General Motors Engine Oil Aeration Test
For dexos ®
Form 1

Version GMAER VERSION 20150421 Beta

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

Test Number							
Stand	CCCCC	Engine	CCCCCCCCCCCCCC	Engine Runs	CCCC	Lab Runs	CCCCC
Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC						
Oil Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC						
Formulation/Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC						
SAE Viscosity Grade	CCCCCCC						
Alternate Codes	CCCCCCCCCCCCCC	CCCCCCCCCCCCCC	CCCCCCCCCCCCCC				
Date Started	CCCCCCCC	Time Started	HH:MM				
Date Completed	CCCCCCCC	Time Completed	HH:MM				
Test Length	S1234	Total Downtime	HHH:MM				

In my opinion this test CCCCCCCCCC been conducted in a valid manner in accordance with test procedure GMAER and appropriate amendments. The remarks included in the report describe the anomalies associated with this test.

Submitted By: CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Testing Laboratory

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Signature

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Typed Name

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Title

General Motors Engine Oil Aeration Test for Gen2 dexos ®

Form 2

Table of Contents

General Motors dexos® Engine Oil Aeration Test
Form 3

Test Summary

Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Formulation Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Test Info			
Engine Number	CCCCCCCCCCCCCC	Engine Hours @ SOT	S1234
Engine Run #	CCCC	Labs Runs	CCCCC
Oil Weight SOT (g)	S1234.1	Fuel Batch ID	CCCCCCCCCC
Oil Weight EOT (g)	S1234.1		
Total Oil Consumption (g)	S1234.1		

Test Results: Extracted Aeration Readings from Aeration vs. Time Curve at 100 kPaA	
	Result
0.5 - 1 Hour Average Aeration (%)	S12.12
4-5 Hour Average Aeration (%)	S12.12
19-20 Hour Average Aeration (%)	S12.12
28-29 Hour Average Hour Aeration (%)	S12.12
Maximum Micromotion Aeration (%)	S12.12
Oil Density at 160 kPaA by Micromotion, g/mL	S12.1234

Post Test Pressure Sweep	
Pressure, kPaA	Average Aeration % (last 5 minutes)
84	S12.12
140	S12.12
160	S12.12

Last GM-AER1 Reference Oil Test Results for Specification Assessment: Aeration vs. Time Curve at 100 kPaA	
	Result
0.5 – 1 Hour Average Aeration (%)	S12.12
4-5 Hour Average Aeration (%)	S12.12
19-20 Hour Average Aeration (%)	S12.12
28-29 Hour Average Aeration (%)	S12.12
Maximum Micromotion Aeration (%)	S12.12
Oil Density at 160 kPaA by Micromotion, g/mL	S12.1234

General Motors dexos® Engine Oil Aeration Test
Form 4
Operational Summary

Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Formulation Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

	Operational Summary									
	Parameter	**Units**	**Target**	**Average**	**SD**	**Min**	**Max**	**QI**	**Samples**	**BQD**
Controlled Parameters	Speed	r/min	3000	S1234	S123.12	S1234	S1234	S1.12	S12345	S12345
	Torque	Nm	150	S1234	S123.12	S1234	S1234	S1.12	S12345	S12345
	Coolant Out Temp	℃	100	S123.1	S123.12	S123.1	S123.1	S1.12	S12345	S12345
	Oil Gallery Temp	℃	110	S123.1	S123.12	S123.1	S123.1	S1.12	S12345	S12345
	Sample Oil Flow	L/min	1.5	S1.123	S1.123	S1.123	S1.123	S1.12	S12345	S12345
	Sample Oil Pressure	kPaA	100	S123.1	S123.12	S123.1	S123.1	S1.12	S12345	S12345
	Crankcase Pressure	kPaA	100	S123.1	S123.12	S123.1	S123.1	S1.12	S1.12	S1.12
Uncontrolled Parameters	Power	kW	Record	S12.1	S123.12	S12.1	S12.1			
	Coolant In Temp	℃	Record	S12.1	S123.12	S12.1	S12.1			
	Intake Air Temp, Engine	℃	Record	S12.1	S123.12	S12.1	S12.1			
	Oil Sump Temp	℃	Record	S123.1	S123.12	S123.1	S123.1			
	Fuel Temp at Rail	℃	Record	S12.1	S123.12	S12.1	S12.1			
	Ambient Temp	℃	Record	S12.1	S123.12	S12.1	S12.1			
	Right Side Exhaust Temp	℃	Record	S123.1	S123.12	S123.1	S123.1			
	Left Side Exhaust Temp	℃	Record	S123.1	S123.12	S123.1	S123.1			
	Intake Manifold Air Pressure	kPaA	Record	S12.1	S123.12	S12.1	S12.1			
	Oil Gallery Pressure	kPaG	Record	S123.1	S123.12	S123.1	S123.1			
	Fuel Pressure	kPaG	Record	S123.1	S123.12	S123.1	S123.1			
	Pressure Ambient	kPaA	Record	S12.1	S123.12	S12.1	S12.1			
	Exhaust back Pressure	kPaG	Record	S12.1	S123.12	S12.1	S12.1			
	Oil Temp In to Micromotion	°C	Record	S123.1	S123.12	S123.1	S123.1			
	Oil Temp Out of Micromotion	°C	Record	S123.1	S123.12	S123.1	S123.1			
	Sample Oil Temperature	°C	Record	S123.1	S123.12	S123.1	S123.1			

General Motors dexos® Engine Oil Aeration Test
Form 5

Oil Analysis

Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Formulation Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

ICP (ppm)		
Element	**New**	**30 Hrs**
Aluminum (Al)	S12345	S12345
Copper (Cu)	S12345	S12345
Iron (Fe)	S12345	S12345
Silicon (Si)	S12345	S12345

	New	**30 Hrs**
Viscosity at 100 °C (cSt)	S123.12	S123.12

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Form 6

Aeration Plot

Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Formulation Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

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Form 7

Downtime Summary

Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Formulation Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Number of Downtime Occurrences			S12
Test Hours	**Date**	**Downtime**	**Reasons**
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
HHH:MM	YYYYMMDD	HHH:MM	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
		HHH:MM	**Total Downtime (hours)**

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Form 8

Test Comments

Test Number	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Formulation Stand Code	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Number of Comment Lines	S12
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