

OIL ANALYSIS REPORT

**VOLVO
PENTA**

SCOTT WINKELMAN 42146 1012619642 (S/N NOT GIVEN) - STARBOARD DIESEL ENGINE

Sample No: VPA044848

Oil Type: DIESEL ENGINE OIL SAE 15W40

SAMPLE INFORMATION

Sample Number	VPA044848	---	---	---
Sample Date	06 Jul 2023	---	---	---
Machine Hours	3094	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Changd	---	---	---
Sample Status	NORMAL	---	---	---

INTERSTATE POWER SYSTEMS

2901 E 78TH ST
MINNEAPOLIS, MN
US 55425

Contact: BRADY GARBRECHT
brady.garbrecht@istate.com

T:
F:

OIL CONDITION

Visc @ 100°C	cSt	█ 13.9	---	---	---
Base Number (BN)	mg KOH/g	█ 7.9	---	---	---
Oxidation (PA)	%	56	---	---	---

CONTAMINATION

Soot %	%	█ 0.2	---	---	---
Nitration (PA)	%	67	---	---	---
Sulfation (PA)	%	50	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	< 1.0	---	---	---
Silicon	ppm	█ 3	---	---	---
Sodium	ppm	█ 1	---	---	---
Potassium	ppm	█ 4	---	---	---

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	█ 4	---	---	---
Copper	ppm	█ 1	---	---	---
Lead	ppm	█ < 1	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 3	---	---	---
Chromium	ppm	█ 0	---	---	---
Molybdenum	ppm	█ 72	---	---	---
Nickel	ppm	█ < 1	---	---	---
Titanium	ppm	█ < 1	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	█ < 1	---	---	---
Vanadium	ppm	< 1	---	---	---

ADDITIVES

Calcium	ppm	█ 1974	---	---	---
Magnesium	ppm	█ 148	---	---	---
Zinc	ppm	█ 1142	---	---	---
Phosphorus	ppm	█ 922	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 71	---	---	---

Depot: VP1103105
Unique No: 10550559
Signed: Don Baldrige
Report Date: 12 Jul 2023

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GRAPHS

