

FOR GUIDANCE PURPOSES ONLY - NOT TO BE CONSTRUED AS A GUARANTEE



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ANALYSIS RESULTS REPORT

Vessel: _____ Our Ref. _____ Your OS. _____ Date: **27-Jun-11**
 Loading Port: **Palmarejo** Material: **Coal** Receiver _____ Sampled: **22-Jun-11 / -25-Jun-11**

Projected Weight >>>>>>>>> 27500 mt.										
SUB LOTS										
	1	2	3							AVERAGE
Weight	10.000,00 mt	10.000,00 mt	6.241,85 mt							26.241,85 mt
PROXIMATE ANALYSIS - Standards: ASTM										
Total Moisture, ar - %	6,63	6,33	4,83							6,09
Ash, d - %	11,26	11,05	5,94							9,91
Ash, ar - %	10,51	10,35	5,65							9,31
Volatile, d - %	35,19	36,30	37,56							36,18
Volatile, ar - %	32,86	34,00	35,75							33,98
GCV, d - Btu/lb	13.292	13.213	14.124							13.460
GCV, ar - Btu/lb	12.411	12.377	13.442							12.640
GCV, d - Kcal/Kg	7.384	7.341	7.847							7.478
GCV, ar - Kcal/Kg	6.894	6.876	7.468							7.023
GCV, d - Mj/Kg	30,91	30,73	32,85							31,30
GCV, ar - Mj/Kg	28,86	28,78	31,26							29,39
GCV MAF - Btu/lb	14.979	14.854	15.016							14.941
Volatile MAF - %	39,66	40,81	39,93							40,16
Sulphur, d - %	1,16	1,30	0,65							1,09
Sulphur, ar - %	1,08	1,22	0,62							1,02
Fixed Carbon, d - %	53,55	52,65	56,50							53,91
Fixed Carbon, ar - %	50,00	49,32	53,77							50,63
Lb./SO2 MM Btu.	1,75	1,97	0,92							1,62
SIZING ANALYSIS - Standards: ASTM										
> 50 mm.	3,8	7,2	9,0							6,3
+ 37,5 mm.	4,9	6,5	7,7							6,2
+ 31,5 mm.	1,2	3,1	1,9							2,1
+ 25 mm.	7,7	9,0	10,3							8,8
+ 19 mm.	7,7	8,8	9,3							8,5
+ 12,5 mm.	9,6	10,5	10,7							10,2
+ 6,3 mm.	18,2	19,1	16,2							18,1
< 6,3 mm.	46,9	35,8	34,9							39,8
Total	100,0	100,0	100,0	0,0	0,0	0,0	0,0	0,0	0,0	100,0

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ANALYSIS RESULTS REPORT

Vessel:

Our Ref.:

Your OS.:

Date: 29-Jun-11

Loading Port: Palmarejo

Material: Coal

Receiver:

Sampled: 22-Jun-11 / -25-Jun-11

NET CALORIFIC VALUE		ar	dry
Net Calorific Value, - Btu/Lb			
Net Calorific Value, - Kcal/Kg			
Net Calorific Value, - Mj/Kg			

ASH FUSION TEMPERATURES		
REDUCING ATMOSPHERE	°C	°F
Initial Deformation - IT	1197	2187
Softening - ST	1237	2259
Hemispherical - HT	1264	2307
Fluid - FT	1310	2390
OXIDIZING ATMOSPHERE	°C	°F
Initial Deformation - IT	1288	2350
Softening - ST	1315	2399
Hemispherical - HT	1348	2458
Fluid - FT	1368	2494

EQUILIBRIUM MOISTURE	
Equilibrium Moisture, - %	-

OTHER ANALYSIS		ar	dry
Vanadium - ppm			1513
Nickel - ppm			90
-			-
-			-
-			-

GIESLER PLASTOMETRY TEST	
Initial Softening Temperature °C	-
Maximum Fluidity Temperature °C	-
Solidification Temperature °C	-
Maximum Fluidity DDPM	-

ULTIMATE		
	ar	dry
Moisture, - %	6,09	
Carbon, - %	68,65	73,10
Hydrogen, - %	4,96	5,28
Nitrogen, - %	1,38	1,47
Ash, - %	9,31	9,91
Sulphur, - %	1,02	1,09
Oxygen, - %	8,59	9,15

ASH MINERAL, DRY BASIS	
Silicon dioxide, - %	58,73
Aluminum oxide, - %	19,18
Iron oxide, - %	9,48
Calcium oxide, - %	3,24
Magnesium oxide, - %	1,64
Sodium oxide, - %	0,99
Potassium oxide, - %	1,25
Manganese dioxide, - %	0,04
Titanium dioxide, - %	1,04
Phosphorous pentoxide, - %	0,22
Sulphur trioxide, - %	3,52
Others - %	0,67

HGI AND FSI		
Free Swelling Index		1,5
Hardgrove Index, % Moisture =	1,4	50

SULFUR FORMS		
	ar	dry
Sulfate Sulfur - %	-	-
Pyritic Sulfur - %	-	-
Organic Sulfur - %	-	-