Report of the Month

This 2004 Porsche Boxster's engine blew at Laguna Seca.
What went wrong?

To learn more about where the elements are coming from, click here.

ELEMENTS IN PARTS PER MILLION								
	MI/HR on Oil	7,000	UNIT/ LOCATION AVERAGES					UNIVERSAL AVERAGES
	MI/HR on Unit	116,000		110,000				
	Sample Date	1/28/2018		3/14/2015	5/24/2014			
	ALUMINUM	17	8	9	6			4
	CHROME	4	2	2	1			0
	IRON	51	23	30	16			9
	COPPER	24	16	19	12			7
	LEAD	91	5	7	3			2
	TIN	6	2	0	3			1
	MOLYBDENUM	2	12	6	17			61
	NICKEL	3	3	3	2			0
	POTASSIUM	3	1	2	0			2
	BORON	47	53	49	56			114
	SILICON	28	21	16	26			7
	SODIUM	11	11	13	8			12
	CALCIUM	2429	2656	2844	2468			2546
	MAGNESIUM	19	33	27	39			105
	PHOSPHORUS	914	851	878	824			891
	ZINC	1024	1035	1110	960			1030
	BARIUM	0	0	0	0			0

PROPERTIES							
	SUS Viscosity @210°F	64.1	56-63	63.3	67.4		
	cSt Viscosity @ 100°C	11.35	9.1-11.3	11.14	12.27		
	Flashpoint in °F	395	>375	385	410		
	Fuel %	<0.5	<2.0	<0.5	<0.5		
	Antifreeze %	0.0	0.0	0.0	0.0		
	Water %	0.0	<0.1	0.0	0.0		
	Insolubles %	0.2	<0.6	<0.3	<0.2		
	TBN						

We had emailed with the owner back in February when metals were increasing. He was worried about the IMS bearing (a notorious problem with these engines), but that shows up as high iron, and only after the bearing fails. Considering the high lead, we were leaning toward the problem being with a main or rod bearing. Then, at Laguna Seca this summer, the engine blew. The owner believes the high G situations on the track coupled with too-high tolerances in the rod bearings caused oil starvation, which led to a rod bearing failure.