

Report of the Month

This 2001 Mustang Bullit got significantly worse from 2016 to 2017.

What went wrong?

To learn more about where the elements are coming from, [click here](#).

ELEMENTS IN PARTS PER MILLION	MIHR on Oil	4,380	UNIT / LOCATION AVERAGES	4,105	UNIVERSAL AVERAGES
	MIHR on Unit	126,165		121,785	
	Sample Date	3/29/2017		5/1/2016	
	Make Up Oil Added	0 qts		0 qts	
	ALUMINUM	255		111	
CHROMIUM	2	2	1	1	
IRON	66	77	24	15	
COPPER	14	9	5	4	
LEAD	0	0	0	1	
TIN	0	1	4	1	
MOLYBDENUM	22	20	19	63	
NICKEL	2	1	1	1	
MANGANESE	1	1	0	3	
SILVER	0	0	0	0	
TITANIUM	1	0	0	1	
POTASSIUM	0	1	0	2	
BORON	74	69	82	55	
SILICON	55	115	32	15	
SODIUM	5	6	4	43	
CALCIUM	2429	2239	2215	2033	
MAGNESIUM	13	12	11	175	
PHOSPHORUS	761	713	716	711	
ZINC	895	789	764	833	
BARIUM	0	0	0	1	

Values
Should Be*

PROPERTIES	SUS Viscosity @ 210°F	53.6	58-65	53.4
	cSt Viscosity @ 100°C	8.37	9.7-11.9	8.30
	Flashpoint in °F	365	>375	385
	Fuel %	0.5	<2.0	<0.5
	Antifreeze %	0.0	0.0	0.0
	Water %	0.0	<0.1	0.0
	Insolubles %	0.2	<0.6	0.2
	TBN			
	TAN			
	ISO Code			

When we saw the metal in this sample, we called the owner to tell him about it. He reported that the engine was running great, no signs of a problem at all. The owner decided to run compression checks on the cylinders and every cylinder held for 30+ minutes between 200-207 psi across the board. A digital borescope suggested the cylinders were clean and still had cross hatches after 125,000 miles. This led the owner to disassembly for further diagnosis. After pulling the timing chain cover, he found the chain had deeply worn into the guide on the passenger side. He replaced the timing chain and gaskets, and the engine avoided a serious problem.