

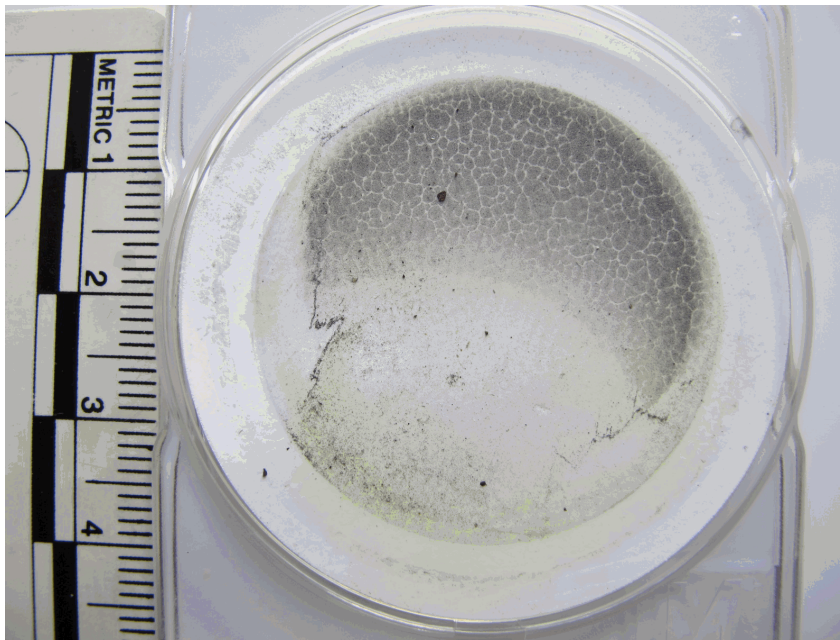
Report Summary								
Report No.	Contract No.	Customer Order No.	Model / Serial Number	Sample Date	Component / Serial Number	Hours	Deposit / Weight (g)	LIMS No.
LQS12/0002	Commercial	L12-01448/1-1		01/Nov/2012	Stern Tube / IMO 9xxxxxx	61,896 hrs 0 mins	-	2012022773
Diagnosis								
Predominantly fine strands of carbon manganese and low alloy steel.								

**Debris Identification Report - FLM (114/170/174)**

**Majority Debris** - Very small to medium irregular shaped particles and strands, the largest measuring ~ 284 x 20 µm. Analysis indicated predominantly a Carbon / Manganese steel with lesser amounts of ~0.4% Chromium low alloy steel, the largest measuring ~ 135 x 87 µm.

A few Tin, Lead, 18/8 Stainless Steel, paint/sealant and rust particles were also detected within the sample.

**Sample image**



**Sample No: 2012022773 - Recovered debris**

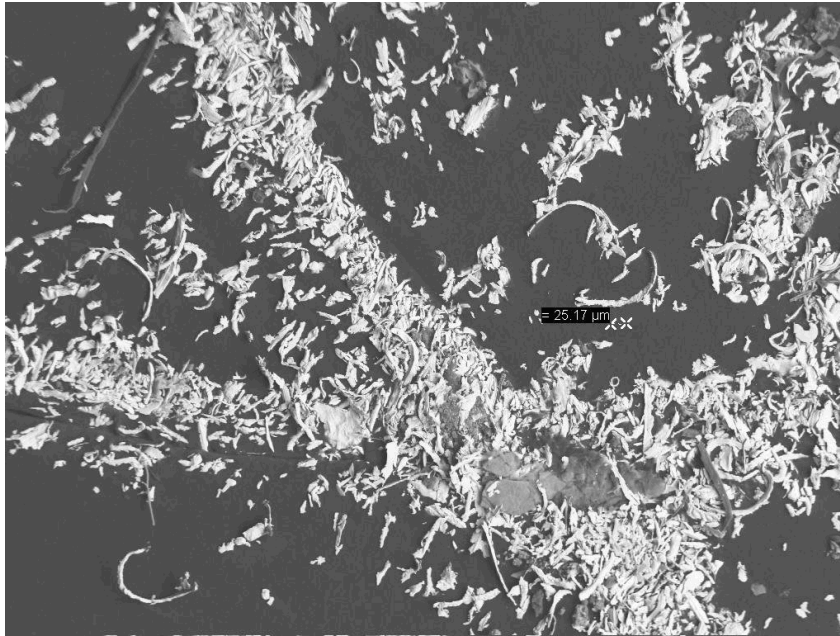
**FAO: Rob Chapman**  
**Intertek Farnborough**  
 Fuels And Lubricants Centre  
 Building A7  
 Cody Technology Park  
 Ively Road  
 Farnborough  
 GU14 0LX

Signed: *Ian McKenzie*  
**Name: Ian McKenzie**  
 Senior Scientist  
 For and on behalf of Intertek Farnborough  
**Date: 11/12/2012**



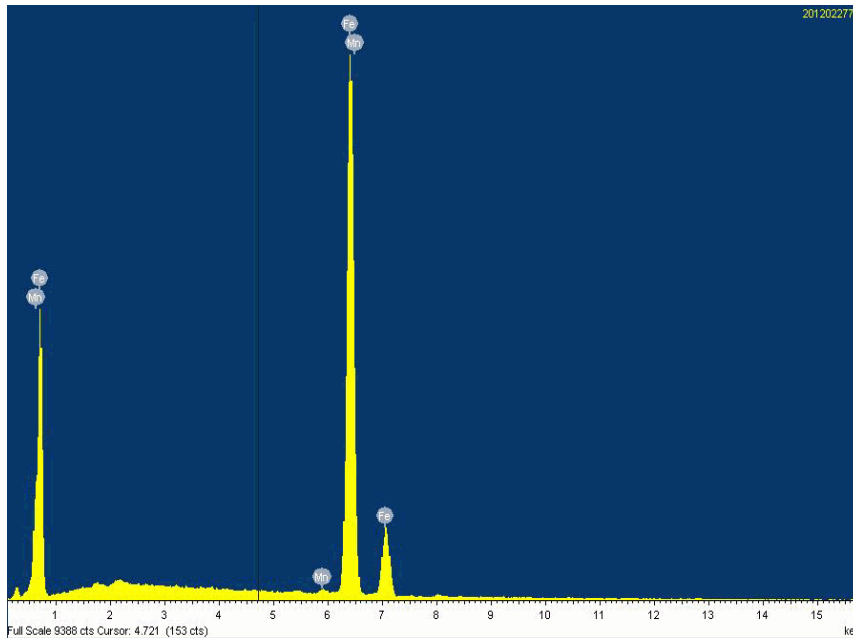
The sample was examined optically and by Eagle EDXRF and/or SEM/EDXRF as appropriate. The sample may have been coated with gold/platinum during analysis. Samples analysed using Intertek FLC methods. Any opinions and interpretations are outside the scope of our UKAS accreditation.

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**Sample No: 2012022773 - SEM image of metallic debris**

**SEM spectrum**



**Sample No: 2012022773 - Spectrum of majority of metallic material**

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GU14 0LX

Signed:   
**Name: Ian McKenzie**  
**Senior Scientist**  
For and on behalf of Intertek Farnborough  
**Date: 11/12/2012**



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