## **OIL ANALYSIS REPORT**

### REMIEN VOLVO PENTA A296115 - STARBOARD DIESEL ENGINE

Sample No: VPA036764

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

Sample Number		VPA036764	VPA041215	 
Sample Date		06 Dec 2023	22 Feb 2023	 
Machine Hours		674	621	 
Oil Hours		0	0	 
Oil Changed		Changed	N/A	 
Sample Status		MARGINAL	NORMAL	 
OIL CONDITION				
Visc @ 100°C	cSt	<b>12.2</b>	13.38	 
Base Number (BN)	mg KOH/g	8.4	9.9	 
Oxidation (PA)	%	39	52	 
CONTAMINATION				
Water	%	NEG	NEG	 
Soot %	%	<b>0.1</b>	0.1	 
Nitration (PA)	%	38	48	 
Sulfation (PA)	%	45	49	 
Glycol	%	NEG	NEG	 
Fuel	%	2.8	<1.0	 
Silicon	ppm	6	5	 
Sodium	ppm	9	<b></b> <1	 
Potassium	ppm	<b>—</b> <1	3	 
WEAR METALS				
Iron	ppm	25	9	 
Copper	ppm	<b>4</b>	2	 
Lead	ppm	0	1	 
Tin	ppm	<b>  </b> <1	<b></b> <1	 
Aluminum	ppm	2	<b></b> < 1	 
Chromium	ppm	2	0	 
Molybdenum	ppm	<b>1</b> 7	53	 
Nickel	ppm	<b>■</b> <1	□ <1	 
Titanium	ppm	0	0	 
Silver	ppm		0	 
Manganese	ppm	■<1	□ <1	 
Vanadium	ppm	0	0	 
ADDITIVES				
Calcium	ppm	<b>1945</b>	1242	 
Magnesium	ppm	<b>194</b>	932	 
Zinc	ppm	908	1314	 
Phosphorus	ppm	804	1024	 
-				
Barium Boron	ppm ppm	<b>□</b> 0 <b>□</b> 19	□ 0 □ 11	 



Outstanding Marine PO Box 274 GALENA, MD JS 21635 Contact: Ronda Bolinger Hwb@verizon.net T:

#### Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

 Depot:
 VP153685

 Unique No:
 10781922

 Signed:
 Doug Bogart

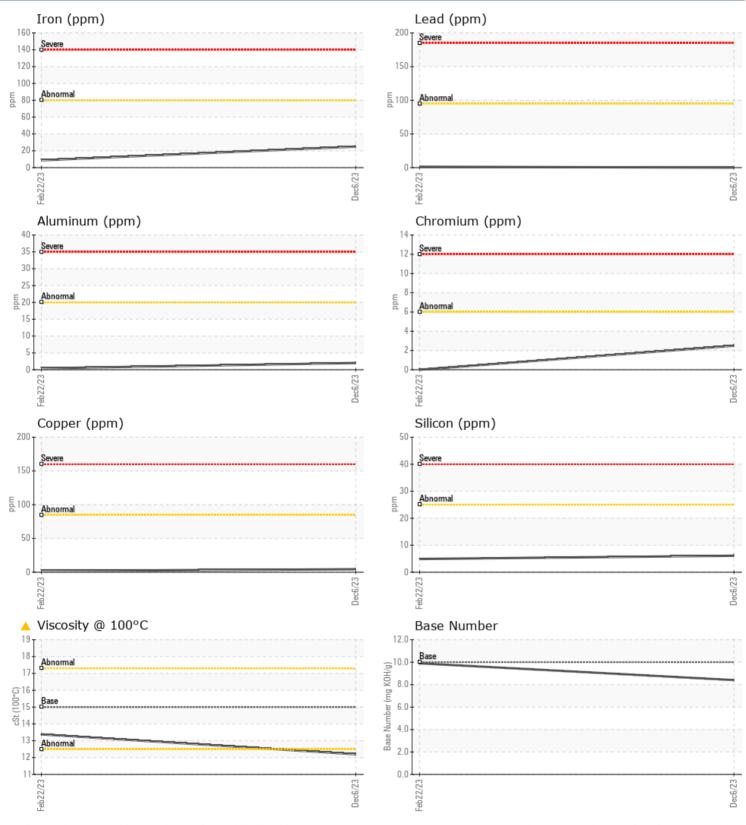
 Report Date:
 18 Dec 2023

Contact/Location: Ronda Bolinger - VP153685

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#### GRAPHS



Report Id: VP153685 [WUSCAR] 06032131 (Generated: 05/08/2024 09:40:06) Rev: 1

Contact/Location: Ronda Bolinger - VP153685