperature...°F:	2700+(3)	2850+
Caking Properties		
By volatile button at 950°C.:	Good	Good
Caking index (Gray).....:	45	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	15.0	
Swelling index.....:	0-450(4)	
Ultimate Analysis		
Carbon.....%:	75.5	
Hydrogen.....%:	4.3	
Nitrogen.....%:	1.2	
Sulphur.....%:	0.3	0.3
Oxygen.....%:	3.3	
Classification by Rank		
A.S.T.M.....:	Medium Volatile Bituminous	
S.V.I.....:	183 - Orthobituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	59.2	57.8
cu.ft./ton:	33.8	34.6
Grindability index.....:	86.8	84.9

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	61.7	30.8	2.0	1.4	0.5	0	1.5	0.6	0.5	1.0	0.3

(1) Prior to 1947 this was K.O. Collieries Ltd., Kaydee Mine.
(2) This includes the average analyses of 12 samples for 1938 and '49 samples for 1939, obtained from C.N.R.
(3) Ash softening temperature varied from 2400°F to 2850+°F.
(4) The cleaner the coal the higher is the swelling index.

Province.....:	ALBERTA
District or area.....:	Mountain Park (Luscar Basin)
Operator.....:	Luscar Coal Co., Ltd. (1)
Mine(W,P. & T.B. Licence No.)...:	Luscar (3741)
Location of mine.....:	Luscar - Tp. 47, R. 24, W. of 5
Seam.....:	Main (Luscar Formation)
Output.....tons/annum:	250-300,000
Trade name.....:	LUSCAR

Size.....:	Mine Run(2)	Lump	Slack (3)
Screen limits at mine.....:		3/4x4" rd.	0x1-1/2" rd.
No. of samples.....:	9	3	4
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	2.5	1.5	3.5
Ash.....%:	13.3	15.1	15.3
Volatile matter.....%:	21.2	22.7	20.5
Fixed carbon.....%:	63.0	60.7	60.7
Fuel ratio.....:	2.97	2.67	2.96
Calorific value.....B.T.U./lb:	13,365	12,680	12,500
Ash softening temperature...°F:	2600	2320	2710
Caking Properties			
By volatile button @ 950°C..:	Fair	Fair	Fair
Caking index (Gray).....:		20-35	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		14.8	
Swelling index.....:		-259 (Negative)(4)	
Ultimate Analysis			
Carbon.....%:	74.7		
Hydrogen.....%:	4.2		
Nitrogen.....%:	1.1		
Sulphur.....%:	0.4	0.3	0.2
Oxygen.....%:	3.8		
Classification by Rank			
A.S.T.M.....:		Medium Volatile Bituminous	
S.V.I.....:		185 - Orthobituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	61.5		
cu.ft./ton:	32.5		
Grindability index.....:	87.6		93.2

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.0	24.5	5.5	7.8	1.5	0	0.9	0.8	0.3	0.9	3.6

(1) A large proportion of the coal is mined by means of a semi-strip operation - the cover is stripped off and the coal caved in and loaded out through underground haulage level.
(2) This includes an average of 12 samples for 1938 and 12 samples for 1939 obtained from C.N.R. in addition to our own samples.
(3) Also 0 x 3/4 in. Slack.
(4) Low ash washed coal may exhibit a positive swelling index up to approx. 250.

Province.....:	ALBERTA
District or area.....:	Mountain Park (Mountain Park Basin)
Operator.....:	Mountain Park Coals Ltd.
Mine (W.P. & T.B. Licence No.)..:	Mountain Park (3742)
Location of mine.....:	Mountain Park - Tp. 45, R. 23, W. of 5
Seams.....:	No. 1 (Kennedy) No. 2 & No. 3 (Luscar Formation)
Output.....tons/annum:	200-300,000
Trade name.....:	MOUNTAIN PARK

Size.....:	Mine Run	Lump(1)	Stoker(2)	Slack
Screen limits at mine.....:		+1-5/8,+7/8" rd.	1/4x1-5/8" rd.	0x1-5/8" rd.
No. of samples.....:	21	15	3	3
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	2.5	1.5	2.0	3.0
Ash.....%:	12.7	12.1	14.0	15.8
Volatile matter.....%:	27.2	27.9	26.4	27.4
Fixed carbon.....%:	57.6	58.5	57.6	53.8
Fuel ratio.....:	2.12	2.12	2.18	1.96
Calorific value.....B.T.U./lb:	13,005	13,230	12,725	12,170
Ash softening temperature...°F:	2445	2375	2430	2680
Caking Properties				
By volatile button at 950°C.:	Good	Good	Good	Good
Caking index (Gray).....:		50		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		22.7		
Swelling index.....:		635		
Ultimate Analysis				
Carbon.....%:	73.7			
Hydrogen.....%:	4.5			
Nitrogen.....%:	1.2			
Sulphur.....%:	0.4	0.3	0.3	0.3
Oxygen.....%:	5.0			
Classification by Rank				
A.S.T.M.....:		High Volatile A Bituminous		
S.V.I.....:		171 - Ortho to Parabituminous		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	54.6		50.8	54.0
cu.ft./ton:	36.6		39.4	37.0
Grindability index.....:	84.0	75.0		90.1

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	57.9	25.5	3.5	6.7	1.3	0	0.4	0.8	0.3	0.8	3.1

(1) Lump is usually prepared by crushing all oversize to pass 5-1/2" screen.
(2) Stoker - also 1/4" x 7/8" rd.

Province.....:	ALBERTA
District or area.....:	Nordegg
Operator.....:	Brazeau Collieries Ltd.
Mine (W.P. & T.B. Licence No.)..:	Nordegg (2554)
Location of mine.....:	Nordegg - Top. 40, R. 15, W. of 5
Seam.....:	No. 2 & No. 3 (Luscar Formation)
Output.....tons/annum:	300-360,000
Trade name.....:	BRAZEAU STEAM: NORDEGG

Size.....:	Mine Run	Railway Mine Run	Stoker(2)	Nut Slack	Briquettes
Screen limits at mine.....:	--	(1)	1/2x1"	---	(4)
No. of samples.....:	4	26	1	2	21
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	1.5	1.5	1.5	2.0	1.3
Ash.....%:	13.5	14.0	12.8	13.2	12.2
Volatile matter.....%:	16.1	15.6	16.0	15.4	19.1
Fixed carbon.....%:	69.9	68.9	69.7	69.4	57.9
Fuel ratio.....:	4.34	4.42	4.35	4.51	3.03
Calorific value.....B.T.U./lb:	13,440	13,130	13,320	13,295	13,440
Ash softening temperature...°F:	2850+	2850+	2850+	2850+	2850+
Caking Properties					
By volatile button @ 950°C..:	Good	Good	Good	Fair	Good
Caking index (Gray).....:			28.5		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			10.2		
Swelling index.....:			Negative to 950(3)		
Ultimate Analysis					
Carbon.....%:	77.0				
Hydrogen.....%:	3.9				
Nitrogen.....%:	1.2				
Sulphur.....%:	0.6	0.5	0.5	0.5	0.6
Oxygen.....%:	2.3				
Classification by Rank					
A.S.T.M.....:		Low Volatile Bituminous			
S.V.I.....:		210 - Semibituminous			
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	58.0	60.0	45.0	56.0	
cu.ft./ton:	34.5	33.3	44.5	35.7	
Grindability index.....:	101.2			108.7	

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	57.1	30.8	3.0	3.1	1.2	0	0.4	0.8	1.0	1.0	1.7

(1) Mine Run with approx. 10% briquettes.
(2) Usually dust-proofed by oiling.
(3) Raw coal shows negative swelling, and swelling increases with degree of cleanliness.
(4) Commercial.

Province.....:	ALBERTA
District or area.....:	Pakowki
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Dist. A: Near Granlea--Tp 8&2; R 8&6; W of 4 Dist. B: Near Tothill--Tp 8&9; R 4&5; W of 4 Dist. C: Near Elkwater-Tp 7&8; R 2&3; W of 4
Seams.....:	Several (Belly River Formation) (2)
Output.(1943).....tons/annum:	419

	District A	District B	District C
Size.....:		Mine Run	
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	24.0	30.0	32.0
Ash.....%:	10.1	7.0	9.0
Volatile matter.....%:	27.5	29.1	28.3
Fixed carbon.....%:	38.4	33.9	30.7
Fuel ratio.....:	1.40	1.16	1.08
Calorific value.....B.T.U./lb:	8390	7500	6990
Ash softening temperature...°F:	2010	2150	2250
Caking Properties			
By volatile button @ 950°C..:	N.A.	N.A.	N.A.
Caking index (Gray).....:	0	0	0
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		....	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	49.4	44.0	41.4
Hydrogen.....%:	3.3	3.0	3.0
Nitrogen.....%:	1.0	0.8	0.6
Sulphur.....%:	0.7	0.4	0.2
Oxygen.....%:	11.5	14.8	13.8
Classification by Rank			
A.S.T.M.....:	Subbituminous B	Subbituminous C	Lignite
S.V.I.....:	103-Black Lignite	89-Black Lignite	90-Brown Lignite
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:			
cu.ft./ton:			
Grindability index.....:			

(1) Operators in 1945:

District A-No operations since 1942.		
District B-Geddes, William	Little Plume Coal Mine	Little Plume, Alta.
District C-Raeder, Wm.	Elkwater	Elkwater, Alta.

(2) At Elkwater lignite seams in the Edmonton Formation.

Province.....:	ALBERTA
District or area.....:	Pekisko
Operator.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 18-22; R. 2-4; W. of 5
Seams.....:	Several (Belly River Formation)
Output.....tons/annum:	11,802
Size.....:	Mine Samples (2)
Screen limits at mine.....:	....
No. of samples.....:	5

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	7.0
Ash.....%:	9.4
Volatile matter.....%:	35.4
Fixed carbon.....%:	48.2
Fuel ratio.....:	1.36
Calorific value.....B.T.U./lb:	12,210
Ash softening temperature...°F:	2300
Caking Properties	
By volatile button @ 950°C..:	Poor
Caking index (Gray).....:	....
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	....
Swelling index.....:	....
Ultimate Analysis	
Carbon.....%:	68.1
Hydrogen.....%:	4.7
Nitrogen.....%:	1.7
Sulphur.....%:	0.7
Oxygen.....%:	18.4
Classification by Rank	
A.S.T.M.....:	High volatile B bituminous
S.V.I.....:	147-Subbituminous (agglomerating)

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Operators in 1945:

Davies, G.C.	O.V. Mine	Priddis, Alta.
Payne, Ernest	Dyson Creek Mine	12 mi. W. of Lineham

(2) Includes a recent commercial sample from Fish Creek Mine which is not listed since 1944

Province.....:	ALBERTA
District or area.....:	Pembina
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Evansburg District:- Tps. 53 & 54, R. 6 to 8, W. of 5 Wabamun District:- Tps. 50-53, R. 3 & 4, W. of 5
Seams.....:	Upper or Big (No. 14) & Lower (2) (Edmonton Formation)
Output.....tons/annum:	50-75,000

	Evansburg District	Wabamun District
Size.....:	Mine Run	
No. of samples.....:	9	12
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	18.5	20.5
Ash.....%:	8.6	7.9
Volatile matter.....%:	28.8	28.1
Fixed carbon.....%:	44.1	43.5
Fuel ratio.....:	1.53	1.55
Calorific value.....B.T.U./lb:	9,060	9,000
Ash softening temperature...°F:	2080	2395
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	55.2	53.8
Hydrogen.....%:	3.3	3.3
Nitrogen.....%:	0.8	0.7
Sulphur.....%:	0.2	0.2
Oxygen.....%:	13.4	13.6
Classification by Rank		
A.S.T.M.....:	Subbituminous B	
S.V.I.....:	92 Brown Lignite	96
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		
cu.ft./ton:		
Grindability index.....:		

(1) Operators in 1947:

Evansburg District	Wabamun District
Pembina Collieries Ltd. Pembina Mine	Lakeside Coals Ltd. Wabamun Mine.
Robinson, Wm.	Donvie Collieries Ltd.
Gainford Collieries. Malada Mine	Yellowknife Transport Co., Ltd.
Fry & Larsen.	Wright, H. H.
	Strawberry Creek Coal Co., Ltd.

(2) The Upper or Big seam is mined in Wabamun District, whereas the Lower seam is mined in Evansburg District.

Province.....:	ALBERTA
District or area.....:	Pembina (Wabamun District)
Operator.....:	Lakeside Coals Ltd.
Mine (W.P. & T.H. Licence No.)..:	Wabamum (4271)
Location of mine.....:	Wabanum - To. 53, R. 4, W. of 5
Seam.....:	Upper or Big Seam (Edmonton Formation)
Output.....tons/annum:	50-65,000
Trade name.....:	VICTORY

Size.....:	Mine Run(1)	Lump,Egg(2)	Nut,Stoker	Slack
Screen limits at mine.....:		+2"	7/16x2"	0x1-1/2"
No. of samples.....:	2	6	4	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	20.5	20.5	20.5	21.0
Ash.....%:	7.9	8.1	9.5	9.9
Volatile matter.....%:	28.1	28.0	28.2	26.3
Fixed carbon.....%:	43.5	43.4	41.8	42.8
Fuel ratio.....:	1.55	1.55	1.48	1.63
Calorific value.....B.T.U./lb:	9,000	8,920	8,760	8,740
Ash softening temperature...°F:	2395	2410	2415	2400
Caking Properties				
By volatile button @ 950°C..:	N.A.	N.A.	N.A.	N.A.
Caking index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		----		
Swelling index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	53.8			
Hydrogen.....%:	3.3			
Nitrogen.....%:	0.7			
Sulphur.....%:	0.2	0.2	0.2	0.2
Oxygen.....%:	13.6			
Classification by Rank				
A.S.T.M.....:		Subbituminous B		
S.V.I.....:		96 - Brown Lignite		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft:		48.3	44.5	49.8
cu.ft./ton:		41.4	44.9	40.2
Grindability index.....:				

(1) Also called "single screened lump"
(2) Lump - +6" coal, as well as Egg (2x4") and stove (1-1/2x4")

Province.....:	ALBERTA
District or area.....:	Pembina (Evansburg District)
Operator.....:	Pembina Collieries Ltd. (1) +
Mine (W.P. & T.B. Lincence No.).:	Pembina (3993)
Location of mine.....:	Entwistle - Tp. 53, R. 7, W. of 5
Seam.....:	Lower Seam (Edmonton Formation)
Output.....tons/annum:	3-4,000
Trade name.....:	PEMBINA
Size.....:	Mine Run (2)
Screen limits at mine.....:	----
No. of samples.....:	5
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	18.3
Ash.....%:	9.5
Volatile matter.....%:	28.0
Fixed carbon.....%:	44.2
Fuel ratio.....:	1.58
Calorific value.....B.T.U./lb:	9,055
Ash softening temperature...°F:	2080
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	54.7
Hydrogen.....%:	3.3
Nitrogen.....%:	0.8
Sulphur.....%:	0.2
Oxygen.....%:	13.2
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	94 - Brown Lignite
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Listed previously as Entwistle Collieries Ltd.
(2) Also Lump or Egg.
\+ Stripping pit.

Province.....:	ALBERTA
District or area.....:	Pincher
Operators.....:	General
Mines.....:	(1)
Location of mines.....:	Tps. 7-10; R. 2 & 3; W. of 5-Vicinity of Lundbreck Tp. 5; R. 19; W. of 4
Seams.....:	No. 1 & No. 2 (Belly River Formation)
Output.....tons/annum:	Under 1,000
Size.....:	Mine Samples
Screen limits at mine.....:	....
No. of samples.....:	4

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	6.5
Ash.....%:	15.3
Volatile matter.....%:	33.7
Fixed carbon.....%:	44.5
Fuel ratio.....:	1.32
Calorific value.....B.T.U./lb:	11,480
Ash softening temperature...°F:	2150
Caking Properties	
By volatile button @ 950°C..:	Fair to Poor
Caking index (Gray).....:	....
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	....
Swelling index.....:	....
Ultimate Analysis (3)	
Carbon.....%:	64.4
Hydrogen.....%:	4.5
Nitrogen.....%:	1.7
Sulphur.....%:	0.8
Oxygen.....%:	6.8
Classification by Rank	
A.S.T.M.....:	High volatile B bituminous (2)
S.V.I.....:	149-Subbituminous (Agglomerating)

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Listed in 1945:- Keith Coal Co., Purdy Mines.
(2) Also some High volatile A & C bituminous coal available in this area.
(3) Calculated from date presented in Research Council of Alberta Report No. 35 "Coals of Alberta" by Stansfield & Lang (1944).

Province.....:	ALBERTA
District or area.....:	Prairie Creek
Operator.....:	General (1)
Location of mines.....:	To. 51, R. 24 & 25, W. of 5
Seam.....:	Several (Saunders Formation)
Output.....tons/annum:	2-8,000(2)

Typical Analyses (3)

	District A Tp.51,R.25	District B Tp.51,R.24
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	7.0	8.4
Ash.....%:	10.7	10.4
Volatile matter.....%:	35.3	34.2
Fixed carbon.....%:	47.0	47.0
Fuel ratio.....:	1.35	1.40
Calorific value.....B.T.U./lb:	11,850	11,200
Ash softening temperature...°F:	----	----
Caking Properties		
By volatile button @ 950°C..:	Poor coking	Non coking
Caking index (Gray).....:	----	----
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	----
Swelling index.....:	----	----
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.3	0.2
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	High Volatile B Bituminous	High Volatile C Bituminous
S.V.I.....:		
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		
cu.ft./ton:		
Grindability index.....:		

(1) See Coal Mines in Canada. No. 4-1 Dept. of Mines & Resources.
(2) In 1940 the output was 100,000 tons.
(3) Typical analyses according to Stansfield & Lang. Research Council of Alberta. Report No. 35.

Province.....:	ALBERTA
District or area.....:	Redcliff
Operator.....:	General
Mine.....:	(1)
Location of mine.....:	Tp. 13, R. 6, W. of 4 - Redcliff
Seam.....:	1 Seam (Approx. 4' thick) (Belly River Formation)
Output.....tons/annum:	10-30,000
Size.....:	Mine Run, Lump
Screen limits at mine.....:	----
No. of samples.....:	6

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	26.0
Ash.....%:	5.9
Volatile matter.....%:	28.4
Fixed carbon.....%:	39.7
Fuel ratio.....:	1.40
Calorific value.....B.T.U./lb:	8,580
Ash softening temperature...°F:	2090
Caking Properties	
By volatile button at 950°C.:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	52.3
Hydrogen.....%:	3.4
Nitrogen.....%:	0.9
Sulphur.....%:	0.5
Oxygen.....%:	11.0
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	101 - Lignitic

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Cooke & Naylor - Ajax Mine - only operating mine in 1947.
Gunderson Brick & Coal Co., Ltd. - Redcliff Peerless.

Province.....:	ALBERTA
District or area.....:	Redcliff
Operator.....:	Cooke, C.R. & Naylor, C.A. (1)
Mine (W.P. & T.B. Licence No.)..:	Ajax (4416)
Location of mine.....:	Redcliff - Tp. 13, R. 6, W. of 4
Seam.....:	----
	(Belly River Formation)
Output.....tons/annum:	10-15,000
Trade name.....:	AJAX
Size.....:	Mine Run, Lump
Screen limits at mine.....:	----
No. of samples.....:	2

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	26.0
Ash.....%:	6.0
Volatile matter.....%:	29.2
Fixed carbon.....%:	38.8
Fuel ratio.....:	1.33
Calorific value.....B.T.U./lb:	8,680
Ash softening temperature...°F:	2000
Caking Properties	
By volatile button @ 950°C...:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	52.7
Hydrogen.....%:	3.5
Nitrogen.....%:	0.7
Sulphur.....%:	0.4
Oxygen.....%:	10.7
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	104 - Lignitic

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Prior to 1947 listed as Ajax Coal Co., Alta. Mine No. 772.

Province.....:	ALBERTA
District or area.....:	Redcliff
Operator.....:	Gunderson Brick & Coal Co., Ltd. (1)
Mine (W.P. & T.B. Licence No.)..:	Redcliff Peerless (4177)
Location of mine.....:	Redcliff - Tp. 13, R. 6, W. of 4
Seam.....:	----
	(Belly River Formation)
Output.....tons/annum:	5-12,000
Trade name.....:	REDCLIFF PEERLESS
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	4
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	26.0
Ash.....%:	5.9
Volatile matter.....%:	28.0
Fixed carbon.....%:	40.1
Fuel ratio.....:	1.44
Calorific value.....B.T.U./lb:	8,535
Ash softening temperature...°F:	2130
Caking Properties	
By volatile button at 950°C.:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	50.8
Hydrogen.....%:	3.2
Nitrogen.....%:	1.0
Sulphur.....%:	0.5
Oxygen.....%:	12.6
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	97 - Lignitic
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Not listed since 1945.

Province.....:	ALBERTA			
District or area.....:	Saunders			
Operators.....:	General			
Mines.....:	(1)			
Location of Mines.....:	Tp. 40, R. 13, W. of 5			
Seam.....:	Several (Saunders Formation)			
Output.....tons/annum:	60-65,000			
Size.....:	Lump(2)	Stove(3)	Nut(4)	Slack
Screen limits at mine.....:				
No. of samples.....:	15	6	5	14
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	9.0	9.0	9.0	10.0
Ash.....%:	7.2	7.3	8.3	8.9
Volatile matter.....%:	33.2	33.4	32.3	31.8
Fixed carbon.....%:	50.6	50.3	50.4	49.3
Fuel ratio.....:	1.52	1.51	1.56	1.55
Calorific value.....B.T.U./lb:	11,400	11,460	11,420	11,130
Ash softening temperature...°F:	2260	2195	2220	2220
Caking Properties				
By volatile button @ 950°C..:	A	A	A	A
Caking index (Gray).....:	0	0	0	0
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		-----		
Swelling index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	66.6			
Hydrogen.....%:	4.2			
Nitrogen.....%:	1.0			
Sulphur.....%:	0.4	0.4	0.4	0.4
Oxygen.....%:	11.6			
Classification by Rank				
A.S.T.M.....:	High Volatile C Bituminous			
S.V.I.....:	124 - Subbituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	47.4	48.5	48.3	51.8
cu.ft./ton:	42.2	41.3	41.4	38.6
Grindability index.....:				44.2

(1) Bighorn & Saunders Creek Collieries Ltd. - Bighorn Mine.
Alexo Coal Co., Ltd. - Alexo (Saunders) Mine.
(2) Double screened and Small or "Junior" Lump.
(3) Equivalent to about 1-1/2 x 2-3/4" rd.
(4) Equivalent to about 3/4 x 1-1/2" rd.

Province.....:	ALBERTA
District or area.....:	Saunders
Operator.....:	Alexo Coal Co., Ltd.
Mine (W.P. & T.B. Licence No.)..:	Alexo (Saunders) (2542)
Location of mine.....:	Alexo - Tp. 40, R. 13, W. of 5
Seams.....:	Several (Saunders Formation)
Output.....tons/annum:	20-30,000
Trade name.....:	ALEXO

Size.....:	Mine Run	Lump(1)	Stove	Nut, Pea	Slack
Screen limits at mine.....:		+(10x18")sl.	1-1/4"sq. (2-1/2x10")sl.	5/8x 1-1/4"sq.	0x1-1/2" sq.
No. of samples.....:	6	5	3	3	4
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	9.0	9.0	9.0	9.0	10.0
Ash.....%:	6.9	7.1	6.8	7.2	8.0
Volatile matter.....%:	33.2	33.2	33.4	32.9	32.0
Fixed carbon.....%:	50.9	50.7	50.8	50.9	50.0
Fuel ratio.....:	1.53	1.51	1.51	1.56	1.52
Calorific value.....B.T.U./lb:	11,520	11,465	11,385	10,990	11,250
Ash softening temperature...°F:	2105	2200	2180	2165	2185
Caking Properties					
By volatile button at 950°C.:			Agglomerating		
Caking index(Gray).....:			0		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			----		
Swelling index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	66.4				
Hydrogen.....%:	4.1				
Nitrogen.....%:	1.0				
Sulphur.....%:	0.4	0.3	0.3	0.3	0.4
Oxygen.....%:	12.2				
Classification by Rank					
A.S.T.M.....:			High Volatile C Bituminous		
S.V.I.....:			125 - Subbituminous		
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:		47.5	48.5	48.3	52.7
cu.ft./ton:		42.1	41.2	41.4	38.0
Grindability index.....:	42.8				44.2

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	30.5	15.5	9.8	28.9	2.3	0.8	2.3	0.1	1.5	0.8	7.5

(1) Double screened Lump: Also includes Small Lump:- 2-1/2 x 10" sl. to 10 x 18" sl.

Province.....:	ALBERTA
District or area.....:	Saunders
Operator.....:	Bighorn & Saunders Creek Collieries Ltd.
Mine (W.P. & T.B. Licence No.)..:	Bighorn (2558)
Location of mine.....:	Saunders - Tp. 40, R. 13, W. of 5
Seam.....:	Several (Saunders Formation)
Output.....tons/annum:	40-50,000
Trade name.....:	BIGHORN : SAUNDERS CREEK

Size.....:	Lump(1)	Ostrich Egg	Stove	Nut	Slack(2)
Screen limits at mine.....:	+12" B.	2-3/4"rd. x 4x8"sl.	1-1/2 x 2-3/4"rd.	3/4 x 1-1/2"rd.	0x3/4" or 1-1/2" rd.
No. of samples.....:	10	2	3	2	10
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	9.0	9.0	9.0	9.0	10.0
Ash.....%:	7.5	9.0	8.0	9.0	9.2
Volatile matter.....%:	33.0	32.1	33.0	32.3	31.7
Fixed carbon.....%:	50.5	49.9	50.0	49.7	49.1
Fuel ratio.....:	1.53	1.52	1.51	1.56	1.56
Calorific value.....B.T.U./lb:	11,375	11,360	11,490	11,265	11,095
Ash softening temperature...°F:	2275	2250	2220	2320	2235
Caking Properties					
By volatile button at 950°C.:			Agglomerating		
Caking index (Gray).....:			0		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			----		
Swelling index.....:			Negative		
Ultimate Analysis					
Carbon.....%:	66.4				
Hydrogen.....%:	4.2				
Nitrogen.....%:	1.0				
Sulphur.....%:	0.4	0.4	0.4	0.5	0.4
Oxygen.....%:	11.5				
Classification by Rank					
A.S.T.M.....:			High Volatile C Bituminous		
S.V.I.....:			123 - Subbituminous		
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:	47.3	47.3	48.4	48.3	51.3
cu.ft./ton:	42.3	42.3	41.3	41.4	39.0
Grindability index.....:					44.2

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	36.9	15.1	6.8	29.2	2.1	0.1	1.6	0.9	0.5	1.3	5.9

(1) Double Screened Lump:- also includes "Junior" Lump (Cobble) (4x8" slot by 12" Bar).
(2) Slack:- the 0x1-1/2" coal is often called nut slack or stoker coal.

Province.....:	ALBERTA	
District or area.....:	Sheerness	
Operator.....:	General	
Mines.....:	(1)	
Location of mines.....:	Tp. 29 to 34; R. 12 to 17; W. of 4	
Seam(2).....:	No. 1 (Edmonton Formation)	
Output (1943).....tons/annum:	58,939	
Size.....:	Lump & Cobble	Slack
Screen limits at mine.....:	....	....
No. of samples.....:	5	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	27.5	28.5
Ash.....%:	5.9	6.9
Volatile matter.....%:	28.5	28.2
Fixed carbon.....%:	38.1	36.4
Fuel ratio.....:	1.34	1.29
Calorific value.....B.T.U./lb:	8300	8040
Ash softening temperature...°F:	2150	2290
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	....	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	50.9	
Hydrogen.....%:	3.4	
Nitrogen.....%:	1.2	
Sulphur.....%:	0.5	0.6
Oxygen.....%:	10.6	
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	97-Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	47.0	52.0
cu.ft./ton:	42.5	38.4
Grindability index.....:		

(1) Chinook Coal Co., Ltd. - Sheerness-Chinook Mine
J. Masciangelo - Blossom Mine
Sheerness Coal Co., Ltd. - Sheebo Mine
Also five other small stripping mines.

(2) Seams corresponding to Nos. 1 to 6 in the Drumheller District observed in this area, but mining is mainly in No. 1 seam.

Province.....:	ALBERTA
District or area.....:	Sheerness
Operator.....:	Chinook Coal Co., Ltd. (+)
Mine (W.P & T.B. Licence No.)...:	Sheerness-Chinook (2733)
Location of mine.....:	Sheerness-Tp. 29; R. 13; W. of 4
Seam.....:	No. 1 (Edmonton Formation)
Output.....tons/annum.:	20-30,000
Trade name.....:	SHEERNESS-CHINOOK

Size.....:	Lump(1)	Nut Slack(2)
Screen limits at mine.....:	+6"	0-1-3/4"
No. of samples.....:	2	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	27.5	28.5
Ash.....%:	6.0	6.9
Volatile matter.....%:	28.1	28.2
Fixed carbon.....%:	38.4	36.4
Fuel ratio.....:	1.37	1.29
Calorific value.....B.T.U./lb:	8340	8040
Ash softening temperature...°F:	2110	2290
Caking Properties		
By volatile button @ 950°C..:	N.A.	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	....	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	50.9	
Hydrogen.....%:	3.4	
Nitrogen.....%:	1.2	
Sulphur.....%:	0.5	0.6
Oxygen.....%:	10.5	
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	99-Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	48.3	52.0
cu.ft./ton:	41.4	38.4
Grindability index.....:		

(+) Stripping pit.
(1) Hand picked at face.
(2) Handforked.

Province.....:	ALBERTA
District or area.....:	Sheerness
Operator.....:	J. Masciangello
Mine (W.P. & T.B. Licence No.)..:	Blosson (3181)
Location of mine.....:	Delia-Tp. 30; R. 17; W. of 4
Seam.....:	(Edmonton Formation)
Output.....tons/annum:	Under 1,000
Trade name.....:	BLOSSOM
Size.....:	Lump
Screen limits at mine.....:	....
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	26.0
Ash.....%:	9.0
Volatile matter.....%:	26.6
Fixed carbon.....%:	38.4
Fuel ratio.....:	1.44
Calorific value.....B.T.U./lb:	8145
Ash softening temperature...°F:	2100
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray)	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	....
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.3
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	97-Lignitic
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

Province.....:	ALBERTA	
District or area.....:	Sheerness	
Operator.....:	Sheerness Coal Co., Ltd. (+)	
Mines (W.P. & T.B. Licence No.).:	Sheebo (2734)	
Location of mine.....:	Sheerness-Tp. 29; R. 12; W. of 4	
Seam.....:	No. 1 (Edmonton Formation)	
Output.....tons/annum:	30-40,000	
Trade name.....:	SHEEBO	
Size.....:	Lump	Cobble
Screen limits at mine.....:	+6" Bar	2" sl x 6" B.
No. of samples.....:	1	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	27.5	27.5
Ash.....%:	5.7	6.0
Volatile matter.....%:	29.6	27.9
Fixed carbon.....%:	37.2	38.6
Fuel ratio.....:	1.26	1.38
Calorific value.....B.T.U./lb:	8345	8210
Ash softening temperature...°F:	2180	2150
Caking Properties		
By volatile button @ 950°C..:	N.A.	N.A.
Caking index (Gray).....:	0	0
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	....	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.5	0.5
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	100-Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		46.0
cu.ft./ton:		43.5
Grindability index.....:		

(+) Stripping pit, and shaft mine since 1943.

Province.....:	ALBERTA
District or area.....:	Smoky River
Operator.....:	No operating Mines
Location of area.....:	In vicinity of Smoky River, a tributary of Peace River Tps. 52-60, R. 1-13, W. of 6
Seam.....:	---- (Luscar Formation)
Output.....tons/annum:	----
Size.....:	Mine Run, Prospect
Screen limits at mine.....:	----
No. of samples.....:	30

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	2.7
Ash.....%:	8.8
Volatile matter.....%:	18.6
Fixed carbon.....%:	69.9
Fuel ratio.....:	3.76
Calorific value.....B.T.U./lb:	13,360
Ash softening temperature...°F:	----
Caking Properties	
By volatile button at 950°C.:	Non coking to Poor coking
Caking index(Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Mainly non-swelling
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.4
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Low Volatile Bituminous (1)
S.V.I.....:	181 - Orthobituminous

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Some of the coals are medium volatile bituminous.

Province.....: ALBERTA
District or area.....: Taber
Operators.....: General (1)
Seams.....: Several - No. 2 Seam principally mined. (Belly River Formation)
Location of mines.....: District A: Tps. 9,10,11, R. 16,17, W. of 4 - Taber
District B: Tp. 9, R. 13, W. of 4 - Grassy Lake
District C: Tps. 11,12, R. 10 & 11, W. of 4 - Winnifred
Output.....tons/annum: 60-70,000

	District A(2)	District B(2)	District C(3)
No. of samples.....:	14	8	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	14.0	15.5	21.0
Ash.....%:	10.4	10.5	7.6
Volatile matter.....%:	31.6	30.6	28.4
Fixed carbon.....%:	44.0	43.4	43.0
Fuel ratio.....:	1.39	1.42	1.51
Calorific value.....B.T.U./lb:	10,000	9,620	9,070
Ash softening temperature...°F:	2310	2195	----
Caking Properties			
By volatile button @ 950°C..:		N.A.	
Caking index (Gray).....:		0	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		----	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	57.3	55.8	54.3
Hydrogen.....%:	4.0	3.9	3.5
Nitrogen.....%:	1.4	1.2	1.0
Hydrogen.....%:	1.1	1.4	0.6
Oxygen.....%:	11.8	11.7	12.0
Classification by Rank			
A.S.T.M.....:	Subbit. A.	Subbit. B.toA.	Subbit. B.
S.V.I.....:	118	113	102
		Lignitic	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:(4)		54.0	
cu.ft./ton:		37.0	
Grindability index.....:		49.0	

(1) Operators in 1947

District A
Southern Alberta Coal Co. - Mine No. 1609 & 1604 (South Alta.; Taber Alta)+
Oliver Coal Mine, Lewis - Mine No. 1536, Taber Alta.

District B
Southern Alberta Coal Co. - Mine No. 1580 & 1334 (Alburna) Grassy Lake, Alta.+

District C
Lavenne, Clement J. (Acadia Coal Mines Ltd.) Bow Island, Alta.
McCracken, D. & Goring, H., Alderson, Alta.

(2) Mine & Commercial samples.
(3) Mine sample.
(4) Mine Run samples

+ Strip Mines.

Province.....:	ALBERTA
District or area.....:	Taber (District A)
Operator.....:	Oliver Coal Mine, Lewis
Mine.....:	Oliver (Alberta Mine No. 1536)
Location of mine.....:	Taber - Tp. 10, R. 16, W. of 4
Seam.....:	----
	(Belly River Formation)
Output.....tons/annum:	6-12,000
Trade name.....:	OLIVER
Size.....:	Lump
Screen limits at mine.....:	----
No. of samples.....:	1
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	14.0
Ash.....%:	6.8
Volatile matter.....%:	32.9
Fixed carbon.....%:	46.3
Fuel ratio.....:	1.41
Calorific value.....B.T.U./lb:	10,755
Ash softening temperature...°F:	2130
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.9
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous A
S.V.I.....:	125 - Lignitic
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

Province.....:	ALBERTA
District or area.....:	Taber (District B)
Operator.....:	Southern Alberta Coal Co.+
Mine (W.P. & T.B. Licence No.)..:	Alta. Mine No. 1580 & 1334
Location of mine.....:	Grassy Lake - Tp. 9, R. 13, W. of 4
Seam.....:	No. 2 (Belly River Formation)
Output.....tons/annum:	140,000 (maximum)
Trade name.....:	SOLID COMFORT ; ALBURNA

Size.....:	Lump, Egg	Nut	Stoker	Slack
Screen limits at mine.....:	(1)	7/8"sq.x2"rd.	3/8x7/8"sq.	0x3/8"sq.
No. of samples.....:	3	2	2	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	15.0	15.0	15.5	15.5
Ash.....%:	11.2	11.1	11.0	12.3
Volatile matter.....%:	30.9	30.3	30.3	29.1
Fixed carbon.....%:	42.9	43.6	43.2	43.1
Fuel ratio.....:	1.39	1.44	1.43	1.48
Calorific value.....B.T.U./lb:	9,605	9,585	9,575	9,300
Ash softening temperature...°F:	2215	2165	2190	2225
Caking Properties				
By volatile button at 950°C.:		N.A.		
Caking index (Gray).....:		0		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		----		
Swelling index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	55.6			
Hydrogen.....%:	3.9			
Nitrogen.....%:	1.2			
Sulphur.....%:	1.6	1.7	1.6	1.7
Oxygen.....%:	11.5			
Classification by Rank				
A.S.T.M.....:		Subbituminous A to B		
S.V.I.....:		113 - Lignitic		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	50.1	47.5	46.0	46.5
cu.ft./ton:	39.9	42.1	43.5	43.0
Grindability index.....:				49.0

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	47.8	30.5	4.3	7.0	1.8	0.01	1.3	0.9	0.5	0.8	4.3

+ Strip operation - formerly Continental Coal Corp., Ltd.
(1) Lump - Plus 4" rd., Egg - 2x4"rd.

Province.....:	ALBERTA
District or area.....:	Taber (District A)
Operator.....:	Southern Alberta Coal Co.
Mine.....:	Alta. Mine No. 1604 (1)
Location of mine.....:	Taber - Tp. 10, R. 17, W. of 4
Seam.....:	----
	(Belly River Formation)
Output.....:tons/annum:	10,000+
Trade name.....:	----
Size.....:	Lump
Screen limits at mine.....:	----
No. of samples.....:	2
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	14.0
Ash.....%:	13.4
Volatile matter.....%:	32.4
Fixed carbon.....%:	40.2
Fuel ratio.....:	1.24
Calorific value.....B.T.U./lb:	9,710
Ash softening temperature...°F:	2380
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking index.....(Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	1.0
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Subbituminous A
S.V.I.....:	125 - Lignitic
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	56.5
cu.ft./ton:	35.4
Grindability index.....:	

+ Strip operation.
(1) Formerly Majestic Mines Ltd.

Province.....:	ALBERTA	
District or area.....:	Taber (District A)	
Operator.....:	Southern Alberta Coal Co. + (1)	
Mine.....:	Alta. Mine No. 1609	
Location of mine.....:	Taber - Tp. 10, R. 16, W. of 4	
Seam.....:	No. 2 (Belly River Formation)	
Output.....tons/annum:	100,000 (maximum)	
Trade name.....:	SOUTHALTA	
Size.....:	Egg	Nut
Screen limits at mine.....:	---	---
No. of samples.....:	13	1
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	14.0	14.5
Ash.....%:	10.1	11.7
Volatile matter.....%:	31.5	30.2
Fixed carbon.....%:	44.4	43.6
Fuel ratio.....:	1.41	1.44
Calorific value.....B.T.U./lb:	10,030	9,885
Ash softening temperature...°F:	2195	2300
Caking Properties		
By volatile button @ 950°C..:	N.A.	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	57.6	
Hydrogen.....%:	4.0	
Nitrogen.....%:	1.4	
Sulphur.....%:	1.1	0.9
Oxygen.....%:	11.8	
Classification by Rank		
A.S.T.M.....:	Subbituminous A	
S.V.I.....:	117 - Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	48.8	46.8
cu.ft./ton:	41.0	42.7
Grindability index.....:		

+ Strip mine as well as shaft.
(1) Formerly Western Ventures Ltd. (Firewel)

Province.....:	ALBERTA
District or area.....:	Tofield
Operator.....:	General
Mine.....:	(1)
Location of Mine.....:	Tps. 49 & 50, R. 17 to 19, W. of 4
Seam.....:	Top Seams (Edmonton Formation)
Output.....tons/annum:	100-175,000
Trade name.....:	----

Size.....:	Mine Run Lump	Stoker Nut	Slack
No. of samples.....:	18	53	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	27.5	27.5	28.5
Ash.....%:	6.9	7.8	6.1
Volatile matter.....%:	27.9	26.9	26.3
Fixed carbon.....%:	37.7	37.8	39.1
Fuel ratio.....:	1.35	1.41	1.49
Calorific value.....B.T.U./lb:	8,340	8,310	8,410
Ash softening temperature...°F:	2100	2160	2140
Caking Properties			
By volatile button at 950°C.:		N.A.	
Caking index(Gray).....:		0	
Swelling Properties/FRL Test			
Volatile at 600°.....%:		----	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:	47.4		
Hydrogen.....%:	3.1		
Nitrogen.....%:	1.0		
Sulphur.....%:	0.5	0.5	0.4
Oxygen.....%:	13.6		
Classification by Rank			
A.S.T.M.....:		Subbituminous C	
S.V.I.....:		103 - Lignitic	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	45-51		
cu.ft./ton:	44.4-39.2		
Grindability index.....:			

ASH ANALYSIS(2).....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	28.7	29.8	5.1	18.9	(	Not Determined				)	10.6

(1) Black Nugget Coal Co., Ltd. - Black Nugget Mine.
Dodds Coal Mine (Skarin & Clarke) - North Star Mine.
Tofield Coal Co., Ltd. - Tofield Mine.
(2) Taken from Stansfield & Lang - Research Council of Alta. Report No. 35, p. 45.

Province.....:	ALBERTA	
District or area.....:	Tofield	
Operator.....:	Black Nugget Coal Co., Ltd.+	
Mine (W.P. & T.B. Licence No.)..:	Black Nugget (588)	
Location of mine.....:	Dodds - Tp. 49, R. 18, W. of 4	
Seam.....:	Top Seam (Edmonton Formation)	
Output.....tons/annum:	50,000+	
Trade name.....:	BLACK NUGGET	
Size.....:	Mine Run	Lump, Egg
Screen limits at mine.....:	--	2x8",2-1/2x3"
No. of samples.....:	1	4
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	27.5	27.5
Ash.....%:	8.7	7.4
Volatile matter.....%:	26.9	27.8
Fixed carbon.....%:	36.9	37.3
Fuel ratio.....:	1.37	1.34
Calorific value.....B.T.U./lb:	8,050	8,195
Ash softening temperature...°F:	2160	2280
Caking Properties		
By volatile button @ 950°C..:	N.A.	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:	46.0	
Hydrogen.....%:	3.0	
Nitrogen.....%:	1.0	
Sulphur.....%:	0.7	0.5
Oxygen.....%:	13.1	
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	100 - Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	52.8	45.4
cu.ft./ton:	37.9	44.0
Grindability index.....:		

+ Stripping pit, previously only a shaft mine.

Province.....:	ALBERTA	
District or area.....:	Tofield	
Operator.....:	Dodds Coal Mine +	
Mine (S.P. & T.B. Licence No.)..:	Dodds (3438)	
Location of mine.....:	Dodds - Tp. 49, R. 18, W. of 4	
Seam.....:	Top Seam (Edmonton Formation)	
Output.....tons/annum:	30-50,000	
Trade name.....:	DODD'S NORTH STAR	
Size.....:	Mine Run	Lump
Screen limits at mine.....:	+1-1/4" Fork	+12" (Handpicked)
No. of samples.....:	1	2
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	27.5	27.5
Ash.....%:	7.0	6.5
Volatile matter.....%:	27.1	27.9
Fixed carbon.....%:	38.4	38.1
Fuel ratio.....:	1.42	1.37
Calorific value.....B.T.U./lb:	8,340	8,340
Ash softening temperature...°F:	2030	2020
Caking Properties		
By volatile button @ 950°C..:	N.A.	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.5	0.6
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	Subbituminous C	
S.V.I.....:	104 - Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		48.5
cu.ft./ton:		41.2
Grindability index.....:		

+ Stripping Pit.

Province.....:	ALBERTA
District or area.....:	Tofield
Operator.....:	Tofield Coal Co., Ltd. +
Mine (W.P. & T.B. Licence No.)..:	Tofield (3201)
Location of mine.....:	Tofield - Tp. 59, R. 19, W. of 4
Seam.....:	Top Seam (Edmonton Formation)
Output.....tons/annum:	50-70,000
Trade name.....:	HEADLIGHT

Size.....:	Mine Run, Lump	Stove	Stoker Nut	Slack
Screen limits at mine.....:	+2" Fork	2x4"	3/8x1-1/2"	0x1-1/2"
No. of samples.....:	9	1	53	1
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	27.5	27.5	27.5	28.5
Ash.....%:	6.7	6.3	7.8	6.1
Volatile matter.....%:	28.0	26.8	26.9	26.3
Fixed carbon.....%:	37.8	39.4	37.8	39.1
Fuel ratio.....:	1.35	1.47	1.41	1.49
Calorific value.....B.T.U./lb:	8,415	8,295	8,210	8,410
Ash softening temperature...°F:	2275	2120	2160	2140
Caking Properties				
By volatile button at 950°C.:		N.A.		
Caking index (Gray).....:		0		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:		----		
Swelling index.....:		Negative		
Ultimate Analysis				
Carbon.....%:	48.0			
Hydrogen.....%:	3.2			
Nitrogen.....%:	0.9			
Sulphur.....%:	0.4	0.4	0.5	0.4
Oxygen.....%:	13.3			
Classification by Rank				
A.S.T.M.....:		Subbituminous C		
S.V.I.....:		105 - Lignitic		
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	51.1	49.5		
cu.ft./ton:	39.1	40.4		
Grindability index.....:				

+ Stripping pit.

COALFIELDS AND COAL AREAS OF BRITISH COLUMBIA

Prepared by B. R. MacKay, Geological Survey, 1946.

TERTIARY COAL AREAS

SOUTHERN BRITISH COLUMBIA

1 PRINCETON COAL AREA
2 TULAMEEN COAL AREA
3 MERRITT-NICOLA COAL AREA
4 QUILCHENA COAL AREA
5 WHITE LAKE COAL AREA
6 HAT CREEK COAL AREAS
7 KAMLOOPS COAL AREAS
8 NORTH THOMPSON RIVER (CHU CHUA) COAL AREA
9 FRASER RIVER DELTA COAL AREA

CENTRAL BRITISH COLUMBIA

10 BOWRON RIVER COAL AREA
11 FORT GEORGE COAL AREA
12 FRASER LAKE COAL AREA
13 NECHAKO RIVER COAL AREA
14 BLACKWATER COAL AREA
15 QUESNEL COAL AREA
16 COTTONWOOD COAL AREA
17 ALEXANDRIA COAL AREA
18 DRIFTWOOD CREEK COAL AREA

COAST RANGE DISTRICT'

19 BELLA COOLA RIVER COAL AREA
20 KOHASGANKO (DEAN RIVER) COAL AREA

NORTHERN BRITISH COLUMBIA (Liard River Drainage Basin)

21 COAL RIVER COAL AREA
22 HYLAND RIVER COAL AREA
23 DEASE RIVER COAL AREA
24 RAPID RIVER COAL AREA

GRAHAM ISLAND

25 SKONUM POINT COAL AREA

UPPER CRETACEOUS COAL AREAS

VANCOUVER ISLAND

26 SUQUASH COAL AREAS
27 COMOX COAL AREA
  a CUMBERLAND COAL AREA
  b TSABLE RIVER COAL AREA
  c CAMPBELL RIVER COAL AREA
28 NANAIMO COAL AREAS
29 COWICHAN COAL AREA
30 ALBERNI COAL AREA

GRAHAM ISLAND

31 COWGITZ AND OTHER COAL AREAS

LOWER CRETACEOUS COAL AREAS

SOUTHEASTERN BRITISH COLUMBIA COAL DISTRICT

32 CROWSNEST COAL AREAS
  a FERNIE BASIN COAL AREA
  b CORBIN BASIN COAL AREA
  c TENT AND TAYLOR MOUNTAIN COAL AREA
33 FLATHEAD RIVER COAL AREAS
34 UPPER ELK RIVER COAL AREA

NORTHEASTERN BRITISH COLUMBIA COAL DISTRICT

35 PEACE RIVER CANYON COAL AREA
36 BUTLER RIDGE COAL AREAS
37 CARBON RIVER COAL AREA
38 FALLS CREEK COAL AREA
39 HASLER CREEK COAL AREA
40 HALFWAY-SIKANNI CHIEF RIVERS COAL AREAS
41 MINAKER RIVER COAL AREA

CENTRAL BRITISH COLUMBIA COAL DISTRICT (Skeena River Drainage Basin)

42 TELKWA RIVER COAL AREAS
43 CLARK-FORK COAL AREAS
44 CHISHOLM LAKE COAL AREA
45 KATHLYN LAKE COAL AREA
46 ZYMOETZ RIVER (COAL CREEK) COAL AREAS
47 KISPIOX RIVER COAL AREA
48 GROUNDHOG COAL AREA

NORTHWESTERN BRITISH COLUMBIA COAL DISTRICT (Atlin District)

49 STIKINE RIVER (TUYA RIVER) COAL AREA
50 TAKU RIVER COAL AREA
51 INKLIN RIVER COAL AREA
52 SLOKO RIVER COAL AREA
53 GRAHAM INLET COAL AREA

Province.....:	BRITISH COLUMBIA
District or area.....:	Ashcroft Field (Hat Creek)
Operator.....:	Hat Creek Coal Mine(1)
Mine(W.P. & T.B. Licence No.)...:	Hat Creek (8174)
Location of mine.....:	Upper Hat Creek,15 miles East of Pavilion
Output.....tons/annum:	2-3,000
Trade name.....:	HAT CREEK
Size.....:	Mine Run(2)
Screen limits at mine.....:	----
No. of samples.....:	27
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	29.0
Ash.....%:	16.5
Volatile matter.....%:	26.6
Fixed carbon.....%:	27.9
Fuel ratio.....:	1.05
Calorific value.....B.T.U./lb:	6,635
Ash Softening Temperature...°F:	2780
Caking Properties	
By volatile button @ 950°C..:	N.A.
Caking Index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile @ 600°C.....%:	--------
Swelling Index.....:	Negative
Ultimate Analysis	
Carbon.....%:	38.9
Hydrogen.....%:	2.8
Nitrogen.....%:	0.9
Sulphur.....%:	0.6
Oxygen.....%:	11.3
Classification by Rank	
A.S.T.M.....:	Subbituminous C
S.V.I.....:	103-Lignitic
PHYSICAL PROPERTIES	
Bulk Density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability Index.....:	

(1) Strip pit in recent years-not operating in 1947.
(2) Most of the samples were either face samples from the earlier underground workings, or similar samples from the more recent strip operation.

Province.....:	BRITISH COLUMBIA
District or area.....:	Bulkley Valley (Inland)
Operator.....:	Bulkley Valley Collieries Ltd.
Mine.....:	Bulkley Valley No. 2 Mine
Location of mine.....:	On Goathorn Creek, 7-1/2 miles South of Telkwa
Seam.....:	Betty
Output.....tons/annum:	10-15,000
Trade name.....:	BULKLEY VALLEY

Size.....:	Mine Run	Lump	Nut Slack
Screen limits at mine.....:	--	--	--
No. of samples.....:	1	6	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	4.0	4.0	4.5
Ash.....%:	11.0	11.1	12.0
Volatile matter.....%:	24.8	27.0	26.6
Fixed carbon.....%:	60.2	57.9	56.9
Fuel ratio.....:	2.43	2.15	2.14
Calorific value.....B.T.U./lb:	12,715	12,720	12,320
Ash softening temperature...°F:	2650	2460	2675
Caking Properties			
By volatile button at 950°C.:	Fair	Fair	Fair
Caking index (Gray).....:	13		
Swelling Properties/FRL Test			
Volatile at 600°C.....%:	22.2(1)		
Swelling index.....:	-158		
Ultimate Analysis			
Carbon.....%:	73.7		
Hydrogen.....%:	4.1		
Nitrogen.....%:	0.8		
Sulphur.....%:	1.0	0.7	1.0
Oxygen.....%:	5.4		
Classification by Rank			
A.S.T.M.....:	Medium Volatile to High Volatile A Bituminous		
S.V.I.....:	169 - Parabituminous		
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	52.7		53.0
cu.ft./ton:	37.9		37.7
Grindability index.....:	69.8	65.0	69.1

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	63.6	21.5	3.6	3.3	1.8	-	0.5	0.4	0.7	1.0	3.7

(1) Top and middle benches of seam show a swelling index of approx. 125.

Province.....:	BRITISH COLUMBIA
District or area.....:	Bulkley Valley (Inland)
Operator.....:	Telkoal Co., Ltd. (1)
Mine.....:	Telkoal (Aveling)
Location of mine.....:	South bank of Telkwa River, 6 miles N.E. of Telkwa
Seam.....:	Betty
Output.....tons/annum:	15-25,000
Trade name.....:	TELKOAL OR AVELING

Size.....:	Lump	Stoker	Blacksmith(2)	Slack
Screen limits at mine.....:	--	--	--	--
No. of samples.....:	3	1	3	2
CHEMICAL PROPERTIES				
Proximate Analysis				
Moisture.....%:	3.5	4.0	4.0	5.0
Ash.....%:	8.6	8.0	3.1	12.5
Volatile matter.....%:	27.3	28.4	32.6	26.6
Fixed carbon.....%:	60.6	59.6	60.3	55.9
Fuel ratio.....:	2.22	2.10	1.85	2.10
Calorific value.....B.T.U./lb:	13,205	13,180	14,100	12,160
Ash softening temperature...°F:	2750+	2750+	2545	2750+
Caking Properties				
By volatile button @ 950°C..:	Fair	Fair	Good	Fair
Caking index (Gray).....:		----		
Swelling Properties/FRL Test				
Volatile at 600°C.....%:	21.5		27.6	20.0
Swelling index.....:	-100		600	-100
Ultimate Analysis				
Carbon.....%:	76.2			
Hydrogen.....%:	4.2			
Nitrogen.....%:	0.8			
Sulphur.....%:	0.9	0.8	1.2	0.9
Oxygen.....%:	5.8			
Classification by Rank				
A.S.T.M.....:	Medium Volatile to High Volatile A Bituminous			
S.V.I.....:	168 - E-Parabituminous			
PHYSICAL PROPERTIES				
Bulk density.....lb./cu.ft.:	53.5	46.0	52.0	
cu.ft./ton:	37.4	43.5	38.5	
Grindability index.....:			68.4	

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.8	29.2	7.4	2.4	0.4	0.03	0.5	0.5	0.5	1.1	1.5

(1) Previously Aveling Coal Co., Ltd. Present mine closed during 1947.
(2) Blacksmith coal is specially mined, coming from the top 3 ft. bench of the seam.

Province.....:	BRITISH COLUMBIA
District or area.....:	Crowsnest
Operator.....:	The Consolidated Mg. & Smelting Co., Ltd. (1)
Mine.....:	Corbin Colliery No. 3
Location of mine.....:	Coal Mountain
Seam.....:	----
Output.....tons/annum:	Up to 160,000
Trade name.....:	----
Size.....:	Stoker
Screen limits at mine.....:	----
No. of samples.....:	19

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	3.0
Ash.....%:	16.4
Volatile matter.....%:	22.2
Fixed carbon.....%:	58.4
Fuel ratio.....:	2.63
Calorific value.....B.T.U./lb:	12,140
Ash softening temperature...°F:	2640
Caking Properties	
By volatile button @ 950°C..:	Good
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	----
Ultimate Analysis	
Carbon.....%:	70.6
Hydrogen.....%:	3.9
Nitrogen.....%:	1.1
Sulphur.....%:	0.3
Oxygen.....%:	4.7
Classification by Rank	
A.S.T.M.....:	Medium Volatile Bituminous
S.V.I.....:	176 - Orthobituminous

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Strip mine in recent years, but closed since 1944.

Province.....:	BRITISH COLUMBIA
District or area.....:	Crowsnest
Operator.....:	Crow's Nest Pass Coal Co., Ltd.
Mines.....:	Coal Creek (No. 1 East), Elk River (No. 4, No. 9)(1)
Location of mines.....:	Coal Creek, 4 miles E. of Fernie
Seams.....:	No. 1 East, No. 4, No. 9 (Kootenay Formation)
Output.....tons/annum:	(See Michel)
Trade name.....:	COAL CREEK

Size.....:	Mine Run	Slack
Screen limits at mine.....:	--	0x1/2"rd.
No. of samples.....:	4	21
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	1.2	1.5
Ash.....%:	8.2	9.9
Volatile matter.....%:	24.4	25.1
Fixed carbon.....%:	66.2	63.5
Fuel ratio.....:	2.71	2.53
Calorific value.....B.T.U./lb:	14,195	13,925
Ash softening temperature...°F:	2290	2365
Caking Properties		
By volatile button at 950°C.:	Good	Good
Caking index (Gray).....:	45-68	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	16.5-20.5	
Swelling index.....:	215-1400	
Ultimate Analysis		
Carbon.....%:	81.1	
Hydrogen.....%:	4.8	
Nitrogen.....%:	1.2	
Sulphur.....%:	0.3	0.3
Oxygen.....%:	3.0	
Classification by Rank		
A.S.T.M.....:	Medium Volatile Bituminous	
S.V.I.....:	195 - Metabituminous	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:		52.5
cu.ft./ton:		38.1
Grindability index.....:	95-110	110-118

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	58.3	23.6	4.1	5.3	1.6	0.03	0.3	1.3	1.7	0.9	3.0

(1) Elk River Collieries, operating on No. 4 & No. 9 seams are situated about 3/4 mi. from the old Coal Creek Mine (No. 1 East), and were opened in 1943. The coal from both the Coal Creek and Elk River Collieries are handled in the same preparation plant and are not segregated.

Province.....:	BRITISH COLUMBIA
District or area.....:	Crowsnest
Operator.....:	The Crow's Nest Pass Coal., Ltd.
Mine.....:	Michel Colliery
Location of Mine.....:	Michel Creek, 21 miles N.E. of Fernie
Seam.....:	A East, B East, B South, A West & South (Kootenay Formation)
Output.....tons/annum:	950-1,050,000 (Michel & Coal Creek)
Trade name.....:	MICHEL

Size.....:	Mine Run	Lump	Cobble	Stoker	Slack	Fines
Screen limits at mine.....:		+7" lip	1-5/8"sq. x7" lip	3/16x 1-5/8"sq.	0x 1-5/8"sq.	0x 3/16"sq.
No. of samples.....:	28	7	3	16	59	3
CHEMICAL PROPERTIES						
Proximate Analysis						
Moisture.....%:	1.5	1.0	1.0	1.5	2.5	3.0
Ash.....%:	7.4	9.6	9.0	6.7	8.5	9.9
Volatile matter.....%:	24.8	24.1	23.2	24.8	24.1	23.1
Fixed carbon.....%:	66.3	65.3	66.8	67.0	64.9	64.0
Fuel ratio.....:	2.68	2.71	2.88	2.70	2.69	2.77
Calorific value.....B.T.U./lb:	14,105	13,800	13,845	14,160	13,830	13,380
Ash softening temperature...°F:	2480*	2605	2570	2560	2670	2790
Caking Properties						
By volatile button at 950°C.:				Good		
Caking index (Gray).....:				45-60		
Swelling Properties/FRL Test						
Volatile at 600°C.....%:				18.0-20.5		
Swelling index.....:				750-1400		
Ultimate Analysis						
Carbon.....%:	80.0					
Hydrogen.....%:	4.8					
Nitrogen.....%:	1.4					
Sulphur.....%:	0.6	0.6	0.5	0.6	0.7	0.6
Oxygen.....%:	4.3					
Classification by Rank						
A.S.T.M.....:				Medium Volatile Bituminous		
S.V.I.....:				185 - Orthobituminous		
PHYSICAL PROPERTIES						
Bulk density.....lb./cu.ft.:	57.0	51.5	53.5	50.0	50.0	50.3
cu.ft./ton:	35.1	38.8	37.4	40.0	40.0	39.8
Grindability index.....:				95-125		

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	49.3	27.8	11.7	3.1	1.5	0.06	Nil	1.3	0.4	1.2	3.5

* Ash softening temperature varies between 2080°F., and 2700+°F. B Seam usually lower.

Province.....:	BRITISH COLUMBIA
District or area.....:	Kathlyn Lake (Bulkley Valley)
Operator.....:	General
Mine.....:	Mainly Prospects
Location of mines.....:	Near Kathlyn Lake, in vicinity of Smithers, B.C. some 12-15 miles N.W. of Telkwa
Output.....tons/annum:	----
Trade name.....:	----
Size.....:	Mine Run
Screen limits at mine.....:	----
No. of samples.....:	9
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	3.5
Ash.....%:	14.9
Volatile matter.....%:	5.7
Fixed carbon.....%:	75.9
Fuel ratio.....:	13.3
Calorific value.....B.T.U./lb:	11,220
Ash softening temperature...°F:	2160 - 2800
Caking Properties	
By volatile button at 950°C.:	Non coking
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.1
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Anthracite
S.V.I.....:	445 - Anthracite
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

Province.....:	BRITISH COLUMBIA
District or area.....:	Merritt (Nicola Valley)
Operator.....:	Merritt Coal Mines Ltd. (1)
Mine.....:	Diamond Vale No. 4
Location of mine.....:	Merritt, 2 miles E. of
Output.....tons/annum:	5-10,000
Trade name.....:	DIAMOND VALE
Size.....:	Slack
Screen limits at mine.....:	----
No. of samples.....:	3

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	8.0
Ash.....%:	15.8
Volatile matter.....%:	30.9
Fixed carbon.....%:	45.3
Fuel ratio.....:	1.47
Calorific value.....B.T.U./lb:	10,970
Ash softening temperature...°F:	2670
Caking Properties	
By volatile button @ 950°C..:	Agglomerate
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.6
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	High volatile B Bituminous
S.V.I.....:	149 - Subbituminous

PHYSICAL PROPERTIES

Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Closed since 1946.

Province.....:	BRITISH COLUMBIA
District or area.....:	Merritt (Nicola Valley)
Operator.....:	Middlesboro Collieries Ltd. (1)
Mine.....:	No. 3 North & No. 2 South
Location of mine.....:	Merritt
Seam.....:	No. 3 Seam & No. 2 Seam
Output.....tons/annum:	----
Trade name.....:	MIDDLESBORO

Size.....:	Rly. Mine Run(2)	Lump	Slack
Screen limits at mine.....:	1/2"rd.x8"B.	+2-1/2",+8"B.	0x1/2"rd.
No. of samples.....:	4	10	2
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	8.0	8.0	9.0
Ash.....%:	19.3	14.8	16.6
Volatile matter.....%:	32.4	33.9	30.5
Fixed carbon.....%:	40.3	43.3	43.9
Fuel ratio.....:	1.24	1.28	1.44
Calorific value.....B.T.U./lb:	10,250	11,020	10,585
Ash softening temperature...°F:	2850+	2850+	2850+
Caking Properties			
By volatile button @ 950°C...:		Agglomerate	
Caking index (Gray).....:		----	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		29.5	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:		61.8	
Hydrogen.....%:		4.5	
Nitrogen.....%:		1.5	
Sulphur.....%:	0.5	0.5	0.5
Oxygen.....%:		8.9	
Classification by Rank			
A.S.T.M.....:		High Volatile B Bituminous	
S.V.I.....:		140 - Subbituminous	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	56.3		48.5
cu.ft./ton:	35.5		41.3
Grindability index.....:	57.0		58.7

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	54.1	31.8	5.9	2.4	1.2	0.05	1.2	1.2	0.5	0.9	1.1

(1) Closed since 1944.

(2) Analysis calculated on basis of equal quantities of No. 2 & No. 3 Seams in the commercial product. As mined No. 2 Seam contained about 14.8% ash (dry basis), whereas No. 3 Seam contained 23.0% ash.

Province.....:	BRITISH COLUMBIA
District or area.....:	Princeton
Operators.....:	General (1)
Location of mines.....:	In vicinity of Princeton,B.C.
Seam.....:	----
Output.....:..tons/annum:	60-120,000
Size.....:	Mine Run & Lump
No. of samples.....:	27

CHEMICAL PROPERTIES

Proximate Analysis	
Moisture.....%:	20.0
Ash.....%:	8.5
Volatile matter.....%:	30.2
Fixed carbon.....%:	41.3
Fuel ratio.....:	1.37
Calorific value.....B.T.U./lb:	9,430
Ash softening temperature...°F:	2165
Caking Properties	
By volatile button @ 950°C..:	Non-agglomerate
Caking index (Gray).....:	0
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	54.1
Hydrogen.....%:	3.6
Nitrogen.....%:	1.6
Sulphur.....%:	0.6
Oxygen.....%:	11.6
Classification by Rank	
A.S.T.M.....:	Subbituminous B
S.V.I.....:	119 - Lignitic

PHYSICAL PROPERTIES

Bulk density.....lbs/cu.ft.:	
cu.ft./ton:	
Grindability index.....:	39-45

(1) Most of the mines represented in the above analysis have been abandoned. In 1947 there were the following two operations:
Taylor, James - Taylor Mine, 4 miles W. of Princeton.
Tulameen Collieries Ltd., - Tulameen No. 3 & No. 4 - 2 miles W. of Princeton.

Province.....:	BRITISH COLUMBIA	
District or area.....:	Princeton	
Operator.....:	The Granby Consolidated Mg.,Smelting & Power Co.,Ltd.	
Mines.....:	No. 1 & No. 2 (1)	
Location of mihes.....:	Bromley Creek, 6 miles W. of Princeton	
Seam.....:	----	
Output.....tons/annum:	----	
Trade name.....:	GRANBY TULAMEEN	
Size.....:	Lump, Stove-Nut	Slack
Screen limits at mine.....:	+5,+6"rd.,1-1/4x3" sq.	0x5/8"rd.
No. of samples.....:	7	2
CHEMICAL PROPERTIES		
Proximate Analysis		
Moisture.....%:	20.0	21.0
Ash.....%:	11.8	19.0
Volatile matter.....%:	29.2	25.7
Fixed carbon.....%:	39.0	34.3
Fuel ratio.....:	1.34	1.33
Calorific value.....B.T.U./lb:	8,770	7,590
Ash softening temperature...°F:	2230	2270
Caking Properties		
By volatile button @ 950°C..:	N.A.	
Caking index (Gray).....:	0	
Swelling Properties/FRL Test		
Volatile at 600°C.....%:	----	
Swelling index.....:	Negative	
Ultimate Analysis		
Carbon.....%:		
Hydrogen.....%:		
Nitrogen.....%:		
Sulphur.....%:	0.5	0.5
Oxygen.....%:		
Classification by Rank		
A.S.T.M.....:	Subbituminous B	
S.V.I.....:	117 - Lignitic	
PHYSICAL PROPERTIES		
Bulk density.....lb./cu.ft.:	47.0	48.5
cu.ft./ton:	42.5	41.2
Grindability index.....:	39-45	

(1) Closed since 1943.

Province.....:	BRITISH COLUMBIA		
District or area.....:	Princeton		
Operator.....:	Princeton Tulameen Coal Co., Ltd. (1)		
Mine.....:	No. 1		
Location of mine.....:	Princeton, 1 mile W. of		
Seam.....:	----		
Output.....tons/annum:	----		
Trade name.....:	TULAMEEN VALLEY - PRINCETON		
Size.....:	Lump, Egg	Nut, Pea	Slack
Screen limits at mine.....:	+4-1/2" rd. 2-1/2x4-1/2"rd.	1"sq.x2-1/2"rd., 5/8x1"sq.	0x5/8"sq.
No. of samples.....:	6	3	1
CHEMICAL PROPERTIES			
Proximate Analysis			
Moisture.....%:	19.0	19.5	20.0
Ash.....%:	6.5	7.5	10.7
Volatile matter.....%:	31.0	30.6	28.2
Fixed carbon.....%:	43.5	42.4	41.1
Fuel ratio.....:	1.40	1.39	1.46
Calorific value.....B.T.U./lb:	9,920	9,645	9,065
Ash softening temperature...°F:	2090	2050	2060
Caking Properties			
By volatile button at 950°C.:		Non-agglomerate	
Caking index (Gray).....:		----	
Swelling Properties/FRL Test			
Volatile at 600°C.....%:		----	
Swelling index.....:		Negative	
Ultimate Analysis			
Carbon.....%:			
Hydrogen.....%:			
Nitrogen.....%:			
Sulphur.....%:	0.4	0.3	0.3
Oxygen.....%:			
Classification by Rank			
A.S.T.M.....:		Subbituminous B	
S.V.I.....:		120 - Lignitic	
PHYSICAL PROPERTIES			
Bulk density.....lb./cu.ft.:	48.0	48.0	49.5
cu.ft./ton:	41.7	41.7	40.4
Grindability index.....:		39-45	

(1) Closed down in 1944.

Province.....:	BRITISH COLUMBIA
District or area.....:	Comox Area (Vancouver Island)
Operator.....:	Canadian Collieries (Dunsmuir) Ltd.
Mine.....:	Comox No. 5 and No. 8 (1)
Location of mine.....:	No. 5 - 1 mile N.W. of Cumberland No. 8 - Bevan, Lake Trail Road
Seam.....:	No. 5 & No. 8
Output.....tons/annum:	600-850,000(2)
Trade name.....:	COMOX

Size.....:	Mine Run	Lump, Egg Cobble	Nut, Pea, Stoker, Washed Smalls	Slack	Fines
Screen limits at mine.....:	--	(3)	(4)	0x7/8" rd.	0x3/16" rd.
No. of samples.....:	5	38	14	9	3
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	3.5	2.5	4.5	5.5	6.0
Ash.....%:	13.8	11.6	13.2	13.8	15.6
Volatile matter.....%:	31.3	32.2	30.1	30.7	30.2
Fixed carbon.....%:	51.4	53.7	52.2	50.0	48.2
Fuel ratio.....:	1.64	1.67	1.72	1.63	1.60
Calorific value.....B.T.U./lb:	12,320	12,970	12,400	12,150	11,945
Ash softening temperature...°F:	2170	2115	2250	2235	2260
Caking Properties					
By volatile button at 950°C.:	Good	Good	Good	Good	Good
Caking index (Gray).....:			65		
Swelling Properties/FRL Test					
Volatile at 600°C.....%:			27.7		
Swelling index.....:			833		
Ultimate Analysis					
Carbon.....%:	69.1				
Hydrogen.....%:	4.5				
Nitrogen.....%:	1.0				
Sulphur.....%:	2.4	2.0	2.1	2.4	2.8
Oxygen.....%:	5.7				
Classification by Rank					
A.S.T.M.....:	High Volatile A Bituminous				
S.V.I.....:	175 - Border or Para and Orthobituminous				
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:		50.7	48.5-52.0	52.0	
cu.ft./ton:		39.5	41.2-38.5	38.5	
Grindability index.....:	65.0		76.0	67.0	68.6

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	27.5	17.8	16.9	15.7	2.4	0.02	0.6	0.6	0.4	0.8	17.4

(1) The Tsable River Prospect Mine will probably be included in the Union Bay Washery Output.
(2) This is total output for Comox & Nanaimo Collieries.
(3) Lump: +6 in. Cobble or Egg: 3x6 in.rd.(rescreened on 7/8 in.sq. mesh for distribution in Vancouver).
(4) No. 1 Nut: 1-1/4x3 in.rd. No. 2 Nut: 7/8"rd.x1-1/4"rd. Pea: 3/16x7/8"rd.(referred to as Stoker Size). Washed Smalls: 0x3/16 in.

Province.....:	BRITISH COLUMBIA
District or area.....:	Nanaimo Area (Vancouver Island)
Operator.....:	Canadian Collieries (Dunsmuir) Ltd.
Mines.....:	Wellington No.10, White Rapids, Beban Tipple
Location of mines.....:	In vicinity of Nanaimo, S. Wellington & Extension
Seams.....:	Douglas (No. 1), Wellington (No. 8)
Output.....tons/annum:	(See Comox)
Trade name.....:	NANAIMO, NANAIMO-DOUGLAS, LADYSMITH, OLD-WELLINGTON

Size.....:	Mine Run	Lump(1)	Nut	Pea	Slack & Washed Smalls
Screen limits at mine.....:	----	+2-1/2" rd.	(2)	3/16x7/8"rd.	0x1-1/2 or 3/16"
No. of samples.....:	4	44	9	6	11
CHEMICAL PROPERTIES					
Proximate Analysis					
Moisture.....%:	5.0	3.3	4.0	4.0	7.5
Ash.....%:	13.0	12.7	13.9	13.2	13.6
Volatile matter.....%:	33.2	36.2	36.5	35.7	34.8
Fixed carbon.....%:	48.8	47.8	45.6	47.1	44.1
Fuel ratio.....:	1.47	1.32	1.25	1.32	1.27
Calorific value.....B.T.U./lb:	12,155	12,365	12,185	12,250	11,570
Ash softening temperature...°F:	2305	2265	2390	2300	2270
Caking Properties					
By volatile button @ 950°C..:	Fair				
Caking index (Gray).....:	45-63				
Swelling Properties/FRL Test					
Volatile at 600°C.....%:	29.4				
Swelling index.....:	-60 to 520 (Av. 256)				
Ultimate Analysis					
Carbon.....%:	68.2				
Hydrogen.....%:	4.8				
Nitrogen.....%:	1.4				
Sulphur.....%:	0.4	0.7	0.5	0.5	0.7
Oxygen.....%:	7.2				
Classification by Rank					
A.S.T.M.....:	High Volatile A Bituminous				
S.V.I.....:	155 - Subbituminous				
PHYSICAL PROPERTIES					
Bulk density.....lb./cu.ft.:		49.7	47.0	48.5	52.0
cu.ft./ton:		40.3	42.6	41.2	38.5
Grindability index.....:	67.3				75.2

ASH ANALYSIS.....%:	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	MnO	Na_2O	K_2O	P_2O_5	TiO_2	SO_3
	38.8	20.9	6.8	19.7	4.6	0.08	1.1	0.9	0.8	1.1	3.8

(1) Rescreened for distribution at Vancouver on 7/8" sq. mesh.

(2) Nut may be:- No. 1 Nut - 1-1/2 x 2-1/2 in. rd. at mine or 7/8" sq. x 2-1/2" rd. at Vancouver distribution.
No. 2 Nut - 7/8 x 1-1/2 in. rd. (called Douglas Nut, but may be from any seam.

Province.....:	BRITISH COLUMBIA
District or area.....:	Peace River
Operators.....:	General(1)
Location of area.....:	Approx. 55° & 56° latitude - 120° longitude, S.W. & W. portions in vicinity of Fort St. John, Hudson Hope and Little Prairie.
Output.....tons/annum:	Very small

NON-COKING COALS

Size.....:	Mine Run & Prospect Samples
No. of samples.....:	29
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	2.4
Ash.....%:	6.1
Volatile matter.....%:	20.3
Fixed carbon.....%:	71.2
Fuel ratio.....:	3.51
Calorific value.....B.T.U./lb:	13,970
Ash softening temperature...°F:	2310-2850+
Caking Properties	
By volatile button @ 950°C..:	Non coking to agglomerate
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:	----
Swelling index.....:	Negative
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.8
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Border of low & Medium Volatile Bituminous
S.V.I.....:	186 - Orthobituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Operators in 1946:

(a) Hasler Creek Coal Co., Ltd. - On Hasler Creek, 18 miles S.W. of Little Prairie

(b) Gething, Q.F. - East slope of Bullhead Mountain, 12 miles W. of Hudson Hope.

(c) Peace River Coal Mines Ltd. - N.W. Slope of Bullhead Mountain, 12-1/2 miles W. of Hudson Hope.

(d) Packwood, Geo. A. - Butler Range, 22 miles W. of Hudson Hope.

Province.....:	BRITISH COLUMBIA
District or area.....:	Peace River
Operator.....:	General (1)
Location of area.....:	Approx. 55° & 56° latitude - 120° longitude, S.W. & W. portions in vicinity of Fort St. John, Hudson Hope & Little Prairie

COKING COALS
(In vicinity of Gething Creek)

Size.....:	Prospect Samples
No. of samples.....:	10
CHEMICAL PROPERTIES	
Proximate Analysis	
Moisture.....%:	0.9
Ash.....%:	3.8
Volatile matter.....%:	24.6
Fixed carbon.....%:	70.7
Fuel ratio.....:	2.88
Calorific value.....B.T.U./lb:	14,855
Ash softening temperature...°F:	----
Caking Properties	
By volatile button @ 950°C..:	Fair to Good
Caking index (Gray).....:	----
Swelling Properties/FRL Test	
Volatile at 600°C.....%:.	----
Swelling index.....:	Swelling
Ultimate Analysis	
Carbon.....%:	
Hydrogen.....%:	
Nitrogen.....%:	
Sulphur.....%:	0.8
Oxygen.....%:	
Classification by Rank	
A.S.T.M.....:	Medium Volatile Bituminous
S.V.I.....:	175 - Border of Ortho and Parabituminous
PHYSICAL PROPERTIES	
Bulk density.....lb./cu.ft.:	
cu.ft./ton:	
Grindability index.....:	

(1) Very little information available on these coals. They are included to indicate that there are medium to high volatile coking coals in the Peace River Area.

Index

Note: Trade names of the coals are indicated by asterisks. (*)