BLACKSTONE LABORATORIES

OIL REPORT

[redacted]

UNIT

MAKE/MODEL: Differential Porsche
FUEL TYPE:
ADDITIONAL INFO: 2011 Cayenne Turbo

OIL TYPE & GRADE: 75W/90 Gear Lube
OIL USE INTERVAL: Miles

CLIENT

[redacted]

COMMENTS

JOOST: Based on the high metals and silicon we found in both differentials, we suspect this is probably the very first oil change for these units. With that in mind, the excess metal is probably wear-in combined with accumulation over a long oil run (averages are based on ~23,500 miles on the oil), with silicon coming from harmless sealers/lubes. Assuming all is well operationally, we'll just look for improvements in the highlighted elements going forward. The viscosity is reading thinner than a 75W/90-grade oil. The TAN shows some acidity. Check back in about 15,000 miles.

ELEMENTS IN PARTS PER MILLION

		UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
MI/HR on Oil								
MI/HR on Unit	71,457							
Sample Date	4/17/2023							
Make Up Oil Added								
ALUMINUM	**8**	6						3
CHROMIUM	3	2						1
IRON	**539**	356						74
COPPER	4	3						5
LEAD	0	0						1
TIN	1	1						0
MOLYBDENUM	356	509						13
NICKEL	1	1						1
MANGANESE	14	12						9
SILVER	0	0						0
TITANIUM	0	0						1
POTASSIUM	0	1						6
BORON	36	33						249
SILICON	**262**	176						15
SODIUM	5	6						8
CALCIUM	8	42						555
MAGNESIUM	0	0						349
PHOSPHORUS	2251	2531						1653
ZINC	414	582						256
BARIUM	1	2						4

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	**60.6**	67-80					
cSt Viscosity @ 100°C	**10.39**	12.2-15.8					
Flashpoint in °F	420	>370					
Fuel %	-						
Antifreeze %	-						
Water %	0.0	0.0					
Insolubles %	0.4	<0.6					
TBN							
TAN	3.4						
ISO Code							

*** THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE**

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com

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MAKE/MODEL: Differential Porsche
FUEL TYPE:
ADDITIONAL INFO: 2011 Cayenne Turbo

OIL TYPE & GRADE: 75W/90 Gear Lube
OIL USE INTERVAL: Miles

CLIENT

[redacted]

COMMENTS

JOOST: The rear differential's first sample contains excess metal and silicon just like the front, but as we mentioned in the other unit's report, this is likely wear-in (and build-up over a long oil run) and sealers that will wash out. The viscosity is thin on this side, too, and it wasn't the result of any measurable contamination, so it's not anything to be concerned about. The trace of insolubles show the oil wasn't heavily oxidized. The TAN read 3.3. We suggest a 15,000-mile run for the rear differential, too.

ELEMENTS IN PARTS PER MILLION

		UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
MI/HR on Oil								
MI/HR on Unit	71,457							
Sample Date	4/17/2023							
Make Up Oil Added								
ALUMINUM	4	6						3
CHROMIUM	1	2						1
IRON	**172**	356						74
COPPER	2	3						5
LEAD	0	0						1
TIN	1	1						0
MOLYBDENUM	662	509						13
NICKEL	1	1						1
MANGANESE	10	12						9
SILVER	0	0						0
TITANIUM	0	0						1
POTASSIUM	1	1						6
BORON	30	33						249
SILICON	**90**	176						15
SODIUM	6	6						8
CALCIUM	76	42						555
MAGNESIUM	0	0						349
PHOSPHORUS	2811	2531						1653
ZINC	749	582						256
BARIUM	2	2						4

PROPERTIES

		Values Should Be*					
SUS Viscosity @ 210°F	**60.5**	67-80					
cSt Viscosity @ 100°C	**10.36**	12.2-15.8					
Flashpoint in °F	415	>370					
Fuel %	-						
Antifreeze %	-						
Water %	0.0	0.0					
Insolubles %	TR	<0.6					
TBN							
TAN	3.3						
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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