D 6838
M11
High Soot Lubricant Performance Test

Version M11 VERSION 20040727 BETA

Conducted For:
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

C	**V** =Valid; The Reference Oil/Non-Reference Oil Was Evaluated In Accordance With The Test Procedure.
	I = Invalid; The Reference Oil/Non-Reference Oil Was Not Evaluated In Accordance With The Test Procedure.
	N = Not interpretable; The Non-Reference Oil Results Cannot Be Interpreted And Shall Not Be Used For Multiple Test Acceptance.

Stand CCCCC	Engine No. CCCCCCCC	Engine Run No. CCCC CCCC
End Of Test Date YYYYMMDD	YYYYMMDD	End Of Test Time HH:MM HH:MM
Oil Code/CMIR:[A] CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	
Formulation/Stand Code	CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC	
Altcode1 CCCCCCCCCCCCCCC	Altcode2 CCCCCCCCCCCCCCC	Altcode3 CCCCCCCCCCCCCCC

In my opinion this test CCCCCCCC been conducted in a valid manner in accordance with ASTM Test Method D 6838 and the appropriate amendments through the information letter system. The remarks included in this report describe the anomalies associated with this test.

[A] CMIR or Non-Reference Oil Code

Submitted By: CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Testing Laboratory

Signature Image

Signature

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Typed Name

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Title

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M11 High Soot Lubricant Performance Test
Non-Reference Oil Test Summary
Form 1

Formulation/Stand Code	CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC	Test Length	S1234
Oil Code No.	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Test Lab	Test Stand No.	Engine Block Serial No.	Engine Run Number
CC	CCCCC	CCCCCCCC	CCCCCCCC

Date Test Started	YYYYMMDD
Start Time	HH:MM
Date Test Completed	YYYYMMDD
EOT Time	HH:MM
Stand Calibration Expiration Date	YYYYMMDD
Total Test Hours On Engine	CCCCC
Engine Kit Serial Number	CCCCCCCCCCC
Laboratory Oil Code	CCCCCCCCCCCCCCCCC
SAE Viscosity	CCCCCCC
Total Oil Consumption, kg	S12.12
TGA Soot % At 150 Hours	S123.1

	Adjusted Average Crosshead Mass Loss, (mg)	+ Filter Plugging Delta P, (kPa)	Average Sludge Rating, (merits)
Original Result	S12.1234	S123	S12.1
Transformed Result [A]		S12.1234	
Industry Correction Factor [A]	S12.1234	S12.1234	S12.1234
Corrected Result [A]	S12.1234	S12.1234	S12.1234
Severity Adjustment (Lab Based) [A]	S12.1234	S12.1234	S12.1234
Severity Adjustment Result [A]	S12.1234	S12.1234	S12.1234
Final Original Unit Result	S123.1	S123	S12.1

[A] Filter Plugging Delta P Value in Transformed Units

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Reference Oil Test Summary
Form 1A

CMIR Code No. CCCCCC		Test Length	S1234
TMC Oil No. CCCCCC			
Test Lab	**Test Stand No.**	**Engine Block Serial No.**	**Engine Run Number**
CC	CCCCC	CCCCCCCC	CCCC

Date Test Started	YYYYMMDD
Start Time	HH:MM
Date Test Completed	YYYYMMDD
EOT Time	HH:MM
Stand Calibration Expiration Date	YYYYMMDD
Total Test Hours On Engine	CCCCC
Engine Kit Serial Number	CCCCCCCCCCCC
Laboratory Oil Code	CCCCCCCCCCCC
SAE Viscosity	CCCCCCC
Total Oil Consumption, kg	S12.12
TGA Soot % At 150 Hours (4.5 – 5.5)	S123.1

	Adjusted Average Crosshead Mass Loss, (mg)	**Filter Plugging Delta P, (kPa)**	**Average Sludge Rating, -(merits)**
Original Result	S12.1234	S123	S12.1
Transformed Result [A]		S12.1234	
Industry Correction Factor [A]	S12.1234	S12.1234	S12.1234
Corrected Result [A]	S12.1234	S12.1234	S12.1234
Final Original Unit Result	S123.1	S123	S12.1

[A] Filter Plugging Delta P Value in Transformed Units

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Form 2
Operational Summary

Laboratory CC	EOT Date YYYYMMDD	YYYYMMDD	EOT Time HH:MM HH:MM
Test Number			
Stand CCCCC	Engine CCCCCCCC		Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC			
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

	Parameter	Units	QI Threshold	EOT QI [A]	Target	Average	Samples [B]	BQD [C]	Over/Under Range [D]
Controlled Parameters	Speed	R/min	0.000	S12.123	1800 1600	S123456	S1234	S1234	S1234
	Fuel Flow	kg/h	0.000	S12.123	53	S123.1	S1234	S1234	S1234
	Coolant Out	°C	0.000	S12.123	88	S123.1	S1234	S1234	S1234
	Fuel In	°C	0.000	S12.123	40	S12.1	S1234	S1234	S1234
	Oil Gallery	°C	0.000	S12.123	115	S123.1	S1234	S1234	S1234
	Intake Manifold	°C	0.000	S12.123	46	S12.1	S1234	S1234	S1234
	Exhaust	kPa	0.000	S12.123	107	S123.1	S1234	S1234	S1234

	Parameter	Units	Typical Values [E]		Average	
Non-controlled Parameters	Torque	N-m	1262 – 1360	1505 - 1688	S1234.1	S1234.1
	Power	kW	236 – 257	247 - 283	S123.1	S123.1
	Blowby	L/min	73 – 195		S12.1	
	Coolant In	°C	81 – 87		S123.1	
	Intake Air	°C	29 – 37		S12.1	
	Pre-Turbine (F)	°C	536 – 629		S123.1	
	Pre-Turbine (R)	°C	548 – 628		S123.1	
	Tailpipe	°C	406 – 498		S123.1	
	Fuel	kPa	1048 – 1132		S1234.1	
	Oil Gallery	kPa	217 – 300		S123.1	
	Coolant	kPa	99 – 107		S123.1	
	Intake Manifold	kPa	163 – 291		S123.1	
	Crankcase	kPa	0.5 – 3.4		S12.1	
	Intake Air	kPa	92 – 99		S12.12	

A Q1 values above the threshold are acceptable by the Mack Surveillance Panel. QI values below the threshold may not be considered acceptable based on an engineering review. Refer to Annex A5
B Total number of data points taken. Minimum acceptable value is 3000
C Number of Bad Quality Data points not used in the calculation of the statistical measures.
D Number of points clipped by over/under range limits.
E Typical values determined from reference oil test database

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M11 High Soot Lubricant Performance Test
Form 3
200 h Crosshead Mass Loss Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM	
Test Number			
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC	
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC			
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Location	Serial No.	Pretest Mass (g)	EOT Mass (g)	Mass Loss (mg)
1E	CCCCC	S123.1234	S123.1234	S12.1
1I	CCCCC	S123.1234	S123.1234	S12.1
2I	CCCCC	S123.1234	S123.1234	S12.1
2E	CCCCC	S123.1234	S123.1234	S12.1
3E	CCCCC	S123.1234	S123.1234	S12.1
3I	CCCCC	S123.1234	S123.1234	S12.1
4I	CCCCC	S123.1234	S123.1234	S12.1
4E	CCCCC	S123.1234	S123.1234	S12.1
5E	CCCCC	S123.1234	S123.1234	S12.1
5I	CCCCC	S123.1234	S123.1234	S12.1
6I	CCCCC	S123.1234	S123.1234	S12.1
6E	CCCCC	S123.1234	S123.1234	S12.1

Intake/Exhaust Summary	Intake		Exhaust	
	As Measured	Outlier Screened	As Measured	Outlier Screened
Average Crosshead Mass Loss (mg)	S12.12	S12.12	S12.12	S12.12
Minimum Crosshead Mass Loss (mg)	S12.1	S12.1	S12.1	S12.1
Maximum Crosshead Mass Loss (mg)	S12.1	S12.1	S12.1	S12.1
Standard Deviation (mg)	S12.12	S12.12	S12.12	S12.12
Outlier Crossheads Locations [A]	CCCCCCCC		CCCCCCCC	

[A] Location Designation. Example: 3E

Overall Summary	As Measured	Outlier Screened	Adjusted to 4.5% Soot
Average Crosshead Mass Loss (mg)	S12.12	S12.12	S12.1234
Minimum Crosshead Mass Loss (mg)	S12.1	S12.1	
Maximum Crosshead Mass Loss (mg)	S12.1	S12.1	
Standard Deviation (mg)	S12.12	S12.12	

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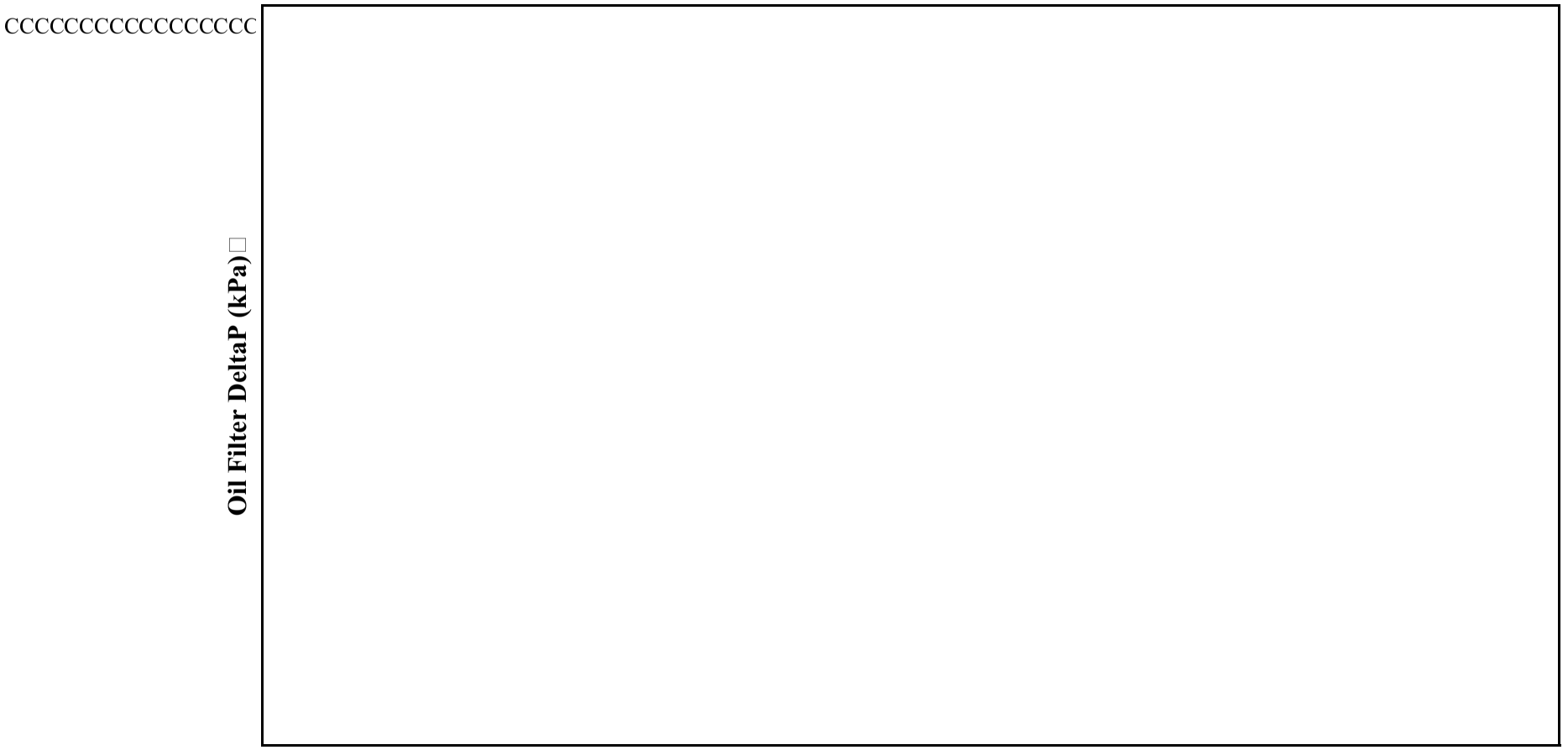
Form 4
Oil Filter Delta Pressure Plot

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM	HH:MM
Test Number			
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC	CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC			
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Oil Filter Delta Pressure vs Test Hours



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Form 5
Sludge Rating Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD		EOT Time HH:MM HH:MM
Test Number			
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC	CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC			
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Sludge Rating Summary

Sludge Depth	Valve Cover % of Area	Valve Cover Volume Factor	Oil Pan % of Area	Oil Pan Volume Factor
1/4A	S12	S12.12	S12	S12.12
1/2A	S12	S12.12	S12	S12.12
3/4A	S12	S12.12	S12	S12.12
A	S12	S12.12	S12	S12.12
AB	S12	S12.12	S12	S12.12
B	S12	S12.12	S12	S12.12
BC	S12	S12.12	S12	S12.12
C	S12	S12.12	S12	S12.12
D	S12	S12.12	S12	S12.12
E	S12	S12.12	S12	S12.12
F	S12	S12.12	S12	S12.12
G	S12	S12.12	S12	S12.12
H	S12	S12.12	S12	S12.12
I	S12	S12.12	S12	S12.12
J	S12	S12.12	S12	S12.12
	Total Volume Factor	S12.12	Total Volume Factor	S12.12
	Merit Rating	S12.12	Merit Rating	S12.12
		Average Sludge Rating: S12.1		S12.1

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Form 6
Rod Bearing Mass Loss

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM	
Test Number			
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC	
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC			
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC			

Cylinder Number	Bearing Location	Pre-Test Mass (g)	Post-Test Mass (g)	Mass Loss (mg)
1	Upper	S123.1234	S123.1234	S123.1
	Lower	S123.1234	S123.1234	S123.1
2	Upper	S123.1234	S123.1234	S123.1
	Lower	S123.1234	S123.1234	S123.1
3	Upper	S123.1234	S123.1234	S123.1
	Lower	S123.1234	S123.1234	S123.1
4	Upper	S123.1234	S123.1234	S123.1
	Lower	S123.1234	S123.1234	S123.1
5	Upper	S123.1234	S123.1234	S123.1
	Lower	S123.1234	S123.1234	S123.1
6	Upper	S123.1234	S123.1234	S123.1
	Lower	S123.1234	S123.1234	S123.1

	Bearing Mass Loss
Average	S123.1
Minimum	S123.1
Maximum	S123.1
Standard Deviation (mg)	S12.12

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M11 High Soot Lubricant Performance Test
Form 7
Piston Rating Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	

Unweighted Demerits										
Piston Number	**Lands**				**Grooves**			**Under Crown**	**Oil Cooling Gallery**	**Total Demerits**
	1	2	3	4	1	2	3			
1	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.123	S123.12	S12.123
2	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.123	S123.12	S12.123
3	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.123	S123.12	S12.123
4	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.123	S123.12	S12.123
5	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.123	S123.12	S12.123
6	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.123	S123.12	S12.123
Average Demerits	S12.123	S12.123	S12.123	S12.123	S12.123	S12.123	S12.123	S12.123	S12.123	
						Average Total Unweighted Demerits				S12.123

Parameter	**Piston Number**						**Average**
	1	2	3	4	5	6	
TGC	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12
TLC	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12	S12.12

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Form 8
Piston 1 Deposit Ratings

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	

	Grooves				Lands					Grooves		Lands				Oil Cooling Gallery(2)		Under Crown(1)	
	No. 1		No. 2		No. 1		No. 2			No. 3		No. 3		No. 4					
Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.
CARBON																			
HC - 1.0	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12				
MC - 0.5	S12	S12.12								S12	S12.12								
LC - .25	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
VARNISH																			
8 – 9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
7 - 7.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	7.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
6 - 6.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
5 - 5.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
4 - 4.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	4.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
3 - 3.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
2 - 2.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
1 – 1.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	1.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
>0 - 0.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Rating	S12.12		S12.12		S12.12		S12.12			S12.12		S12.12		S12.12		S123.12		S12.123	
TGC%									Unweighted Dep.			T.L. Carbon				T.L. Flaked Carbon %			
S12.12									S12.123			S12.12				S123.12			

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Form 9
Piston 2 Deposit Ratings

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	

	Grooves				Lands					Grooves		Lands				Oil Cooling Gallery(2)		Under Crown(1)	
	No. 1		No. 2		No. 1		No. 2			No. 3		No. 3		No. 4					
Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.
CARBON																			
HC - 1.0	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12				
MC - 0.5	S12	S12.12								S12	S12.12								
LC - .25	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
VARNISH																			
8 – 9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
7 - 7.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	7.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
6 - 6.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
5 - 5.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
4 - 4.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	4.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
3 - 3.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
2 - 2.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
1 – 1.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	1.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
>0 - 0.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Rating	S12.12		S12.12		S12.12		S12.12			S12.12		S12.12		S12.12		S123.12		S12.123	
TGC%									Unweighted Dep.			T.L. Carbon				T.L. Flaked Carbon %			
S12.12									S12.123			S12.12				S123.12			

D6838 M11 High Soot Lubricant Performance Test
Form 10
Piston 3 Deposit Ratings

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
	Test Number	
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

	Grooves				**Lands**					**Grooves**		**Lands**				**Oil Cooling Gallery(2)**		**Under Crown(1)**	
	No. 1		No. 2		No. 1		No. 2			No. 3		No. 3		No. 4					
Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.
CARBON																			
HC - 1.0	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12				
MC - 0.5	S12	S12.12								S12	S12.12								
LC - .25	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
VARNISH																			
8 – 9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
7 - 7.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	7.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
6 - 6.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
5 - 5.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
4 - 4.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	4.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
3 - 3.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
2 - 2.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
1 – 1.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	1.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
>0 - 0.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Rating	S12.12		S12.12		S12.12		S12.12			S12.12		S12.12		S12.12		S123.12		S12.123	
TGC%									Unweighted Dep.			T.L. Carbon				T.L. Flaked Carbon %			
S12.12									S12.123			S12.12				S123.12			

D 6838 M11 High Soot Lubricant Performance Test
Form 11
Piston 4 Deposit Ratings

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	

	Grooves				Lands					Grooves		Lands				Oil Cooling Gallery(2)		Under Crown(1)	
	No. 1		No. 2		No. 1		No. 2			No. 3		No. 3		No. 4					
Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.
CARBON																			
HC - 1.0	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12				
MC - 0.5	S12	S12.12								S12	S12.12								
LC - .25	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
VARNISH																			
8 – 9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
7 - 7.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	7.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
6 - 6.9	S12	S12.12	S12	S12.12	S12	S12.12	S12.12	S12											
5 - 5.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
4 - 4.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	4.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
3 - 3.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
2 - 2.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
1 – 1.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	1.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
>0 - 0.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Rating	S12.12		S12.12		S12.12		S12.12			S12.12		S12.12		S12.12		S123.12		S12.123	
TGC%									Unweighted Dep.			T.L. Carbon				T.L. Flaked Carbon %			
S12.12									S12.123			S12.12				S123.12			

D 6838 M11 High Soot Lubricant Performance Test
Form 12
Piston 5 Deposit Ratings

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	

	Grooves				Lands					Grooves		Lands				Oil Cooling Gallery(2)		Under Crown(1)	
	No. 1		No. 2		No. 1		No. 2			No. 3		No. 3		No. 4					
Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.
CARBON																			
HC - 1.0	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12				
MC - 0.5	S12	S12.12								S12	S12.12								
LC - .25	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
VARNISH																			
8 – 9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
7 - 7.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	7.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
6 - 6.9	S12	S12.12	S12.12	S12	S12	S12.12	S12	S12.12											
5 - 5.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
4 - 4.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	4.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
3 - 3.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
2 - 2.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
1 – 1.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	1.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
>0 - 0.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Rating	S12.12		S12.12		S12.12		S12.12			S12.12		S12.12		S12.12		S123.12		S12.123	
TGC%									Unweighted Dep.			T.L. Carbon				T.L. Flaked Carbon %			
S123.12									S12.123			S12.12				S123.12			

D 6838 M11 High Soot Lubricant Performance Test
Form 13
Piston 6 Deposit Ratings

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	

	Grooves				Lands					Grooves		Lands				Oil Cooling Gallery(2)		Under Crown(1)	
	No. 1		No. 2		No. 1		No. 2			No. 3		No. 3		No. 4					
Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	Dep. Factor	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.	A,%	Dem.
CARBON																			
HC - 1.0	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12				
MC - 0.5	S12	S12.12								S12	S12.12								
LC - .25	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
VARNISH																			
8 – 9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
7 - 7.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	7.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
6 - 6.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
5 - 5.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
4 - 4.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	4.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
3 - 3.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
2 - 2.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
1 – 1.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12	1.5	S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
>0 - 0.9	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12											
Total	S12	S12.12	S12	S12.12	S12	S12.12	S12	S12.12		S12	S12.12	S12	S12.12	S12	S12.12	S123	S123.12	S12	S12.123
Rating	S12.12		S12.12		S12.12		S12.12			S12.12		S12.12		S12.12		S123.12		S12.123	
TGC%									Unweighted Dep.			T.L. Carbon				T.L. Flaked Carbon %			
S123.12									S12.123			S12.12				S123.12			

D 6838
M11 High Soot Lubricant Performance Test
Form 14
Ring Mass Loss Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Top Ring			
Cylinder No.	**Pretest Mass (g)**	**EOT Mass (g)**	**Mass Loss (mg)**
1	S12.1234	S12.1234	S123.1
2	S12.1234	S12.1234	S123.1
3	S12.1234	S12.1234	S123.1
4	S12.1234	S12.1234	S123.1
5	S12.1234	S12.1234	S123.1
6	S12.1234	S12.1234	S123.1
	Average Top Ring Mass Loss		S123.1
	Std. Dev. Top Ring Mass Loss		S12.12
	Maximum Top Ring Mass Loss		S123.1
	Minimum Top Ring Mass Loss		S123.1

Second Ring			
Cylinder No.	**Pretest Mass (g)**	**EOT Mass (g)**	**Mass Low (mg)**
1	S12.1234	S12.1234	S123.1
2	S12.1234	S12.1234	S123.1
3	S12.1234	S12.1234	S123.1
4	S12.1234	S12.1234	S123.1
5	S12.1234	S12.1234	S123.1
6	S12.1234	S12.1234	S123.1
	Average Second Ring Mass Loss		S123.1
	Std. Dev. Second Ring Mass Loss		S12.12
	Maximum Second Ring Mass Loss		S123.1
	Minimum Second Ring Mass Loss		S123.1

D 6838
M11 High Soot Lubricant Performance Test
Form 15
Oil Analysis Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Test Hours	Viscosity @ 100°C, cSt	TGA % Soot	TBN D4739	TAN D664	Copper (ppm)	Iron (ppm)	Lead (ppm)
NEW	S123.12	S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1			AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1			AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1 S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA
CCC	S123.12	S123.1	S123.12	S123.12	AAAAAA	AAAAAA	AAAAAA

D 6838
M11 High Soot Lubricant Performance Test
Form 16
Test Fuel Analysis (Last Batch)

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM	
Test Number			
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC	
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC			
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC			

Fuel Supplier	Fuel Batch Identifier
CCCCCCCCCCCCCCCCCCCC	CCCCCCCCCCCCCCCC

Measurement	Specifications	Analysis		Test Method
		New	EOT	
Total Sulfur, % Weight	0.03 - 0.05	S12.12	S12.12	D 2662
Gravity, °API	32 – 36	S12.1	S12.1	D 287 or D 4052
Hydrocarbon Composition				
Aromatics % Volume	28 – 35	S12.1		D 1319
Olefin	Report	S12.1		D 1319
Saturates	Report	S12.1		D 1319
Cetane Index	Report	S12.1		D 4737
Cetane Number	42 –48	S12.1		D 613
Copper Strip Corrosion	3 Maximum	AAAA		D 130
Flash Point, °C	54 Maximum	S123		D 93
Cloud Point, °C	-12 Maximum	S123		D 2500
Pour Point, °C	-18 Maximum	S123		D 97
Carbon Residue on 10% Residuum, %	0.35 Maximum	S12.12		D 524 (10% Bottoms)
Water & Sediment, % Volume	0.05 Maximum	AAAAAA		D 2709
Ash, % Weight	0.01 Maximum	S12.123		D 482
Viscosity, cSt @ 40 °C	2.0 - 3.2	S12.1		D 445
Distillation, °C				
IBP	177 – 199	S1234		D 86
10%	210 – 232	S1234		D 86
50%	249 – 327	S1234		D 86
90%	299 – 327	S1234		D 86
EP	327 – 360	S1234		D 86

D 6838
M11 High Soot Lubricant Performance Test
Form 17
Unscheduled Downtime & Maintenance Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Number of Downtime Occurrences S1			
Test Hours	**Date**	**Downtime**	**Reasons**
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
		HHH:MM	**Total Downtime (hours)**

Other Comments	
Number of Comment Lines	S1
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D6838
M11 High Soot Lubricant Performance Test
Form 17A
Unscheduled Downtime & Maintenance Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Number of Downtime Occurrences S1			
Test Hours	**Date**	**Downtime**	**Reasons**
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CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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		HHH:MM	**Total Downtime (hours)**

Other Comments	
Number of Comment Lines	S1
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D 6838
M11 High Soot Lubricant Performance Test
Form 17B
Unscheduled Downtime & Maintenance Summary

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM
Test Number		
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC
Formulation/Stand Code CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Number of Downtime Occurrences S1			
Test Hours	**Date**	**Downtime**	**Reasons**
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCC	CCCCCCCC	CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
		HHH:MM	**Total Downtime (hours)**

Other Comments	
Number of Comment Lines	S1
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D 6838
M11 High Soot Lubricant Performance Test
Form 18
Characteristics Of The Data Acquisition System

Laboratory CC	EOT Date YYYYMMDD YYYYMMDD	EOT Time HH:MM HH:MM	
Test Number			
Stand CCCCC	Engine CCCCCCCC	Engine Run No. CCCC CCCC	
Formulation/Stand Code	CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Oil Code/CMIR CCCCCC	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		

Parameter (1)	Sensing Device (2)	Calibration Frequency (3)	Record Device (4)	Observation Frequency (5)	Record Frequency (6)	Log Frequency (7)	System Response (8)
Temperatures							
Oil Gallery	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Fuel In.	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Intake Air	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Intake Man.	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Pre-Turb.	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Cool. Out	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Pressure							
Inlet Air	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Exhaust	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Oil Gallery	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Other							
Fuel Flow	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Speed	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC
Load	CCCCCCCCCC	CCCCCCCCCC	CCC	CCCCCCCCCC	CCCCCCCCCC	CCCCCCCCC	CCCCCCCC

Legend:
(1) Operating Parameter
(2) The Type Of Device Used To Measure Temperature, Pressure or Flow
(3) Frequency At Which The Measurement System Is Calibrated
(4) The Type of Device Where Data Is Recorded
DL – Automatic Data Logger
C/D – Computer, Using Direct I/O Entry
(5) Data Are Observed But Only If Recorded Off Spec.
(6) Data Are Recorded But Are Not Retained At EOT
(7) Data Are Logged As Permanent Record, Note Specify If:
SS – Snapshot Taken At Specified Frequency
AG/X – Average of X Data Points At Specified Frequency
(8) Time For The Output To Reach 63.2% Of Final Value For Step Change At Input

D 6838
M11 High Soot Lubricant Performance Test
Form 19
American Chemistry Council Code of Practice
Test Laboratory Conformance Statement

Test Laboratory	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC				
Test Sponsor	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC				
Formulation / Stand Code	CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC				
Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC				
Start Date	YYYYMMDD	Start Time	HH:MM	Time Zone	CCC

Declarations

No. 1 All requirements of the ACC Code of Practice for which the test laboratory is responsible were met in the conduct of this test. Yes __C__ No__C__ *

No. 2 The laboratory ran this test for the full duration following all procedural requirements; and all operational validity requirements of the latest version of the applicable test procedure (ASTM or other), including all updates issued by the organization responsible for the test, were met.
Yes __C__ No__C__*

If the response to this Declaration is "No", does the test engineer consider the deviations from operational validity requirements that occurred to be beyond the control of the laboratory? Yes __C__* No__C__

No 3. A deviation occurred for one of the test parameters identified by the organization responsible for the test as being a special case. Yes __C__* No__C__
(This currently applies only to specific deviations identified in the ASTM Information Letter System)

Check The Appropriate Conclusion

C	Operational review of this test indicates that the results should be included in the Multiple Test Acceptance Criteria calculations.
C	*Operational review of this test indicates that the results should not be included in the Multiple Test Acceptance Criteria calculations.

Note: *Supporting comments are required for all responses identified with an asterisk.*

Comments
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Signature Image __________ YYYYMMDD
Signature Date

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Typed Name Title