

OIL ANALYSIS REPORT

VOLVO PENTA

WINDSERVE VOLVO PENTA 10132167580 - STARBOARD DIESEL ENGINE

Sample No: VPA045091
Oil Type: VOLVO PENTA SAE 15W40

SAMPLE INFORMATION

Sample Number	VPA045091	VPA046657	VPA045095	---
Sample Date	20 Aug 2023	20 Aug 2023	18 Aug 2023	---
Machine Hours	1	0	1	---
Oil Hours	1	7	1	---
Oil Changed	Not Changed	Changed	Changed	---
Sample Status	ABNORMAL	---	---	---

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 US 02852
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OIL CONDITION

Visc @ 100°C	cSt	12.88	12.95	12.95	---
Base Number (BN)	mg KOH/g	9.8	9.9	10.0	---
Oxidation (PA)	%	72	72	72	---

CONTAMINATION

Soot %	%	0	0	0	---
Nitration (PA)	%	43	43	43	---
Sulfation (PA)	%	56	57	56	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	17	16	16	---
Sodium	ppm	3	3	3	---
Potassium	ppm	3	3	3	---

WEAR METALS

Iron	ppm	2	2	2	---
Copper	ppm	2	2	2	---
Lead	ppm	0	0	0	---
Tin	ppm	<1	<1	<1	---
Aluminum	ppm	0	0	0	---
Chromium	ppm	0	0	0	---
Molybdenum	ppm	45	44	44	---
Nickel	ppm	0	0	0	---
Titanium	ppm	<1	<1	<1	---
Silver	ppm	0	0	0	---
Manganese	ppm	1	1	1	---
Vanadium	ppm	<1	<1	<1	---

ADDITIVES

Calcium	ppm	1763	1740	1725	---
Magnesium	ppm	397	394	389	---
Zinc	ppm	1088	1073	1069	---
Phosphorus	ppm	897	882	885	---
Barium	ppm	0	0	0	---
Boron	ppm	77	77	76	---

Diagnosis

The filter change at the time of sampling has been noted. All component wear rates are normal. There is a high amount of particulates present in the oil. The condition of the oil is acceptable for the time in service.

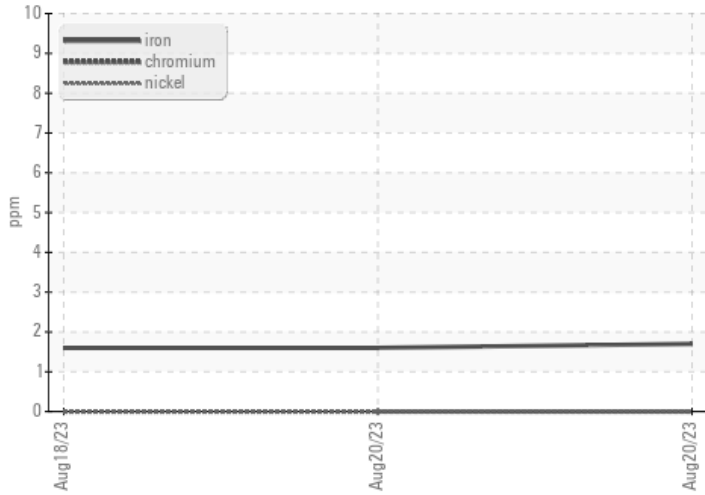
Depot: VPSENNOR
Unique No: 10609072
Signed: Doug Bogart
Report Date: 21 Aug 2023

OIL ANALYSIS REPORT

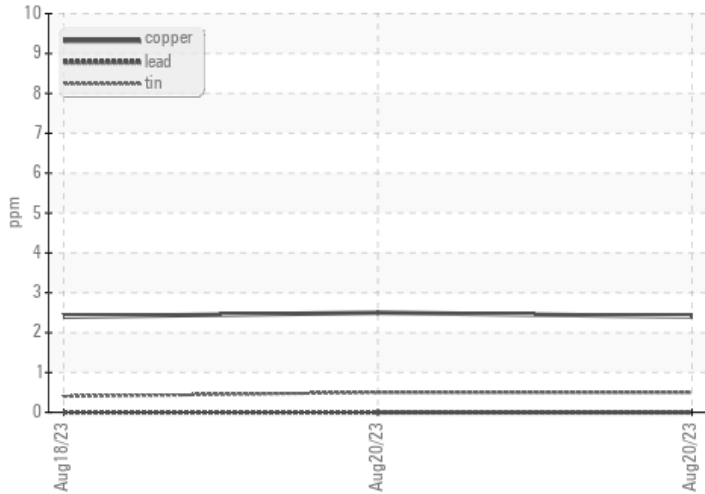
VOLVO PENTA

GRAPHS

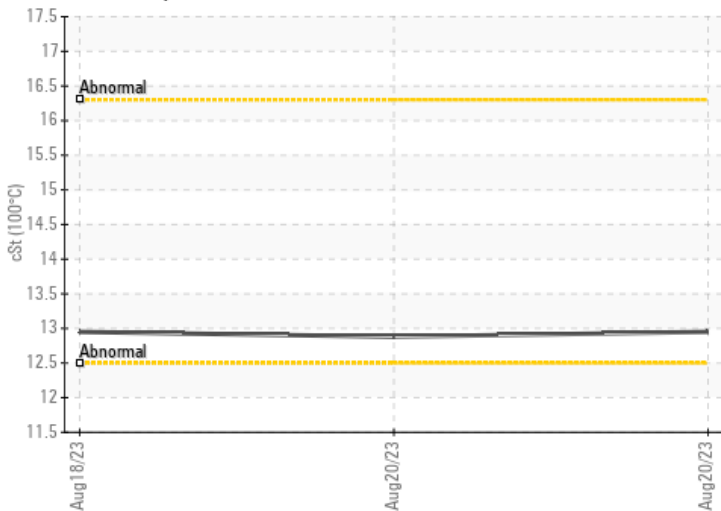
Ferrous Alloys



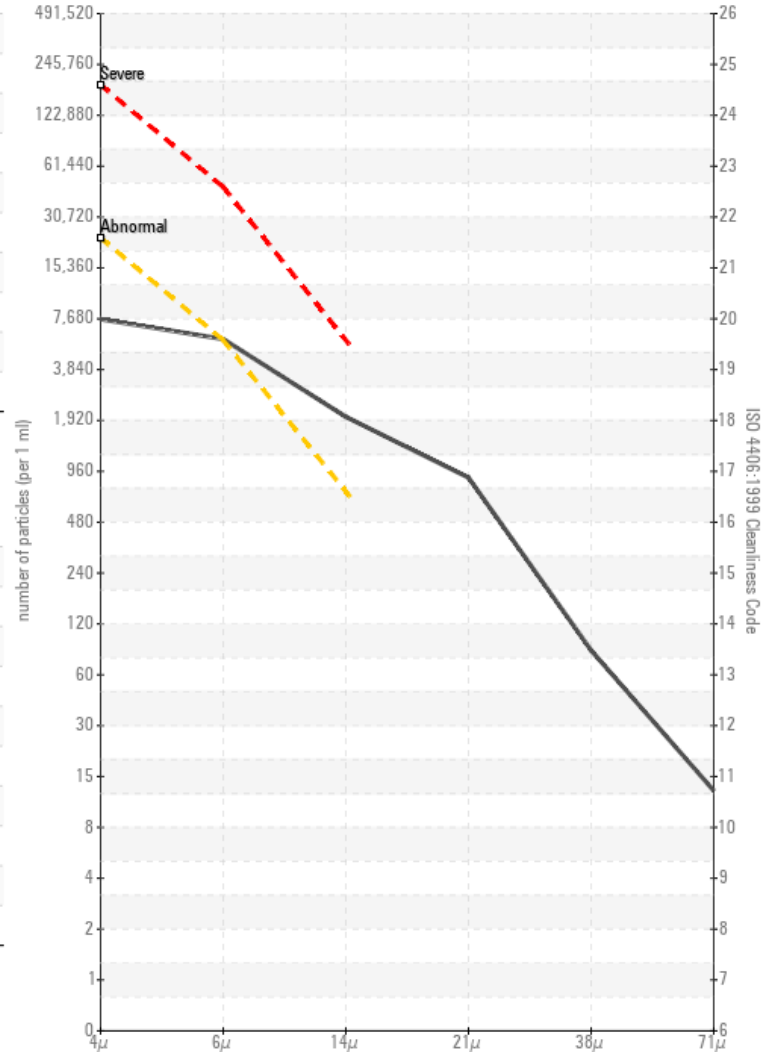
Non-ferrous Metals



Viscosity @ 100°C



Particle Count



Base Number

