To: V. SHIPS (UK) LTD
Attn: Vessel Control Group

Cc: The Master Of 'CABO HELLAS'
Attn: Chief Engineer

Veritas Petroleum Services - Fuel Analysis Report dated: 20-Oct-2014

Vessel: CABO HELLAS (9275725)

Sample Number	HOU1425470
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Product Type	(HFO)
Bunker Port	GALVAN
Bunker Date	11-Oct-2014
Sampling Point	SHIP MANIFOLD
Sampling Method	CONTINUOUS DRIP
Sent From	BUENOS AIRES
Date Sent	15-Oct-2014
Arrived at Lab	18-Oct-2014
Supplier	PETROBRAS
Loaded From	SERRA THERESA
Quantity per C.Eng.	1244

Seal Data VPS, SEAL INTACT, 7738059

Related Samples

Supplier	7738060
Ship	7738061
SHIP MARPOL	7738062

Receipt Data	Unit	
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Source Of Data		B.D.N.
Density @ 15°C	kg/m^3	958.4
Viscosity @ 50°C	mm^2/s	332.0
Sulfur	% m/m	1.00
Volume @ 15°C	m^3	1298.130
Quantity	MT	1244.129

Test Parameter	Unit	Result	RMG380
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Density @ 15°C	kg/m^3	960.1	991.0
Viscosity @ 50°C	mm^2/s	330.3	380.0
Water	% V/V	0.07	0.50
Micro Carbon Residue	% m/m	11.38	18.00
Sulfur	% m/m	0.85	
Total Sediment Potential	% m/m	0.01	0.10

Ash	% m/m	0.04	0.10
Vanadium	mg/kg	28	350
Sodium	mg/kg	13	100
Aluminium	mg/kg	5	
Silicon	mg/kg	12	
Iron	mg/kg	36	
Nickel	mg/kg	11	
Calcium	mg/kg	31	
Magnesium	mg/kg	2	
Zinc	mg/kg	LT 1	
Phosphorus	mg/kg	3	
Potassium	mg/kg	1	
Pour Point	°C	LT 24	30
Flash Point	°C	GT 70.0	60.0
Acid Number	mg KOH/g	0.4	2.5

Calculated Values

Aluminium + Silicon	mg/kg	17	60
Net Specific Energy	MJ/kg	41.31	
CCAI (Ignition Quality)	-	823	870
Quantity (Weight)	MT	1244.907	
Quantity Difference	MT	0.778	

Note:
LT means Less Than, GT means Greater Than.
Quantity (Weight) is based on BDN Volume, VPS Density and a weight factor of 1.1 kg/m^3 (ASTM D1250-80 Table 56).

Specification Comparison :

Results compared with ISO 8217:2010 specification RMG380, table 2. Based on this sample and the tested parameters the specification is met.

Operational Advice :
Approximate fuel temperatures:

Injection:
140°C for 10 mm^2/s
125°C for 15 mm^2/s
115°C for 20 mm^2/s
105°C for 25 mm^2/s

Transfer :
40°C

Best Regards,

On behalf of Veritas Petroleum Services BV
Leonardo Alphonso
Technical Adviser

End of Report for CABO HELLAS

If not properly aligned, please change font to Courier New, size 10.

Reference to part(s) of this report which may lead to misinterpretation is prohibited.

For technical or operational advice or further information on this report please contact your nearest VPS office or contact us directly at
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