



000 POLEGOR  
Kravchenko 2  
Neryngry, Republic Saklha (Yakutia)  
678960 Russian Federation

Attn. Mrs. Elena Rudenko

Antwerp, 16 June 2006

### TEST REPORT No 23311-02.001

Product Russian Coal  
Reference Seam D-11 Erchim Thkan  
Received on 06.06.2006  
Samples packed in plastic bag  
Seals none

The sample was received from 000 Polegor, Moscow and was analyzed according to the instructions received, resulting in:

Parameter	As received	Dry basis	Air dry	DAF
<b>Moisture, %</b> B (ISO 589:2003)	2.00			
<b>Moisture analytical, %</b> B (ASTM D 5142:2002)			0.44	
<b>Ash, %</b> B (ISO 1171:1997)	7.75	7.91	7.88	
<b>Volatile matter, %</b> B (ISO 562:1981)	30.19	30.81	30.67	33.46
<b>Sulfur, %</b> B (ASTM D 4239:C:2002)	0.38	0.39	0.39	0.42
<b>Fixed Carbon, %</b> (Calculation)	60.05	61.28	61.28	66.52

R.v.d. Wetering  
Laboratory Manager

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(1) Method set up together with the contractor.

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**Dry basis**

<b>Ash analysis, %</b> (ASTM D 2795:1995)				
	SiO <sub>2</sub>		51.28	
	Al <sub>2</sub> O <sub>3</sub>		25.77	
	Fe <sub>2</sub> O <sub>3</sub>		8.58	
	TiO <sub>2</sub>		1.18	
	CaO		5.24	
	MgO		2.53	
	Na <sub>2</sub> O		0.62	
	K <sub>2</sub> O		3.21	
	SO <sub>3</sub>		0.45	
	SrO		0.42	
	BaO		0.59	
	Mn <sub>3</sub> O <sub>4</sub>		0.08	
	P <sub>2</sub> O <sub>5</sub>		0.05	
<b>Ash Fusion Temperature °C</b> (ISO 540:1995 reducing atmosphere)		Initial Deform.	1223	
		Softening	1274	
		Hemispherical Temperature	1339	
		Flow Temperature	1359	
<b>Gray King Coke Type</b>			G 6	
<b>Free Swelling Index</b> (ISO 501:1981)			9	
<b>Dilatation,</b> (ISO 349:1975)	°C	Softening T1	348	
	°C	Max Contr T2	389	
	°C	Max Dilat T3	478	
	%	Contraction	-26	
	%	Dilatation	275	
<b>Gieseler Plastometer Test</b> (ASTM D2639:1998)	C°	Soft t°	371	
	C°	Max fluid t°	448	
	C°	Solid t°	495	
	ddpm	Max fluid	3000	
<b>Sieve analysis, %</b> (ISO 1953:1994) <input checked="" type="checkbox"/>	<input type="checkbox"/>	Dry		
	<input type="checkbox"/>	Wet	mm	
	<input checked="" type="checkbox"/>		mm	
		Plus 0.5	mm	86.8
		Minus 0.5	mm	13.2
			mm	
			Total	100

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### Reactives, %

Vitrinoid Type	
V-09	28.1
V-10	40.8
V-11	16.2
Vitrinite	85.1
Exinite	1.5
Resinite	0.0
Semifusinite	1.9
<b>Total Reactives</b>	<b>88.5</b>

### Inerts, %

Semifusinite	3.8
Micrinite	2.8
Fusinite	0.5
Mineral Matter *	4.4
<b>Total Inerts</b>	<b>11.5</b>
Composition Balance Index	0.32
Rank Index	3.65
Mean-Max. Vitrinoid Reflectance, % in Oil	1.04
Calculated Stability Factor	38

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