

# OIL ANALYSIS REPORT

**VOLVO  
PENTA**

## FURLONG JC 46436866 - STARBOARD DIESEL ENGINE

Sample No: VPA036986

Oil Type: SHELL ROTELLA T 15W40

### SAMPLE INFORMATION

Sample Number	VPA036986	VPA040834	VPA024349	VPA010364
Sample Date	30 Oct 2023	30 Nov 2021	31 Oct 2019	13 Nov 2018
Machine Hours	764	727	667	654
Oil Hours	0	60	13	47
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

### Point Judith Marina

360 Gooseberry Road  
WAKEFIELD, RI  
US 02879

Contact: MATT ST. ANGELO  
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### OIL CONDITION

Visc @ 100°C	cSt	14.5	14.7	14.5	15.04
Base Number (BN)	mg KOH/g	8.0	8.5	---	---
Oxidation (PA)	%	71	75	67	69

### CONTAMINATION

Soot %	%	0.2	0.3	0.1	0.2
Nitration (PA)	%	60	67	49	53
Sulfation (PA)	%	58	61	57	56
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	4	4	5	5
Sodium	ppm	13	3	4	5
Potassium	ppm	10	7	6	6

### WEAR METALS

Iron	ppm	32	38	15	26
Copper	ppm	5	7	2	5
Lead	ppm	1	2	<1	1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	5	11	6	21
Chromium	ppm	1	2	<1	2
Molybdenum	ppm	5	7	3	5
Nickel	ppm	2	2	<1	2
Titanium	ppm	<1	<1	<1	0
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	<1	0	0

### ADDITIVES

Calcium	ppm	2089	2437	2065	2018
Magnesium	ppm	23	27	10	10
Zinc	ppm	1107	1195	994	953
Phosphorus	ppm	1032	1053	909	845
Barium	ppm	5	0	0	0
Boron	ppm	187	176	156	102

### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: VP153811  
Unique No: 10728552  
Signed: Sean Felton  
Report Date: 08 Nov 2023

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## GRAPHS

