



# CONSTRUCTION EQUIPMENT

SWA316463-10 VOLVO L220F 6214 - DIESEL ENGINE



**Sample No:** VCP418952  
**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40  
**Job No:** SWA316463-10



## SAMPLE INFORMATION

Sample Number	<b>VCP418952</b>	VCP328255	VCP321447	VCP323105
Sample Date	<b>03 Aug 2023</b>	12 Oct 2021	07 Sep 2021	03 Aug 2021
Machine Hours	<b>34165</b>	33000	32750	32500
Oil Hours	<b>0</b>	250	250	250
Oil Changed	<b>Not Changed</b>	Changed	Changed	Changed
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	ATTENTION

**WHEELBRATOR**  
 1 CHARLES POINT AVE  
 PEEKSKILL, NY  
 US 10566  
 Contact: Service Manager

## OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 11.5</b>	■ 12.2	■ 12.0	<b>▲ 11.8</b>
Base Number (BN)	mg KOH/g	<b>■ 7.9</b>	---	---	---
Oxidation (PA)	%	<b>77</b>	86	82	89

T:  
F:

## Diagnosis

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

## CONTAMINATION

Water	%	---	---	---	■ 0.111
Soot %	%	<b>■ 0.5</b>	■ 0.2	■ 0.2	■ 0.3
Nitration (PA)	%	<b>68</b>	57	53	69
Sulfation (PA)	%	<b>60</b>	65	63	67
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>▲ 7.4</b>	<1.0	<1.0	<b>▲ 3.3</b>
Silicon	ppm	<b>■ 16</b>	■ 8	■ 4	■ 8
Sodium	ppm	<b>■ 5</b>	■ 3	■ 2	■ 2
Potassium	ppm	<b>■ 0</b>	■ 0	■ 0	■ <1

## WEAR METALS

Iron	ppm	<b>■ 12</b>	■ 3	■ 2	■ 4
Copper	ppm	<b>■ 2</b>	■ <1	■ <1	■ <1
Lead	ppm	<b>■ 2</b>	■ 1	■ <1	■ <1
Tin	ppm	<b>■ &lt;1</b>	■ 0	■ <1	■ <1
Aluminum	ppm	<b>■ 2</b>	■ 1	■ <1	■ <1
Chromium	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ <1
Molybdenum	ppm	<b>■ 54</b>	■ 36	■ 39	■ 39
Nickel	ppm	<b>■ 0</b>	■ <1	■ 0	■ <1
Titanium	ppm	<b>0</b>	<1	0	<1
Silver	ppm	<b>■ 0</b>	0	1	<1
Manganese	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ <1
Vanadium	ppm	<b>&lt;1</b>	0	0	0

## ADDITIVES

Calcium	ppm	<b>■ 1342</b>	■ 1702	■ 1750	■ 1552
Magnesium	ppm	<b>■ 645</b>	■ 482	■ 505	■ 473
Zinc	ppm	<b>■ 1098</b>	■ 1098	■ 1155	■ 1021
Phosphorus	ppm	<b>■ 928</b>	■ 879	■ 961	■ 870
Barium	ppm	<b>■ 0</b>	■ 0	■ 0	■ 0
Boron	ppm	<b>■ 57</b>	49	■ 54	■ 58

**Depot:** WHEPEE  
**Unique No:** 10617101  
**Signed:** Wes Davis  
**Report Date:** 25 Aug 2023



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## VOLVO GRAPHS

