OIL ANALYSIS REPORT

VOLVO PENTA

GROFF JC VOLVO PENTA A510254 - PORT DIESEL ENGINE

Sample No: VPA021993

Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number		**VPA021993**	VPA040675	---	---
Sample Date		**14 Dec 2023**	21 Jun 2022	---	---
Machine Hours		**517**	400	---	---
Oil Hours		**67**	18	---	---
Oil Changed		**Changed**	Not Changd	---	---
Sample Status		**NORMAL**	NORMAL	---	---

OIL CONDITION

Visc @ 100°C	cSt	**14.1**	13.8	---	---
Base Number (BN)	mg KOH/g	**8.6**	10.1	---	---
Oxidation (PA)	%	**62**	59	---	---

CONTAMINATION

Water	%	**NEG**	NEG	---	---
Soot %	%	**0.2**	0.1	---	---
Nitration (PA)	%	**48**	45	---	---
Sulfation (PA)	%	**55**	54	---	---
Glycol	%	**NEG**	NEG	---	---
Fuel	%	**<1.0**	<1.0	---	---
Silicon	ppm	**5**	4	---	---
Sodium	ppm	**<1**	1	---	---
Potassium	ppm	**7**	3	---	---

WEAR METALS

Iron	ppm	**10**	4	---	---
Copper	ppm	**3**	2	---	---
Lead	ppm	**<1**	<1	---	---
Tin	ppm	**<1**	<1	---	---
Aluminum	ppm	**2**	<1	---	---
Chromium	ppm	**<1**	<1	---	---
Molybdenum	ppm	**13**	41	---	---
Nickel	ppm	**<1**	<1	---	---
Titanium	ppm	**<1**	0	---	---
Silver	ppm	**0**	<1	---	---
Manganese	ppm	**<1**	<1	---	---
Vanadium	ppm	**<1**	0	---	---

ADDITIVES

Calcium	ppm	**1942**	1390	---	---
Magnesium	ppm	**215**	694	---	---
Zinc	ppm	**1256**	1251	---	---
Phosphorus	ppm	**1026**	985	---	---
Barium	ppm	**0**	0	---	---
Boron	ppm	**152**	55	---	---

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T:
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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 suitable for further service.

Depot: VP153685
Unique No: 10816282
Signed: Don Baldridge
Report Date: 04 Jan 2024

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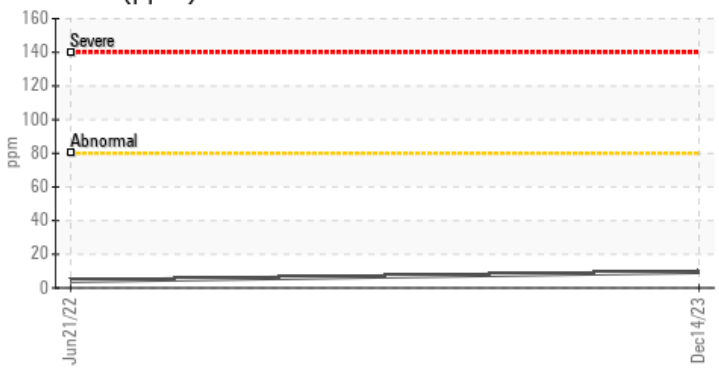
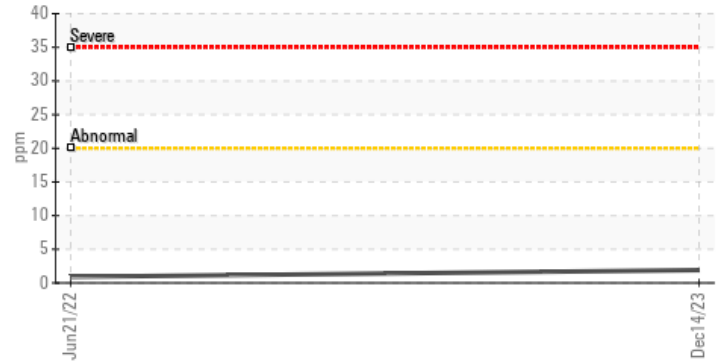
GRAPHS

Iron (ppm)



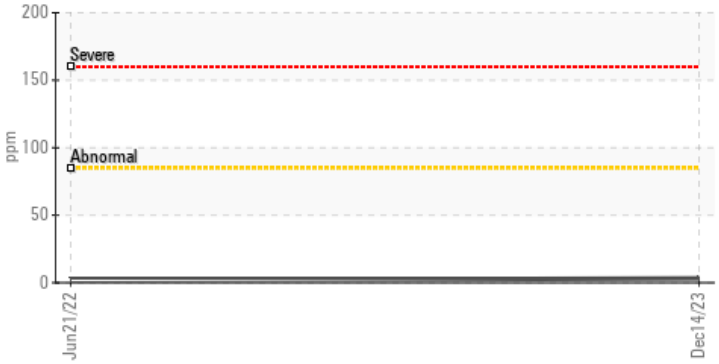
Lead (ppm)

Aluminum (ppm)



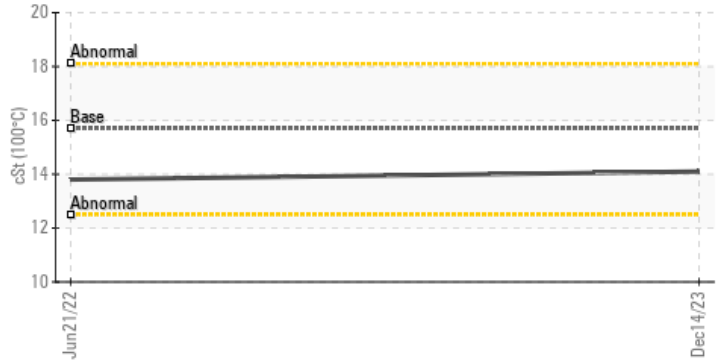
Chromium (ppm)

Copper (ppm)



Silicon (ppm)

Viscosity @ 100°C



Base Number