Report of the Month

What went wrong for this '07 Expedition's 5.4L V-8 engine? Take a look at the data, then read the caption below to see what happened.To learn more about where the elements are coming from, click here.

MI/HR on Oil	6,000	UNIT/			
MI/HR on Unit	121,922				UNIVERSAL AVERAGES
Sample Date	01/07/13	AVENAGES			
ALUMINUM	4	4			3
CHROME	5	5			1
IRON	106	106			19
COPPER	2	2			3
LEAD	0	0			0
TIN	3	3			1
MOLYBDENUM	72	72			74
NICKEL	1	1			1
POTASSIUM	2	2			2
BORON	45	45			60
SILICON	11	11			14
SODIUM	9	9			54
CALCIUM	1150	1150			2161
MAGNESIUM	738	738			107
PHOSPHORUS	730	730			713
ZINC	744	744			812
BARIUM	1	1			2
		Values Should Be*			
SUS Viscosity @210°F	52.3	48-57			
cSt Viscosity @ 100°C	7.98	6.7-9.7	 		
Flashpoint in °F	395	>355			

*THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

Typically chrome and iron are from a ring/cylinder interface, but in this case a rocker arm went bad. According to the owner, it got so hot that it turned the steel around the roller bearing blue. "When it went bad," he said, "it started beating on the camshaft and scored a lobe," which led to the high iron. When he got the engine disassembled, the cam looked like someone had taken 80 grit sandpaper to it. He got it fixed at the dealer and while the dealer couldn't tell him why it happened, they did say they've seen it before and it's relatively rare but that it does happen. All's well that ends well: the engine now runs beautifully.

Fuel %

Water %

TBN

TAN

ISO Code

Antifreeze %

Insolubles %

PROPERTIE(

< 0.5

0.0

0.0

0.3

2.7

<2.0

0.0

0.0

< 0.6

>1.0