OIL ANALYSIS REPORT

VOLVO PENTA

CHARLIE WICKERS PATRICK/502926-5250 VOLVO PENTA A1148150 - STARBOARD DIESEL ENGINE

Sample No: VPA061980

Oil Type: VOLVO VDS-4.5 Premium Motor Oil 15W40

SAMPLE INFORMATION

Sample Number		**VPA061980**	VPA060247	---	---
Sample Date		**16 Apr 2024**	21 Feb 2024	---	---
Machine Hours		**215**	194	---	---
Oil Hours		**0**	75	---	---
Oil Changed		**Changed**	Not Changd	---	---
Sample Status		**NORMAL**	NORMAL	---	---

OIL CONDITION

Visc @ 100°C	cSt	**13.5**	13.5	---	---
Base Number (BN)	mg KOH/g	**9.2**	9.6	---	---
Oxidation (PA)	%	**63**	63	---	---

CONTAMINATION

Water	%	**NEG**	NEG	---	---
Soot %	%	**0.3**	0.3	---	---
Nitration (PA)	%	**45**	44	---	---
Sulfation (PA)	%	**63**	62	---	---
Glycol	%	**NEG**	NEG	---	---
Fuel	%	**<1.0**	<1.0	---	---
Silicon	ppm	**9**	10	---	---
Sodium	ppm	**2**	2	---	---
Potassium	ppm	**0**	1	---	---

WEAR METALS

Iron	ppm	**13**	13	---	---
Copper	ppm	**5**	5	---	---
Lead	ppm	**2**	2	---	---
Tin	ppm	**<1**	1	---	---
Aluminum	ppm	**4**	5	---	---
Chromium	ppm	**<1**	<1	---	---
Molybdenum	ppm	**106**	117	---	---
Nickel	ppm	**0**	1	---	---
Titanium	ppm	**<1**	<1	---	---
Silver	ppm	**0**	0	---	---
Manganese	ppm	**<1**	<1	---	---
Vanadium	ppm	**<1**	0	---	---

ADDITIVES

Calcium	ppm	**1514**	1463	---	---
Magnesium	ppm	**582**	645	---	---
Zinc	ppm	**796**	909	---	---
Phosphorus	ppm	**722**	752	---	---
Barium	ppm	**0**	0	---	---
Boron	ppm	**303**	284	---	---

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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.

Depot: VP794951
Unique No: 10990920
Signed: Sean Felton
Report Date: 24 Apr 2024

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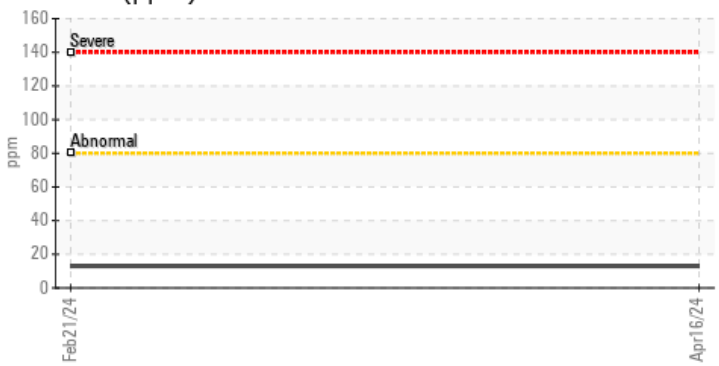
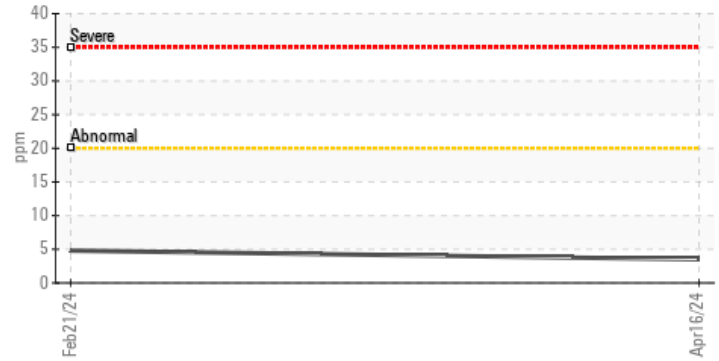
GRAPHS

Iron (ppm)

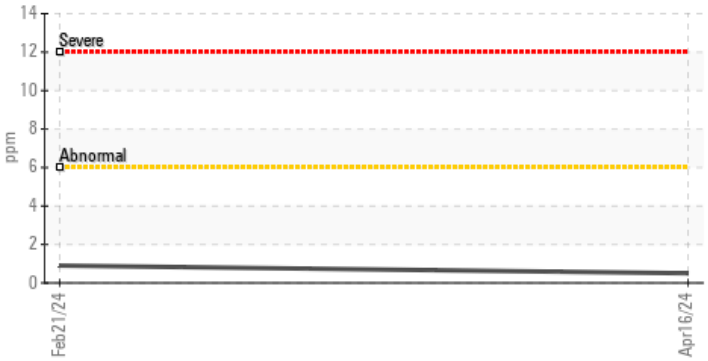


Lead (ppm)

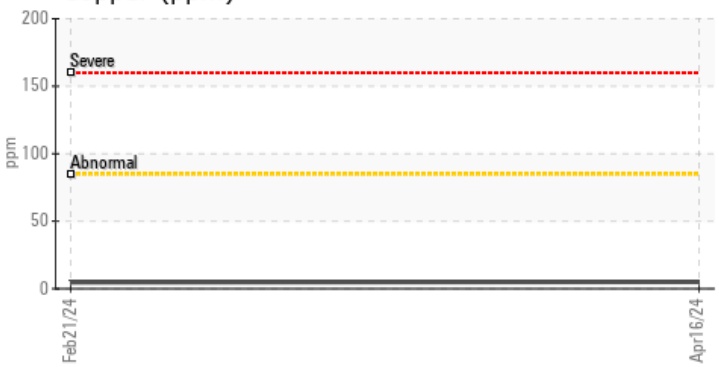
Aluminum (ppm)



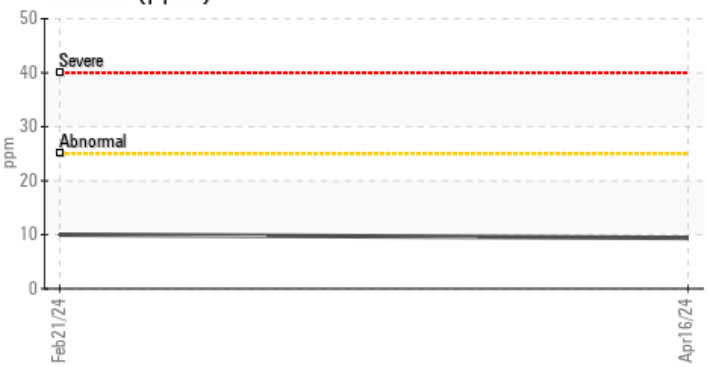
Chromium (ppm)



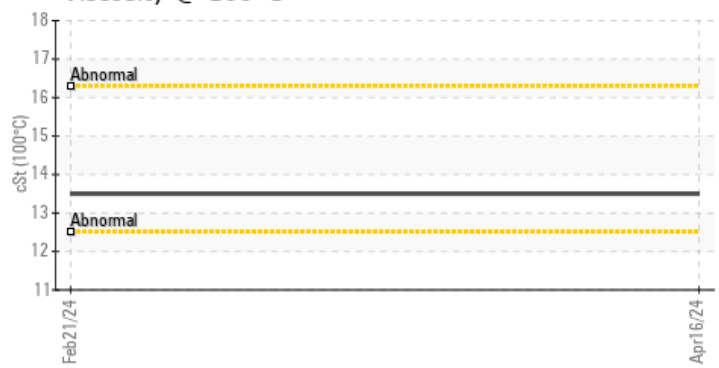
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number