CANADA
DEPARTMENT OF MINES
HON. MARTIN BURRELL, MINISTER; R. G. MCCONNELL, DEPUTY MINISTER

MINES BRANCH
EUGENE HAANEL, PH.D., DIRECTOR.

BULLETIN No. 24

Analyses of Canadian Fuels

IN FIVE PARTS

PART III

MANITOBA AND SASKATCHEWAN

COMPILED BY
Edgar Stansfield, M.Sc.,
and
J. H. H. Nicolls, M.Sc.

OTTAWA
J. DE LABROQUERIE TACHÉ
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1918

No. 481

CANADA
DEPARTMENT OF MINES
HON. MARTIN BURRELL, MINISTER; R. G. MCCONNELL, DEPUTY MINISTER

MINES BRANCH
EUGENE HAANEL, PH.D., DIRECTOR.

BULLETIN No. 24

Analyses of Canadian Fuels

IN FIVE PARTS

PART III

MANITOBA AND SASKATCHEWAN

COMPILED BY
Edgar Stansfield, M.Sc.
and
J. H. H. Nicolls, M.Sc.

OTTAWA
J. DE LABROQUERIE TACHÉ
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1918

No. 481

35553—R

EXPLANATORY NOTES.

The samples of Manitoba and Saskatchewan fuels collected previous to 1910 were analysed at McGill University by the staff then engaged in a special "Investigation of the Coals of Canada." Early in 1910, however, this work was transferred to the Division of Fuels and Fuel Testing, Mines Branch, Department of Mines, Ottawa; and all subsequent samples have been tested there.

The expressions "anal." and "calc." at the head of any column indicate whether the figures recorded were obtained directly by analysis, or by calculation. The usual practice was to analyse the fuels after air-drying, although, in some cases, determinations were made on samples either in the condition received, or after being completely dried.

A "Commercial" sample of any grade of fuel is one representative of the corresponding product as shipped from any mine.

The "Mine" and "Prospect" samples were collected by technical officers of either the Federal or Provincial governments; the former term being applied to those procured from deposits already under development. "Prospect" samples are apt to be weathered, and may, therefore, only give an indication of the composition of the main body of the deposit.

In making the determinations the necessary calculations were made to give one more significant figure than is reported. All deduced values were calculated before the rounding-off process took place.

Figures in columns "R" refer to fuels as received; in columns "AD" to air-dried fuels; and in columns "D" to those dried at 105° C.

CONTENTS.

MANITOBA PEAT BOGS.

Description.	Litter Bog,* 2 miles from Point Dubois, Secs. 33-34, Tp. 15, R. 14 E. of principal meridian.	Mud Lake Bog,* 3 miles from Point Dubois, Secs. 28 & 33, Tp. 15, R. 14 E. of principal meridian.	Rice Lake Bog,* 7½ miles from Point Dubois, Secs. 25-26, Tp. 15, R. 13 E. of principal meridian.		Boggy Creek Bog,* 12 miles from Point Dubois, Secs. 29-32, Tp. 15, R. 13 E. of principal meridian.	
Sample No.	134	139	147	148	135	136
Moisture condition (see note p. 3)	D	D	D	D	D	D
Loss on air-drying ..... %	....	....	....	....	....	....
Results obtained by						
Proximate analysis:—						
Moisture ..... %	....	....	....	....	....	....
Ash ..... %	7·7	7·7	56·1	31·8	8·3	28·6
Volatile matter ..... %	66·1	69·1	34·8	51·1	65·0	53·0
Fixed carbon ..... %	26·2	23·2	9·1	17·1	26·7	18·4
Ultimate analysis:—						
Carbon ..... %	....	....	....	....	....	....
Hydrogen ..... %	....	....	....	....	....	....
Ash ..... %	....	....	....	....	....	....
Sulphur ..... %	0·2	....	....	....	....	....
Nitrogen ..... %	1·6	1·5	1·8	2·4	....	2·5
Oxygen ..... %	....	....	....	....	....	....
Calorific value:—						
Calories per gram, gross..	5,050	4,870	....	....	4,850	....
B. Th. U. per lb., gross...	9,090	8,760	....	....	8,730	....
Fuel ratio	0·40	0·34	0·26	0·33	0·41	0·35
Carbon-Hydrogen ratio....	....	....	....	....	....	....
Coking properties	....	....	....	....	....	....
Hoffmann potash test	....	....	....	....	....	....
Location in mine						
Kind of sample	All prospect.					
Quality of coal						
Taken by	All by A. Anrep, Mines Branch, Ottawa.					
Date of sampling	During summer of 1911.					
Remarks	*Bog traversed by City of Winnipeg Construction Railway.					

MANITOBA PEAT BOGS.

Description.	Transmission Bog,* 18 miles from Point Dubois, Secs. 19-21, 28-30, Tp. 15, R. 12 E. of principal meridian.	Whitemouth Bog,† Whitemouth, Tps. 4-13, Ranges 11-14 E. of principal meridian.		Lac du Bonnet Bog† near Lac du Bonnet, Sec. 2, Tp. 15, R. 10 E. of principal meridian.	Big Grass Marsh, Gladstone, Tps. 15-18, Ranges 10-11 W. of principal meridian.
Sample No.	146	142	468	145	143
Moisture condition (see note p. 3)	D	D	D	D	D
Loss on air-drying $^{c}/_{c}$	....	....	....	....	....
Results obtained by					
Proximate analysis:—					
Moisture $^{c}/_{c}$	....	....	....	....	....
Ash $^{c}/_{c}$	19·0	15·4	19·5	15·6	46·7
Volatile matter $^{c}/_{c}$	56·8	58·9	55·4	59·4	43·4
Fixed carbon $^{c}/_{c}$	24·2	25·7	25·1	25·0	9·9
Ultimate analysis:—					
Carbon $^{c}/_{c}$	....	....	....	....	....
Hydrogen $^{c}/_{c}$	....	....	....	....	....
Ash $^{c}/_{c}$	....	....	....	....	....
Sulphur $^{c}/_{c}$	....	....	0·4	....	....
Nitrogen $^{c}/_{c}$	1·6	....	2·2	1·4	2·0
Oxygen $^{c}/_{c}$	....	....	....	....	....
Calorific value:—					
Calories per gram, gross	....	4,510	4,410	3,990	....
B. Th. U. per lb., gross	....	8,110	7,940	7,190	....
Fuel ratio	0·43	0·44	0·45	0·42	0·23
Carbon-Hydrogen ratio	....	....	....	....	....
Coking properties	....	....	....	....	....
Hoffmann potash test	....	....	....	....	....
Location in mine					
Kind of sample	All prospect.				
Quality of coal					
Taken by	All by A. Anrep, Mines Branch, Ottawa.				
Date of sampling	During summer of 1911.				
Remarks	*Bog traversed by City of Winnipeg Construction Railway.		†Bog traversed by Canadian Pacific Railway.		

SASKATCHEWAN COAL FIELDS.

Estevan Area.

Description.	Western Dominion Collieries, Ltd., Taylorton. Taylorton mine, Sec. 3, Tp. 2, R. 6, W. 2 meridian.									Manitoba & Saskatchewan Coal Co., Ltd., Sec. 10, Tp. 2, R. 6, W. 2 meridian.		
Sample No.		M 40		M 2,040		1,075			1,076			1,082	
Moisture condition (see note p. 3)	R	AD	D	D	R	AD	D	R	AD	D	R	AD	D
Loss on air-drying %	14·7	....	....	....	13·7	....	....	12·9	....	....	9·0	....	....
Results obtained by	Calc.	Calc.	Anal.	Anal.	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.
Proximate analysis:—													
Moisture %	30·1	18·0	....	....	34·3	23·9	....	33·8	24·0	....	34·1	27·6	....
Ash %	5·6	6·6	8·1	9·4	6·8	7·8	10·3	6·5	7·5	9·9	7·6	8·3	11·5
Volatile matter %	34·3	40·2	49·0	42·7	26·3	30·5	40·1	26·0	29·8	39·3	25·6	28·2	38·9
Fixed carbon %	30·0	35·2	42·9	47·9	32·6	37·8	49·6	33·7	38·7	50·8	32·7	35·9	49·6
Ultimate analysis:—													
Carbon %	41·8	49·0	59·8	64·7	....	....	....	....	....	....	....	....	....
Hydrogen %	6,8	6·0	4·8	4·5	....	....	....	....	....	....	....	....	....
Ash %	5·6	6·6	8·1	9·4	....	....	....	....	....	....	....	....	....
Sulphur %	0·4	0·5	0·6	0·7	....	....	....	....	....	....	....	....	....
Nitrogen %	0·7	0·8	1·0	1·1	....	....	....	....	....	....	....	....	....
Oxygen %	44·7	37·1	25·7	19·6	....	....	....	....	....	....	....	....	....
Calorific value:—													
Calories per gram, gross	4,150	4,870	5,940	6,010	....	....	....	....	....	....	....	....	....
B. Th. U. per lb., gross	7,480	8,770	10,690	10,820	....	....	....	....	....	....	....	....	....
Fuel ratio	0·88	0·88	0·88	1·10	1·25	1·25	1·25	1·30	1·30	1·30	1·25	1·25	1·25
Carbon-Hydrogen ratio	6·2	8·2	12·4	14·4	....	....	....	....	....	....	....	....	....
Coking properties	non-coking.			non-coking.	non-coking.			non-coking.			non-coking.		
Hoffmann potash test													
Location in mine					8 ft. seam—straight north entry.			No. 4 west entry.			Main south entry.		
Kind of sample	Commercial—3 tons.			Commercial—5 tons	Mine.			Mine.			Mine.		
Quality of coal	Run-of-mine.			Run-of-mine.									
Taken by	T. Denis, Mines Branch, Ottawa.			Mine authorities.	W. J. Dick, Commission of Conservation, Ottawa.			W. J. Dick.			W. J. Dick.		
Date of sampling	July 11, 1908.			July 25, 1908.	Summer of 1917.			1917.			1917.		
Remarks													

SASKATCHEWAN COAL FIELDS.

Estevan Area.

Description.	The Bienfait Mine. Bienfait. Sec. 19, Tp. 2, R. 6, W. 2 meridian.						Saskatchewan Coal, Brick and Power Company. Shand Mine. Sec. 4, Tp. 2, R. 7, W. 2 meridian.						Shand.		
Sample No.		1,077			1,078			982			1,081				
Moisture condition (see note p. 3)	R	A D	D	R	A D	D	R	A D	D	R	A D	D			
Loss on air-drying %	14·0	....	....	13·4	....	....	10·6	....	....	8·6	....	....			
Results obtained by	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.			
Proximate analysis:—															
Moisture %	34·3	23·6	....	34·2	24·0	....	34·6	26·9	....	34·8	28·6	....			
Ash %	5·5	6·4	8·4	6·1	7·1	9·3	8·6	9·6	13·2	10·0	10·9	15·3			
Volatile matter %	27·0	31·4	41·1	30·0	34·6	45·6	24·9	27·8	38·0	24·5	26·9	37·6			
Fixed carbon %	33·2	38·6	50·5	29·7	34·3	45·1	31·9	35·7	48·8	30·7	33·6	47·1			
Ultimate analysis:—															
Carbon %	....	....	....	....	....	....	40·8	45·6	62·4	....	....	....			
Hydrogen %	....	....	....	....	....	....	6·4	5·8	3·8	....	....	....			
Ash %	....	....	....	....	....	....	8·6	9·6	13·2	....	....	....			
Sulphur %	....	....	....	....	....	....	0·3	0·4	0·5	....	....	....			
Nitrogen %	....	....	....	....	....	....	0·7	0·8	1·1	....	....	....			
Oxygen %	....	....	....	....	....	....	43·2	37·8	19·0	....	....	....			
Calorific value:—															
Calories per gram, gross	....	....	....	....	....	....	3,790	4,240	5,800	....	....	....			
B. Th. U. per lb., gross	....	....	....	....	....	....	6,830	7,640	10,450	....	....	....			
Fuel ratio	1·25	1·25	1·25	0·99	0·99	0·99	1·30	1·30	1·30	1·25	1·25	1·25			
Carbon-Hydrogen ratio	....	....	....	....	....	....	6·4	7·9	16·4	....	....	....			
Coking properties		non-coking			non-coking			non-coking			non-coking				
Hoffmann potash test								1							
Location in mine	No. 1 west level			No. 5 east entry						9 ft. seam, entry off main, south entry					
Kind of sample	Mine			Mine			30 ton.			Mine					
Quality of coal							Lump								
Taken by	W. J. Dick, Commission of Conservation.			W. J. Dick			Mine authorities, by request.			W. J. Dick					
Date of sampling	Summer of 1917			1917			Feb. 1917. Small sample April 30, 1917.			1917					
Remarks															

SASKATCHEWAN COAL FIELDS.

Estevan Area.

Description.	Estevan Coal and Brick Co., Ltd., Estevan. Sec. 14, Tp. 2, R. 8, W. 2 meridian.								
Sample No.	M 41			1,079			1,080		
Moisture condition (see note p. 3).	R	A D	D	R	A D	D	R	A D	D
Loss on air-drying ..... %	18-4			10-0			9-0		
Results obtained by	Calc.	Calc.	Anal.	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.
Proximate analysis:—									
Moisture ..... %	33·3	18·2	....	35·9	28·8	....	34·9	28·4	....
Ash ..... %	11·2	13·7	16·8	9·7	10·7	15·1	9·9	10·9	15·2
Volatile Matter ..... %	26·7	32·7	40·0	26·4	29·4	41·3	24·7	27·1	37·9
Fixed Carbon ..... %	28·8	35·4	43·2	28·0	31·1	43·6	30·5	33·6	46·9
Ultimate analysis:—									
Carbon ..... %	38·5	47·1	57·7	....	....	....	....	....	....
Hydrogen ..... %	6·6	5·6	4·3	....	....	....	....	....	....
Ash ..... %	11·2	13·7	16·8	....	....	....	....	....	....
Sulphur ..... %	0·3	0·4	0·5	....	....	....	....	....	....
Nitrogen ..... %	0·6	0·8	0·9	....	....	....	....	....	....
Oxygen ..... %	42·8	32·4	19·8	....	....	....	....	....	....
Calorific value:—									
Calories per gram, gross	3,570	4,380	5,360	....	....	....	....	....	....
B. Th. U. per lb., gross	6,430	7,890	9,650	....	....	....	....	....	....
Fuel ratio	1·10	1·10	1·10	1·05	1·05	1·05	1·25	1·25	1·25
Carbon-Hydrogen ratio	5·8	8·5	13·3	....	....	....	....	....	....
Coking properties		non-coking			non-coking			non-coking	
Hoffmann potash test									
Location in mine				8 ft. seam at surface.			8 ft. seam, 2nd room west.		
Kind of sample	Commercial—2 tons.			Mine			Mine		
Quality of coal	Run-of-mine.								
Taken by	T. Denis, Mines Branch.			W. J. Dick, Commission of Conservation.			W. J. Dick		
Date of sampling	July 11, 1908			Summer of 1917			1917		
Remarks	Operated by Eureka Coal and Brick Co., at time of sampling.								

SASKATCHEWAN COAL FIELDS.

Willowbunch Area.

Description.	Eidness Bros'. mine, Gladmar, Sec. 11, Tp. 3, R. 19, W. 2 meridian.		R. Appleby's mine, Roanmine, Sec. 17, Tp. 3, R. 21, W. 2 meridian.		W. H. Treleaven's mine, Waniska, Sec. 2, Tp. 4, R. 23, W. 2 meridian.		Abandoned mine at Coal Mine lake, near Bengough, Sec. 3, Tp. 5, R. 23, W. 2 meridian.		Open-pit worked by District farmers, Sec. 28, Tp. 1, R. 24, W. 2 meridian.	
Sample No.	330		329		331		328		332	
Moisture condition (see note p. 3)	R	D	R	D	R	D	R	D	R	D
Loss on air-drying %										
Results obtained by	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.
Proximate analysis:—										
Moisture %	7·3		9·1		8·1		8·8		8·1	
Ash %	18·1	19·5	17·0	18·7	11·4	12·5	12·8	14·1	15·2	16·5
Volatile matter %	38·4	41·5	41·2	45·3	38·2	41·5	39·6	43·4	36·9	40·1
Fixed carbon %	36·2	39·0	32·7	36·0	42·3	46·0	38·8	42·5	39·8	43·4
Ultimate analysis:—										
Carbon %	....	....	....	....	....	....	....	....	....	....
Hydrogen %	....	....	....	....	....	....	....	....	....	....
Ash %	....	....	....	....	....	....	....	....	....	....
Sulphur %	....	....	....	....	....	....	....	....	....	....
Nitrogen %	....	....	....	....	....	....	....	....	....	....
Oxygen %	....	....	....	....	....	....	....	....	....	....
Calorific value:—										
Calories per gram, gross	....	....	....	....	....	....	....	....	....	....
B. Th. U. per lb., gross	....	....	....	....	....	....	....	....	....	....
Fuel ratio	0·94	0·94	0·79	0·79	1·10	1·10	0·98	0·98	1·10	1·10
Carbon-Hydrogen ratio	....	....	....	....	....	....	....	....	....	....
Coking properties	....	....	....	....	....	....	....	....	....	....
Hoffmann potash test	....	....	....	....	....	....	....	....	....	....
Location in mine	All mine.									
Kind of sample										
Quality of coal										
Taken by	All by Dr. B. Rose, Geological Survey, Ottawa.									
Date of sampling	Summer of 1913.		1913.		1913.		1913.		July 31, 1913.	
Remarks										

SASKATCHEWAN COAL FIELDS.

Willowbunch Area.

Description.	Olaf H. Person's mine, Eddyside, Sec. 30, Tp. 2, R. 25, W. 2 meridian.		C. H. Waldon's mine, Hart, Sec. 32, Tp. 3, R. 26, W. 2 meridian.		Mine at Willowbunch lake, near Viceroy, Sec. 35, Tp. 5, R. 26, W. 2 meridian.		A. Caillet's mine, Readlyn, Sec. 27, Tp. 7, R. 27, W. 2 meridian.		Consumers Coal Co., Ltd., Mitchellton, Sec. 28, Tp. 10, R. 28, W. 2 meridian.		
Sample No.	333		334		336		335		533		
Moisture condition (see note p. 3)	R	D	R	D	R	D	R	D	R	AD	D
Loss on air-drying %	....	....	....	....	....	....	....	....	1·8	....	....
Results obtained by	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.	Calc.	Anal.	Calc.
Proximate Analysis:—											
Moisture %	8·1	....	8·5	....	7·4	....	8·2	....	10·3	8·6	....
Ash %	12·0	13·1	16·6	18·1	23·7	25·6	15·6	17·0	12·4	12·6	13·8
Volatile matter %	40·8	44·4	39·5	43·2	34·6	37·3	40·6	44·3	37·4	38·1	41·8
Fixed carbon %	39·1	42·5	35·4	38·7	34·3	37·1	35·6	38·7	39·9	40·7	44·4
Ultimate analysis:—											
Carbon %	....	....	....	....	....	....	....	....	....	....	....
Hydrogen %	....	....	....	....	....	....	....	....	....	....	....
Ash %	....	....	....	....	....	....	....	....	....	....	....
Sulphur %	....	....	....	....	....	....	....	....	....	....	....
Nitrogen %	....	....	....	....	....	....	....	....	....	....	....
Oxygen %	....	....	....	....	....	....	....	....	....	....	....
Calorific value:—											
Calories per gram, gross	....	....	....	....	....	....	....	....	....	....	....
B. Th. U. per lb., gross	....	....	....	....	....	....	....	....	....	....	....
Fuel ratio	0·96	0·96	0·90	0·90	0·99	0·99	0·88	0·88	1·05	1·05	1·05
Carbon-Hydrogen ratio	....	....	....	....	....	....	....	....	....	....	....
Coking properties	....	....	....	....	....	....	....	....	....non-coking		
Hoffmann potash test	....	....	....	....	....	....	....	....	....	....	....
Location in mine											
Kind of sample	All mine.										
Quality of coal											
Taken by	All by Dr. B. Rose, Geological Survey.										
Date of sampling	August 1, 1913.		August 6, 1913.		1913.		1913.		1914.		
Remarks											

SASKATCHEWAN COAL FIELDS.

Wood Mountain Area.

Description.	Open-pit worked by District farmers, south of Willowvale Post Office, Sec. 8, Tp. 1, R. 2, W. 3 Meridian.		Open-pit on Mr. Frank's Ranch, Hay Meadow Creek Sec. 17, Tp. 4, R. 1 W. 3 Meridian.		From 2 foot Seam, Sec. 13, Tp. 5, R. 1 W. 3 Meridian.	
Sample No.	394		395		397	
Moisture condition (see note p. 3)	R	D	R	D	R	D
Loss on air-drying %	....	....	....	....	....	....
Results obtained by	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.
Proximate analysis:—						
Moisture %	13·8	....	12·9	....	12·8	....
Ash %	10·6	12·3	9·4	10·8	17·2	19·7
Volatile matter %	38·3	44·4	40·9	47·0	35·9	41·2
Fixed carbon %	37·3	43·3	36·8	42·2	34·1	39·1
Ultimate analysis:—						
Carbon %	....	....	....	....		
Hydrogen %	....	....	....	....		
Ash %	....	....	....	....		
Sulphur %	....	....	....	....		
Nitrogen %	....	....	....	....		
Oxygen %	....	....	....	....		
Calorific value:—						
Calories per gram, gross	....	....	....	....		
B. Th. U. per lb., gross	....	....	....	....		
Fuel ratio	0·97	0·97	0·90	0·90	0·95	0·95
Carbon-Hydrogen ratio	....	....	....	....		
Coking properties	non-coking		non-coking		non-coking	
Hoffmann potash test	....	....	....	....		
Location in mine	All mine.					
Kind of sample						
Quality of coal						
Taken by	All by Dr. B. Rose, Geological Survey.					
Date of sampling	May 30, 1914.		June 8, 1914.		June 10, 1914.	
Remarks						

SASKATCHEWAN COAL FIELDS.

Wood Mountain Area.

Description.	From a well. Sec. 21, Tp. 6, R. 1 W. 3 meridian.		From 2-foot Seam. Sec. 1, Tp. 6, R. 2 W. 3 meridian.		Mr. Sturgeon's Mine. N.W. of Sec. 10 Tp. 5, R. 4, W. 3 meridian.		A. Blood's Mine, Fir Mountain Sec. 24, Tp. 4, R. 6, W. 3 meridian.	
Sample No.	396		398		393		399	
Moisture condition*	R	D	R	D	R	D	R	D
Loss on air-drying %								
Results obtained by	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.	Anal.	Calc.
Proximate Analysis:—								
Moisture %	13·1		12·7		12·0		13·5	
Ash %	16·4	18·9	13·4	15·4	25·2	28·6	13·8	16·0
Volatile matter %	35·9	41·3	41·3	47·3	33·6	38·2	36·9	42·7
Fixed carbon %	34·6	39·8	32·6	37·3	29·2	33·2	35·8	41·3
Ultimate analysis:—								
Carbon %	....	....	....	....	....	....	....	....
Hydrogen %	....	....	....	....	....	....	....	....
Ash %	....	....	....	....	....	....	....	....
Sulphur %	....	....	....	....	....	....	....	....
Nitrogen %	....	....	....	....	....	....	....	....
Oxygen %	....	....	....	....	....	....	....	....
Calorific value:—								
Calories per gram, gross	....	....	....	....	....	....	....	....
B. Th. U. per lb., gross	....	....	....	....	....	....	....	....
Fuel ratio	0·96	0·96	0·79	0·79	0·87	0·87	0·97	0·97
Carbon-Hydrogen ratio	....	....	....	....	....	....	....	....
Coking properties	non-coking.		non-coking.		non-coking.		non-coking.	
Hoffmann potash test	....	....	....	....	....	....	....	....
Location in mine	Prospect.		Prospect.		Mine.		Mine.	
Kind of sample								
Quality of coal								
Taken by	All by Dr. B. Rose, Geological Survey.							
Date of sampling	June 9, 1914.		June 11, 1914.		May 23, 1914.		June 22, 1914.	
Remarks								

*(See note, p. 3).

SASKATCHEWAN OIL SHALE.

Sample No. 841.

Oil shale said to be taken from a boring at Hanley, at a depth of about 1,600 feet.

Analysis:—

Moisture	2·9%
Ash	81·0%
Volatile matter	13·5%
Fixed carbon	2·6%
Nitrogen	0·26%

Calculated Ammonium Sulphate = 27·6 pounds per long ton, corresponding to a commercial yield of about 19 pounds per long ton by the Bailey method of computation.

Destructive distillation gave a yield of oil equivalent to 11 pounds per long ton. The oil was dark brown, and had a disagreeable odour.

The sample submitted was too small to give reliable results.

NOTE.—The sample was received from a private individual on October 19, 1916.