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EVALUATION OF PEAT FROM RIVIERE DU LOUP, SHAWINIGAN AND LAC SAINT-JEAN AREAS, QUEBEC FOR MONTREAL ENGINEERING COMPANY, LIMITED

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INTRODUCTION

During August and September, 1978 samples of peat from bogs in the Rivière du Loup, Shawinigan and Lac Saint-Jean areas of Quebec were received from Montreal Engineering Company, Limited for evaluation.

The samples were identified by Field Sample Number, bog name or number and general area. Sample depth was not given.

The samples were partially dried prior to preparation, therefore moisture content in the tables that follow are not indicative of "as sampled" or "as received" moisture.

Tables 1, 2 and 3 present proximate analyses, sulphur and calorific values of samples from the Rivière du Loup, Shawinigan and Lac Saint-Jean areas, respectively. Analyses are on the moist bases (as analysed).

Four composites were prepared from the individual samples from the Lac Saint-Jean area representing the Mistassini, Savan and No.9 bogs as well as No.1, No.5 and No.6 bogs as a group, for an indication of the ash fusion temperature to be expected. There was not sufficient sample to include the Arsene bog.

The analyses were conducted for Montreal Engineering Company Limited on a cost recovery basis (work order No.3190). This report contains the official analyses of Project Sample Nos.3121.01.03.142 to 3121.01.03.182, inclusive (Laboratory Numbers 3264-78 to 3303-78 and 3303B-78 inclusive) and Laboratory Nos.3617-78 to 3620-78, inclusive.

TABLE 1

Analyses of Samples of Peat from the Rivière du Loup Area, Quebec

Bog Name or Number	Project Sample Number	Field Sample Mark	Moisture %	Ash %	Volatile Matter %	Fixed Carbon %	Sulphur %	Calorific Value Btu/lb	Laboratory Number
RIVIERE DU LOUP	149	Riv 1	3.86	62.65	26.18	7.31	0.47	3350	3271-78
	150	Riv 2	6.03	44.66	36.59	12.72	0.41	5370	3272-78
	182	Riv 3	3.26	1.38	66.42	28.94	0.11	8890	3303B-78
	151	Riv 4	8.70	7.56	57.20	26.54	0.18	7630	3273-78
	152	Riv 5	10.35	4.20	59.10	26.35	0.12	7750	3274-78
	153	Riv 6	8.76	22.53	47.82	20.89	0.67	6770	3275-78
	154	Riv 7	8.85	4.66	58.02	28.47	0.24	8790	3276-78
	155	Riv 8	9.72	8.42	56.05	25.81	0.61	8090	3277-78

TABLE 2

Analyses of Peat from the Shawinigan Area, Quebec

Bog Name or Number	Project Sample Number	Field Sample Mark	Moisture %	Ash %	Volatile Matter %	Fixed Carbon %	Sulphur %	Calorific Value Btu/lb	Laboratory Number
1	172	1	32.81	6.76	41.00	19.43	0.15	4720	3294-78
2	173	2	7.93	29.33	47.16	15.58	0.79	6200	3295-78
3	174	3	11.17	10.46	53.51	24.86	0.32	7490	3296-78
4	175	4	10.62	4.66	56.98	27.74	0.19	8080	3297-78
5	176	5	6.82	6.25	64.08	22.85	0.17	9680	3298-78
6	177	6	6.58	4.08	68.55	20.79	0.19	9880	3299-78
7	178	7	7.62	2.85	64.22	25.31	0.18	8530	3300-78
8	179	8	8.29	2.17	61.67	27.87	0.13	8850	3301-78
9	180	9	6.66	1.59	62.64	29.11	0.16	9190	3302-78
10	181	10	7.45	2.18	62.81	27.56	0.18	9530	3303-78

TABLE 3

Analyses of Peat from Various Bogs in the Lac Saint-Jean Area, Quebec

Bog Name or Number	Project Sample Number	Field Sample Mark	Moisture %	Ash %	Volatile Matter %	Fixed Carbon %	Sulphur %	Calorific Value Btu/lb	Laboratory Number
5	163	5-S8	7.35	3.76	66.14	22.75	0.16	9990	3285-78
	164	5-S10	7.64	3.01	63.17	26.18	0.14	9710	3286-78
6	165	6-S13	8.25	4.14	59.82	27.79	0.15	9068	3287-78
	166	6-S16	21.63	1.24	53.96	23.17	0.08	7280	3288-78
9	167	9-S17	8.96	1.75	62.08	27.21	0.14	9140	3289-78
	168	9-S18	6.88	25.99	46.60	20.53	0.20	6920	3290-78
	169	9-S21	7.47	7.33	59.97	25.23	0.13	8530	3291-78
	170	9-S22	7.37	6.64	60.93	25.06	0.13	5510	3292-78
	171	9-S23	6.65	2.51	64.76	26.08	0.14	9640	3293-78
ARSENE	142	ARSENE 1	9.03	3.41	60.75	26.81	0.16	8720	3264-78
	143	ARSENE 2	7.09	9.59	55.78	27.54	0.28	8480	3265-78
MISTASSINI	144	MIST 1	7.09	10.40	61.72	20.79	0.20	9290	3266-78
	145	MIST 2	4.66	40.51	41.06	13.77	0.14	5980	3267-78
	146	MIST 3	8.25	3.06	61.36	27.33	0.14	9260	3268-78
	147	MIST 4	7.43	5.30	63.48	23.79	0.19	9380	3269-78
	148	MIST 5	4.29	70.71	20.10	4.90	0.08	2140	3270-78
SAVAN	156	SAV 1	8.16	14.28	54.95	22.61	0.15	8170	3278-78
	157	SAV 2	8.80	3.34	61.91	25.95	0.15	8720	3279-78
	158	SAV 3	9.29	1.62	61.97	27.12	0.14	8910	3280-78
	159	SAV 4	8.62	1.68	63.23	26.47	0.15	8830	3281-78
	160	SAV 5	9.10	3.44	61.92	25.54	0.15	8830	3282-78
1	161	1-S1	8.41	1.61	64.25	25.73	0.10	8180	3283-78
	162	1-S3	7.89	2.11	64.51	26.25	0.14	9480	3284-78

TABLE 4

Fusibility of Ash of Peat Composites from Lac Saint-Jean Area, Quebec

Bog Name or Number	Laboratory Number	Ash Fusibility - °F				
		ATM*	Initial	Softening Spherical	Softening Hemispherical	Fluid
Mistassini	3617-78	A	2020	2150	2390	2660
		B	2390	2500	2580	2660
Savan	3618-78	A	2030	2140	2540	2650
		B	2320	2460	2530	2640
No.1,No.5 and No. 6	3619-78	A	2140	2240	2320	2520
		B	2290	2320	2370	2600
No. 9	3620-78	A	2180	2320	2500	2650
		B	2300	2350	2460	2700

*A = Reducing atmosphere; B = Oxidizing atmosphere.