BLACKSTONE LABORATORIES

OIL REPORT

LAB NUMBER: [redacted]
REPORT DATE: 8/16/2021
CODE: [redacted]

UNIT ID: 19 RANGER
CLIENT ID: [redacted]
PAYMENT: [redacted]

UNIT

MAKE/MODEL: Ford 2.3L 4-cyl EcoBoost
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: 5W/30
OIL USE INTERVAL: 7,000 Miles

CLIENT

[redacted]

COMMENTS

SCOTT: Wear-in is progressing as we'd expect. Copper is in the average range and silicon is lower - both are evidence of lingering wear-in material washing out of the engine. Fuel dilution is a concern at 3.0%. It could show a fuel system issue, especially if the oil level is rising on the dipstick. If it isn't, then maybe some of the fuel in this sample is from operational factors like short trips, idling, or maybe even cold sampling. Fuel thinned the viscosity, which read in the 5W/20 range. Watch the oil level going forward and check back to monitor fuel. Nice progress, overall!

ELEMENTS IN PARTS PER MILLION

			UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
MI/HR on Oil	7,000		3,800						
MI/HR on Unit	14,500		7,200						
Sample Date	8/1/2021		11/1/2020						
Make Up Oil Added	0 qts		0 qts						
ALUMINUM	4	5	5						4
CHROMIUM	0	0	0						0
IRON	8	11	14						11
COPPER	3	7	**11**						4
LEAD	0	1	1						0
TIN	1	1	1						0
MOLYBDENUM	103	99	94						94
NICKEL	0	0	0						0
MANGANESE	1	2	2						1
SILVER	0	0	0						0
TITANIUM	0	1	1						2
POTASSIUM	1	3	4						4
BORON	27	40	52						114
SILICON	12	16	20						22
SODIUM	5	6	7						11
CALCIUM	1252	1248	1244						1758
MAGNESIUM	471	483	494						306
PHOSPHORUS	626	672	718						732
ZINC	735	765	795						815
BARIUM	9	8	6						2

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	**51.9**	55-63	**51.4**				
cSt Viscosity @ 100°C	**7.84**	8.8-11.3	**7.70**				
Flashpoint in °F	**325**	>385	**365**				
Fuel %	**3.0**	<2.0	0.5				
Antifreeze %	0.0	0.0	0.0				
Water %	0.0	0.0	0.0				
Insolubles %	0.2	<0.6	0.1				
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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