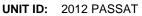
BLACKSTONE F	OIL
	REPORT
LABORATORIES	

LAB NUMBER: F97526 **REPORT DATE: 2/21/2014** CODE: 63/501



CLIENT ID: PAYMENT:

MAKE/MODEL: Volkswagen 2.0L TDI (Turbo) 2009+ FUEL TYPE: Diesel ADDITIONAL INFO:

OIL TYPE & GRADE: OIL USE INTERVAL:

Pentosin 507.00 5W/30 10,000 Miles

CLIENT

LINN

PHONE: (503) ROBERT F FAX: ALT PHONE: (503) EMAIL:

COMMENTS

BOB: We're not sure what you did differently for this oil run, but wear metals look much better this time. Aluminum and chrome were still high, so they're not out of the woods just yet, but these improvements are commendable. Copper dropped by 50%, so there's less wear at brass/bronze parts. Potassium read lower too, so we don't suspect any coolant contamination. It was probably from a compound in the emissions system. The oils physical properties were within spec and the TBN was good at 2.3. Hopefully these improvements continue in the next reports.

	MI/HR on Oil	10,000		10,000	10,000					
	MI/HR on Unit	70,000	UNIT / LOCATION AVERAGES	60,000	50,000			UNIVERSAL		
	Sample Date	01/31/14		10/01/13				AVERAGES		
	Make Up Oil Added	0 qts		0 qts	0 qts.					
				- 1.5						
MILLION	ALUMINUM	62	146	182	195			19		
	CHROMIUM	7	16	21	20			2		
	IRON	44	72	84	87			43		
	COPPER	9	13	18	13			8		
ER	LEAD	0	1	1	1			1		
٩	TIN	4	3	1	3			1		
TS	MOLYBDENUM	4	5	5	5			19		
Ř	NICKEL	1	2	3	3			1		
ΡA	MANGANESE	1	2	3	3			1		
NI S	SILVER	0	0	0	0			0		
	TITANIUM	1	1	1	1			1		
Ê	POTASSIUM	6	12	15	16			33		
Ш	BORON	1	2	2	3			21		
ELEMENTS	SILICON	3	4	5	5			5		
	SODIUM	3	3	3	3			3		
	CALCIUM	1518	1643	1722	1690			1513		
	MAGNESIUM	4	13	11	23			35		
	PHOSPHORUS	675	757	806	789			732		
	ZINC	704	860	906	969			861		
	BARIUM	0	0	0	0			0		
	Values									

		values								
Should Be*										
SUS Viscosity @ 210°F	63.7	57-65	64.9	65.5						
cSt Viscosity @ 100°C	11.24	9.4-11.9	11.57	11.76						
Flashpoint in °F	425	>410	420	425						
Fuel %	<0.5	<2.0	<0.5	<0.5						
Antifreeze %	0.0	0.0	?	?						
Water %	0.0	<0.1	0.0	0.0						
Insolubles %	0.4	<0.6	0.3	0.2						
TBN	2.3	>1.0	2.3	1.9						
TAN										
ISO Code										
	cSt Viscosity @ 100°C Flashpoint in °F Fuel % Antifreeze % Water % Insolubles % TBN TAN	cSt Viscosity @ 100°C 11.24 Flashpoint in °F 425 Fuel % <0.5	Should Be* SUS Viscosity @ 210°F 63.7 57-65 cSt Viscosity @ 100°C 11.24 9.4-11.9 Flashpoint in °F 425 >410 Fuel % <0.5	Should Be* SUS Viscosity @ 210°F 63.7 57-65 64.9 cSt Viscosity @ 100°C 11.24 9.4-11.9 11.57 Flashpoint in °F 425 >410 420 Fuel % <0.5	Should Be* SUS Viscosity @ 210°F 63.7 57-65 64.9 65.5 cSt Viscosity @ 100°C 11.24 9.4-11.9 11.57 11.76 Flashpoint in °F 425 >410 420 425 Fuel % <0.5	Should Be* SUS Viscosity @ 210°F 63.7 57-65 64.9 65.5 cSt Viscosity @ 100°C 11.24 9.4-11.9 11.57 11.76 Flashpoint in °F 425 >410 420 425 Fuel % <0.5	Should Be* SUS Viscosity @ 210°F 63.7 57-65 64.9 65.5 cSt Viscosity @ 100°C 11.24 9.4-11.9 11.57 11.76 Flashpoint in °F 425 >410 420 425 Fuel % <0.5			

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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LIABILITY LIMITED TO COST OF ANALYSIS