REPORT ON
SEQUENCE IIIG EVALUATION

VERSION *IIIG VERSION 20031114*

CONDUCTED FOR

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

C	V = VALID
	I = INVALID
	N = RESULTS CANNOT BE INTERPRETED AS REPRESENTATIVE OF OIL PERFORMANCE (NON-REFERENCE OIL) AND SHALL NOT BE USED FOR MULTIPLE TEST ACCEPTANCE

CC	NR = Non-Reference Oil Test
	RO = Reference Oil Test

Test Number					
Test Stand	*CCCCC*	Stand Test Number	*CCCC*	Lab Test Number	*CCCCC*
Oil Code	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*				
Formulation/Stand Code					
Alternate Codes	*CCCCCCCCCCCCCCC*	*CCCCCCCCCCCCCCC*	*CCCCCCCCCCCCCCC*		
EOT Date	*YYYYMMDD*	EOT Time	*HH:MM*		

In my opinion this test *CCCCCC* been conducted in a valid manner in accordance with the latest draft of Sequence IIIG procedure and the appropriate amendments through the information letter system. The remarks included in the report describe the anomalies associated with this test.

SUBMITTED BY: *CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*

Testing Laboratory

Signature Image

Signature

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Typed Name

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Title

SEQUENCE IIIG
FORM 4
TEST RESULT SUMMARY

LAB	*CC*	OIL CODE	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*
TEST STAND NO.	*CCCCC*	TEST NO.	*CCCCC - CCCC - CCCCC*
LABORATORY OIL CODE	*CCCCCCCCCCCCCCCCCCCC*		
FORMULATION STAND CODE			

DATE STARTED	*YYYYMMDD*	ENGINE NO.	*CCCCCCCCCCCCCCC*
TIME STARTED	*HH:MM*	FUEL BATCH	*CCCCCCCCCCCCCCC*
DATE COMPLETED	*YYYYMMDD*	SAE VISCOSITY	*CCCCCCC*
TIME COMPLETED	*HH:MM*	TMC OIL CODE [A]	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*
TEST LENGTH	*S1234*		

Pass/Fail Results						
	Viscosity Increase (%)	Average Cam + Lifter Wear (µm)	Average Weighted Piston Deposits (merits)	Average Piston Skirt Varnish (merits)	Number of Hot-Stuck Rings	Oil Consumption (L) [B]
Original Units	*S1234.12*	*S1234.1*	*S12.12*	*S12.12*	*S12*	*S12.12*
Transformed Results	*S12.123456*	*S1.1234*				
Industry Correction Factor	*S12.123456*	*S1.1234*	*S1.1234*			
Corrected Transformed Result	*S12.123456*	*S1.1234*				
Severity Adjustment	*S12.123456*	*S1.1234*	*S1.1234*			
Final Transformed Result	*S12.123456*	*S1.1234*				
Final Original Unit Result	*S1234.1*	*S1234.1*	*S12.12*			

Additional Results			
Oil Consumption Hours, h [B]	*S12*	Average Oil Ring Plugging , %	*S1234*
Maximum Cam + Lifter Wear, µm	*S12345*	Number of Cold-Stuck Rings	*S12*

Most Recent Stand Reference Oil Test History [C]			
Test Number	- -		
Oilcode	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*		
Date Completed	*YYYYMMDD*	TMC Oil Code	*CCCCCC*
Final Viscosity Increase, %	*S1234.1*	Fuel Batch	*CCCCCCCCCCCCCCC*
Final Average Piston Skirt Varnish, merits			
Final Average Cam + Lifter Wear, µm	*S1234.1*		
Final Maximum Cam + Lifter Wear, µm			
Final Average Weighted Piston Deposit, merits	*S12.12*		

[A] Reference Oil Tests Only

[B] Test Hours at which Oil Consumption was calculated

[C] Non-Reference Oil Tests Only

SEQUENCE IIIG
FORM 4
TEST RESULT SUMMARY

LAB	*CC*	OIL CODE	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*
TEST STAND NO.	*CCCCC*	TEST NO.	*CCCCC - CCCC - CCCCC*
LABORATORY OIL CODE	*CCCCCCCCCCCCCCCCCCCC*		
FORMULATION STAND CODE			

DATE STARTED	*YYYYMMDD*	ENGINE NO.	*CCCCCCCCCCCCCCC*
TIME STARTED	*HH:MM*	FUEL BATCH	*CCCCCCCCCCCCCCC*
DATE COMPLETED	*YYYYMMDD*	SAE VISCOSITY	*CCCCCCC*
TIME COMPLETED	*HH:MM*	TMC OIL CODE [A]	*S12345*
TEST LENGTH	*S1234*		

Pass/Fail Results

	Viscosity Increase (%)	Average Cam + Lifter Wear (µm)	Average Weighted Piston Deposits (merits)	Average Piston Skirt Varnish (merits)	Number of Hot-Stuck Rings	Oil Consumption (L) [B]
Original Units	*S1234.12*	*S1234.1*	*S12.12*	*S12.12*	*S12*	*S12.12*
Transformed Results						
Industry Correction Factor						
Corrected Transformed Result						
Severity Adjustment						
Final Transformed Result						
Final Original Unit Result						

Additional Results

Oil Consumption Hours, h [B]		Average Oil Ring Plugging , %	*S1234*
Maximum Cam + Lifter Wear, µm	*S12345*	Number of Cold-Stuck Rings	*S12*

Most Recent Stand Reference Oil Test History [C]

Test Number	- -		
Oilcode			
Date Completed		TMC Oil Code	
Final Viscosity Increase, %		Fuel Batch	
Final Average Piston Skirt Varnish, merits			
Final Average Cam + Lifter Wear, µm			
Final Maximum Cam + Lifter Wear, µm			
Final Average Weighted Piston Deposit, merits			

[A] Reference Oil Tests Only

[B] Test Hours at which Oil Consumption was calculated

[C] Non-Reference Oil Tests Only

SEQUENCE IIIG
FORM 5
OPERATIONAL SUMMARY

LAB	*CC*	OIL CODE	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*
TEST STAND NO.	*CCCCC*	TEST NO.	*CCCCC - CCCC - CCCCC*
LABORATORY OIL CODE	*CCCCCCCCCCCCCCCCCCCC*		
FORMULATION STAND CODE			

	Parameter	Units	QI Threshold	EOT QI	Target	Average	Standard Deviation	Number Of	
								Samples	BQD
Controlled Parameters	Speed	r/min	0.000	*S12.123*	3600	*S12345*	*S12.123*	*S12345*	*S12345*
	Load	Nm	0.000	*S12.123*	250	*S12345*	*S12.123*	*S12345*	*S12345*
	Oil Filter Block	˚C	0.000	*S12.123*	150.0	*S12345*	*S12.123*	*S12345*	*S12345*
	Engine Coolant Out	˚C	0.000	*S12.123*	115.0	*S123.1*	*S12.123*	*S12345*	*S12345*
	Condenser Coolant Out	˚C	0.000	*S12.123*	40.0	*S123.1*	*S12.123*	*S12345*	*S12345*
	Left Air-to-Fuel Ratio		0.000	*S12.123*	15.0	*S12.1*	*S12.123*	*S12345*	*S12345*
	Right Air-to-Fuel Ratio		0.000	*S12.123*	15.0	*S12.1*	*S12.123*	*S12345*	*S12345*
	Left Exhaust Back Pressure	kPa	0.000	*S12.123*	6.0	*S1.12*	*S12.123*	*S12345*	*S12345*
	Right Exhaust Back Pressure	kPa	0.000	*S12.123*	6.0	*S1.12*	*S12.123*	*S12345*	*S12345*
	Intake Air	kPa	0.000	*S12.123*	0.05	*S1.12*	*S12.123*	*S12345*	*S12345*
	Engine Coolant Flow	L/min	0.000	*S12.123*	160.0	*S123.1*	*S12.123*	*S12345*	*S12345*

	Parameter	Units	Average	Standard Deviation	Number Of	
					Samples	BQD
Non-controlled Parameters	Oil Sump	˚C	*S123.1*	*S12.123*	*S12345*	*S12345*
	Pump Outlet Pressure	kPa	*S123.1*	*S12.123*	*S12345*	*S12345*
	Gallery Pressure	kPa	*S1234*	*S12.123*	*S12345*	*S12345*
	Engine Coolant In	˚C	*S1234*	*S12.123*	*S12345*	*S12345*
	Fuel Inlet	˚C	*S12345*	*S12.123*	*S12345*	*S12345*
	Intake Air	˚C	*S12345*	*S12.123*	*S12345*	*S12345*
	Intake Air Dew Point	˚C	*S123.1*	*S12.123*	*S12345*	*S12345*
	Intake Vacuum	kPa	*S12345*	*S12.123*	*S12345*	*S12345*
	Crankcase	kPa	*S1.123*	*S12.123*	*S12345*	*S12345*
	Fuel Pressure	kPa	*S1234*	*S12.123*	*S12345*	*S12345*

OIL CONSUMPTION DATA						
HOURS	Initial Run-in	*S12*	*S12*	*S12*	*S12*	*S12*
LEVEL (ml) low	*S123*	*S123*	*S123*	*S123*	*S123*	*S123*

NO_x Measurement			
Hours	*S12.12*	*S12.12*	*S12.12*
NO_x, ppm	*S12.12*	*S12.12*	*S12*

SEQUENCE IIIG
FORM 5
OPERATIONAL SUMMARY

LAB	*CC*	OIL CODE	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*
TEST STAND NO.	*CCCCC*	TEST NO.	*CCCCC - CCCC - CCCCC*
LABORATORY OIL CODE	*CCCCCCCCCCCCCCCCCCCC*		
FORMULATION STAND CODE			

	Parameter	Units	QI Threshold	EOT QI	Target	Average	Standard Deviation	Number Of Samples	Number Of BQD
Controlled Parameters	Speed	r/min	0.000	*S12*	3600	*S12345*			
	Load	Nm	0.000		250	*S12345*			
	Oil Filter Block	˚C	0.000		150.0	*S12345*			
	Engine Coolant Out	˚C	0.000		115.0				
	Condenser Coolant Out	˚C	0.000		40.0				
	Left Air-to-Fuel Ratio		0.000		15.0				
	Right Air-to-Fuel Ratio		0.000		15.0				
	Left Exhaust Back Pressure	kPa	0.000		6.0				
	Right Exhaust Back Pressure	kPa	0.000		6.0				
	Intake Air	kPa	0.000		0.05				
	Engine Coolant Flow	L/min	0.000		160.0				

	Parameter	Units	Average	Standard Deviation	Number Of Samples	Number Of BQD
Non-controlled Parameters	Oil Sump	˚C				
	Pump Outlet Pressure	kPa				
	Gallery Pressure	kPa				
	Engine Coolant In	˚C				
	Fuel Inlet	˚C				
	Intake Air	˚C				
	Intake Air Dew Point	˚C	*S123.1*			
	Intake Vacuum	kPa				
	Crankcase	kPa				
	Fuel Pressure	kPa				

OIL CONSUMPTION DATA						
HOURS	Initial Run-in					
LEVEL (ml) low						

NO_x Measurement			
Hours			*S12*
NO_x, ppm	*S12345*	*S12345*	*S12345*

SEQUENCE IIIG
FORM 6
USED OIL ANALYSIS RESULTS

LAB	*CC*	OIL CODE	*CCCC

SEQUENCE IIIG
FORM 7
VALVE LIFTER AND CAMSHAFT WEAR RESULTS

LAB	*CC*	OIL CODE	*CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC*
TEST STAND NO.	*CCCCC*	TEST NO.	*CCCCC - CCCC - CCCCC*
LABORATORY OIL CODE	*CCCCCCCCCCCCCCCCCCCC*		
FORMULATION STAND CODE			

NUMBER	CAMSHAFT LOBE, µm	VALVE LIFTER, µm	CAM & LIFTER WEAR, µm
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
MAXIMUM			*S12345*
MINIMUM			
AVERAGE			*S1234.1*