

OIL ANALYSIS REPORT



RICK KOLLE-NORDIC TUG NORTHERN LIGHTS 7732-52839 (S/N 7732.52839) - GENSET

Sample No: VPA036736
Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number	VPA036736	VPA043420	VPA043971	---
Sample Date	14 Dec 2023	01 Dec 2022	05 Dec 2021	---
Machine Hours	1214	936	752	---
Oil Hours	1214	936	752	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---

Larry's Lighthouse Marina
 1250
 AQUEBOGUE, NY
 US 11931
 Contact: MAX FUHLBRUGGE
 info@lighthousemarina.com
 T: x
 F: x

OIL CONDITION

Visc @ 100°C	cSt	13.7	13.4	14.3	---
Base Number (BN)	mg KOH/g	7.1	10.6	8.10	---
Oxidation (PA)	%	64	47	72	---

CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	0.1	0.1	0.1	---
Nitration (PA)	%	54	48	55	---
Sulfation (PA)	%	55	47	59	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	5	5	5	---
Sodium	ppm	2	<1	2	---
Potassium	ppm	6	3	7	---

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 acceptable for the time in service.

WEAR METALS

Iron	ppm	6	5	7	---
Copper	ppm	3	3	2	---
Lead	ppm	2	<1	<1	---
Tin	ppm	<1	<1	<1	---
Aluminum	ppm	2	2	2	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	9	37	<1	---
Nickel	ppm	0	<1	0	---
Titanium	ppm	0	<1	0	---
Silver	ppm	0	0	<1	---
Manganese	ppm	0	<1	<1	---
Vanadium	ppm	<1	<1	0	---

ADDITIVES

Calcium	ppm	1960	1513	2261	---
Magnesium	ppm	209	1001	16	---
Zinc	ppm	1226	1411	1209	---
Phosphorus	ppm	971	1057	974	---
Barium	ppm	0	0	0	---
Boron	ppm	137	44	191	---

Depot: VP610438
Unique No: 10843049
Signed: Angela Borella
Report Date: 23 Jan 2024

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**VOLVO
PENTA**

GRAPHS

