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Research and Development Beckum, 29.09.2015

Laboratory Report

Fuel Analysis WE 14854

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Table 1: WE 14854 sample #1, material with 80…250 mm particle size

		air dried (an)	water free (wf)	water and ash free (waf)	detection limit
Proximate Analysis					
Intrinsic moisture	%	3.28			
Volatile matter	%	77.41	80.04	90.58	
Ash	%	11.26	11.64		
Fixed carbon	%	8.05	8.32	9.42	
Sum	%	100	100	100	
Ultimate Analysis					
Ash	%	11.26	11.64		
Carbon C	%	46.25	47.82	54.12	
Hydrogen H	%	6.93	6.79	7.68	
Sulfur S	%	0.24	0.25	0.28	
Chlorine Cl	%	0.44	0.45	0.51	
Nitrogen N	%	0.46	0.48	0.54	
Oxygen (=remainder)	%	34.42	32.58	36.87	
Sum	%	100	100	100	
Heavy Metal Analysis					
Antimony Sb	mg/kg	3.3			1
Cadmium Cd	mg/kg	0.15			0.1
Mercury Hg	mg/kg	< 0.03			0.03
Thallium Tl	mg/kg	< 0.4			0.4
Calculated Calorific Value					
GCV (H_s)	kJ/kg	23540	24338		
LCV (H_i)	kJ/kg	22039	22869		

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Table 2: WE 14854 sample #2, material with > 250 mm particle size

		air dried (an)	water free (wf)	water and ash free (waf)	detection limit
Proximate Analysis					
Intrinsic moisture	%	2.4			
Volatile matter	%	80.33	82.31	92.8	
Ash	%	11.04	11.31		
Fixed carbon	%	6.23	6.38	7.2	
Sum	%	100	100	100	
Ultimate Analysis					
Ash	%	11.04	11.31		
Carbon C	%	55.2	56.56	63.77	
Hydrogen H	%	8.55	8.49	9.57	
Sulfur S	%	0.24	0.25	0.28	
Chlorine Cl	%	0.30	0.31	0.35	
Nitrogen N	%	0.54	0.55	0.62	
Oxygen (=remainder)	%	24.13	22.54	25.41	
Sum	%	100	100	100	
Heavy Metal Analysis					
Antimony Sb	mg/kg	7.7			1
Cadmium Cd	mg/kg	0.57			0.1
Mercury Hg	mg/kg	0.032			0.03
Thallium Tl	mg/kg	< 0.4			0.4
Calculated Calorific Value					
GCV (H_s)	kJ/kg	29617	30345		
LCV (H_i)	kJ/kg	27781	28524		

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