



# OIL REPORT

LAB NUMBER: K43138  
 REPORT DATE: 8/8/2018  
 CODE: 63/32

UNIT ID: 13 COOPER S  
 CLIENT ID: 87684  
 PAYMENT: Prepaid

<b>UNIT</b>	MAKE/MODEL: Cooper, Mini 1.6L 4-cyl Turbo	OIL TYPE & GRADE: Red Line 5W/30
	FUEL TYPE: Gasoline (Unleaded)	OIL USE INTERVAL: 5,006 Miles
	ADDITIONAL INFO: Model: N18	

<b>CLIENT</b>	MIKE BOBOWICZ	PHONE: (716) 239-5300
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**COMMENTS** MIKE: This is another excellent report for the N18 in your Mini. Iron did increase a few ppm, but 49 ppm is still fine compared to universal averages, so we're not concerned about the additional metal. Most of the other metals either dropped a bit or stayed steady and that's just fine. The viscosity is in the 5W/30 range this time and there's no excess fuel dilution to worry about. Low insolubles and silicon show excellent oil and air filtration. 5,000-mile oil changes are working well for this engine, so just keep up the good work.

<b>ELEMENTS IN PARTS PER MILLION</b>	MI/HR on Oil	5,006	<b>UNIT / LOCATION AVERAGES</b>	5,000				<b>UNIVERSAL AVERAGES</b>
	MI/HR on Unit	39,996		35,000				
	Sample Date	6/12/2018		2/20/2018				
	Make Up Oil Added	0 qts		0 qts				
ALUMINUM	4	5	6				5	
CHROMIUM	1	1	1				1	
IRON	49	45	42				40	
COPPER	5	5	5				10	
LEAD	1	1	2				0	
TIN	0	1	0				1	
MOLYBDENUM	540	244	85				106	
NICKEL	1	1	1				1	
MANGANESE	5	4	3				5	
SILVER	0	0	0				0	
TITANIUM	0	0	0				2	
POTASSIUM	1	0	0				3	
BORON	51	81	63				67	
SILICON	11	10	9				7	
SODIUM	18	11	7				28	
CALCIUM	3340	2934	2376				2261	
MAGNESIUM	12	20	24				164	
PHOSPHORUS	1183	958	711				837	
ZINC	1303	1090	793				970	
BARIUM	0	0	0				0	

Values Should Be\*

<b>PROPERTIES</b>	SUS Viscosity @ 210°F	61.2	58-66	<b>54.7</b>			
	cSt Viscosity @ 100°C	10.56	9.7-12.2	<b>8.69</b>			
	Flashpoint in °F	385	>375	<b>355</b>			
	Fuel %	<0.5	<2.0	0.5			
	Antifreeze %	0.0	0.0	0.0			
	Water %	0.0	<0.1	0.0			
	Insolubles %	0.3	<0.6	0.2			
	TBN						
	TAN						
	ISO Code						

\* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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