CONSTRUCTION EQUIPMENT

SWA420381 VOLVO EC480 315263 - DIESEL ENGINE

Sample No: VCP433343
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SWA420381

Phillips & Jordan
PO BOX 2295
Zephyrhills, FL
US 33539-2295
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SAMPLE INFORMATION

Sample Number		**VCP433343**	---	---	---
Sample Date		**27 Nov 2023**	---	---	---
Machine Hours		**868**	---	---	---
Oil Hours		**0**	---	---	---
Oil Changed		**Changed**	---	---	---
Sample Status		**ABNORMAL**	---	---	---

OIL CONDITION

Visc @ 100°C	cSt	▲ **10.9**	---	---	---
Base Number (BN)	mg KOH/g	**4.2**	---	---	---
Oxidation (PA)	%	**76**	---	---	---

CONTAMINATION

Water	%	**NEG**	---	---	---
Soot %	%	**0.2**	---	---	---
Nitration (PA)	%	**92**	---	---	---
Sulfation (PA)	%	**65**	---	---	---
Glycol	%	**NEG**	---	---	---
Fuel	%	**0.6**	---	---	---
Silicon	ppm	**34**	---	---	---
Sodium	ppm	**3**	---	---	---
Potassium	ppm	**4**	---	---	---

WEAR METALS

Iron	ppm	**19**	---	---	---
Copper	ppm	▲ **218**	---	---	---
Lead	ppm	**0**	---	---	---
Tin	ppm	**2**	---	---	---
Aluminum	ppm	**3**	---	---	---
Chromium	ppm	**<1**	---	---	---
Molybdenum	ppm	**93**	---	---	---
Nickel	ppm	**<1**	---	---	---
Titanium	ppm	**0**	---	---	---
Silver	ppm	**0**	---	---	---
Manganese	ppm	**2**	---	---	---
Vanadium	ppm	**0**	---	---	---

ADDITIVES

Calcium	ppm	**2201**	---	---	---
Magnesium	ppm	**66**	---	---	---
Zinc	ppm	**1191**	---	---	---
Phosphorus	ppm	**937**	---	---	---
Barium	ppm	**0**	---	---	---
Boron	ppm	**2**	---	---	---

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

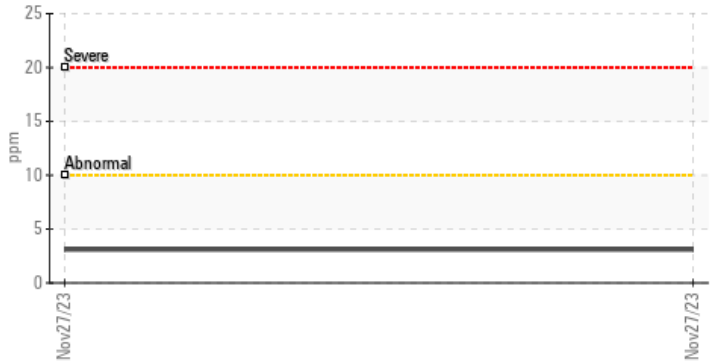
Depot: PHIZEP
Unique No: 10779639
Signed: Jonathan Hester
Report Date: 18 Dec 2023

GRAPHS

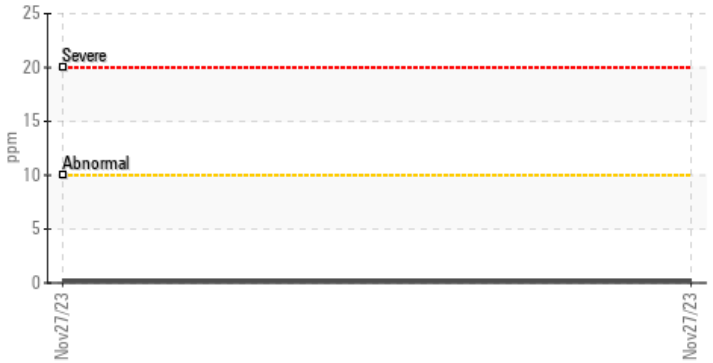
Iron (ppm)

Lead (ppm)

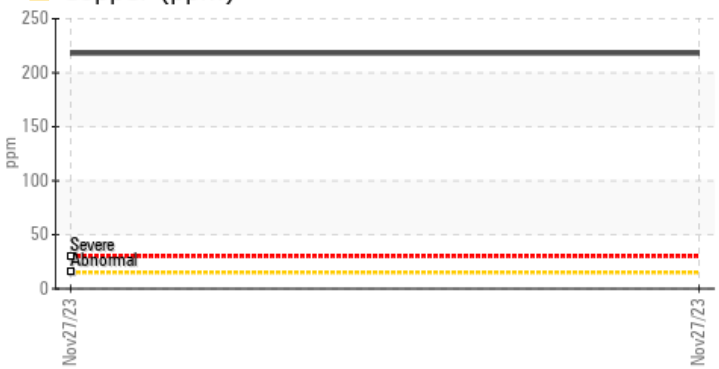
Aluminum (ppm)



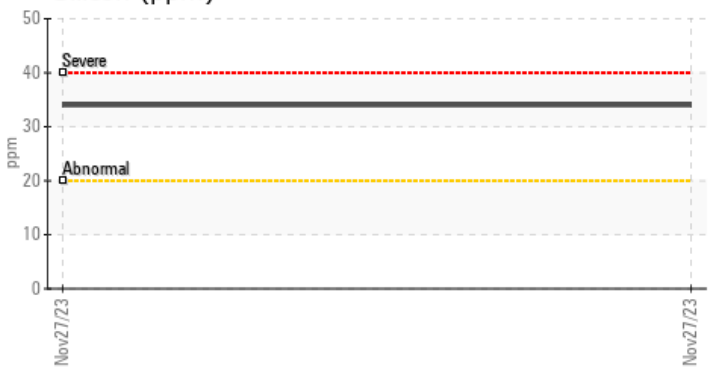
Chromium (ppm)



▲ Copper (ppm)



Silicon (ppm)



▲ Viscosity @ 100°C

Base Number