



# OIL REPORT

LAB NUMBER: L61341  
 REPORT DATE: 10/1/2019  
 CODE: 20/32

UNIT ID: 99 MARQUIS  
 CLIENT ID: 149038  
 PAYMENT: CC: Visa

<b>UNIT</b>	MAKE/MODEL: Cat C-12	OIL TYPE & GRADE: Shell Rotella T 15W/40
	FUEL TYPE: Diesel	OIL USE INTERVAL: 9,800 Miles
	ADDITIONAL INFO: Reman Eng	

<b>CLIENT</b>	RICHARD DANIELS	PHONE: (406) 461-8326
	13013 LITTLE HOLLAND RD	FAX:
	MANHATTAN, MT 59741-8647	ALT PHONE:
		EMAIL: rick@rickdaniels.com

**COMMENTS**  
 RICK: We can go with engine mileage if you want, or we can go with chassis mileage, if that's easier. Either way, this is a pretty nice first sample from your C-12. The wear metals are more or less in the average range, with the averages for this engine type being based on about 13,000 miles on the oil. If anything, iron is a smidge high, but that might reflect the type of driving this engine does or it may even be normal. It isn't far enough out of line that we think it's a problem, but we'll watch it. No contamination was found. This oil could run a bit longer, if you wanted.

	MI/HR on Oil	9,800	UNIT / LOCATION AVERAGES					UNIVERSAL AVERAGES
	MI/HR on Unit	37,933						
	Sample Date	9/18/2019						
	Make Up Oil Added	0 qts						
<b>ELEMENTS IN PARTS PER MILLION</b>	ALUMINUM	2	2					2
	CHROMIUM	1	1					1
	IRON	37	37					24
	COPPER	3	3					13
	LEAD	0	0					2
	TIN	0	0					1
	MOLYBDENUM	56	56					42
	NICKEL	0	0					0
	MANGANESE	0	0					0
	SILVER	0	0					0
	TITANIUM	0	0					0
	POTASSIUM	0	0					3
	BORON	145	145					62
	SILICON	3	3					5
	SODIUM	10	10					7
	CALCIUM	1731	1731					2357
	MAGNESIUM	403	403					296
	PHOSPHORUS	1063	1063					1030
ZINC	1198	1198					1225	
BARIUM	0	0					1	

Values Should Be\*

<b>PROPERTIES</b>	SUS Viscosity @ 210°F	73.2	69-80				
	cSt Viscosity @ 100°C	13.80	12.7-15.8				
	Flashpoint in °F	415	>410				
	Fuel %	<0.5	<2.0				
	Antifreeze %	0.0	0				
	Water %	0.0	0.0				
	Insolubles %	0.3	<0.6				
	TBN						
	TAN						
	ISO Code						

\* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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