



NADINE URCIUOLI BIDLEMAN VOLVO PENTA 4012198396 - CENTER DIESEL ENGINE

Sample No: VPA051719
Oil Type: NOT GIVEN

SAMPLE INFORMAT	TION			
Sample Number		VPA051719	 	
Sample Date		09 Aug 2023	 	
Machine Hours		499	 	
Oil Hours		499	 	
Oil Changed		Not Changd	 	
Sample Status		ABNORMAL	 	
OIL CONDITION				
	.	A		
Visc @ 100°C	cSt	▲ 8.9	 	
Base Number (BN)	mg KOH/g	■8.3	 	
Oxidation (PA)	%	27	 	
CONTAMINATION				
Soot %	%	■0	 	
Nitration (PA)	%	50	 	
Sulfation (PA)	%	39	 	
Glycol	%	NEG	 	
Fuel	%	△ 5.2	 	
Silicon	ppm	14	 	
Sodium	ppm	■ 3	 	
Potassium	ppm	2	 	
WEAR METALS				
Iron	ppm	■ 8	 	
Copper	ppm	7	 	
Lead	ppm	1	 	
Tin	ppm		 	
Aluminum	ppm	3	 	
Chromium	ppm	■<1	 	
Molybdenum	ppm	■ <1	 	
Nickel	ppm	■ <1	 	
Titanium	ppm	■0	 	
Silver	ppm	0	 	
Manganese	ppm	<1	 	
Vanadium	ppm	0	 	
ADDITIVES	- PP-M			
Calcium	nnm	2629	 	
Magnesium	ppm	■ 2629		
Zinc	ppm	□ 1266	 	
Phosphorus	ppm	■ 1266 ■ 1093		
•	ppm		 	
Barium	ppm	□ 0 □ 22		
Boron	ppm	<u> </u>	 	

Helmuts Marine Service

619 Canal Street SAN RAFAEL, CA US 94901-3545 Contact: NADINE URCIUOLI SERVICE@HELMUTSMARINE.COM

T: x: F: x:

Diagnosis

We advise that you check the fuel injection system. Resample at the next service interval to monitor.All component wear rates are normal. Light fuel dilution occurring. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity.

Depot:VP152741Unique No:10605769Signed:Angela BorellaReport Date:18 Aug 2023





