



# CONSTRUCTION EQUIPMENT

CITY OF TAMPA VOLVO L180H 5423 - DIESEL ENGINE



**Sample No:** VCP436031  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** CITY OF TAMPA



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## SAMPLE INFORMATION

Sample Number	<b>VCP436031</b>	VCP414635	VCP364326	VCP374610
Sample Date	<b>10 Oct 2023</b>	15 Aug 2023	11 Aug 2022	14 Jun 2022
Machine Hours	<b>9167</b>	8689	5393	4707
Oil Hours	<b>0</b>	500	500	1500
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	ABNORMAL	NORMAL	NORMAL



## OIL CONDITION

Visc @ 100°C	cSt	<b>12.9</b>	12.8	13.2	13.2
Base Number (BN)	mg KOH/g	<b>10.0</b>	---	11.4	10.5
Oxidation (PA)	%	<b>78</b>	89	88	80



## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.2</b>	0.3	0.2	0.2
Nitration (PA)	%	<b>58</b>	84	60	65
Sulfation (PA)	%	<b>59</b>	63	67	63
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>10</b>	▲ 22	8	12
Sodium	ppm	<b>0</b>	2	3	2
Potassium	ppm	<b>1</b>	0	0	1



## WEAR METALS

Iron	ppm	<b>3</b>	9	4	5
Copper	ppm	<b>&lt;1</b>	4	2	11
Lead	ppm	<b>0</b>	<1	<1	<1
Tin	ppm	<b>0</b>	<1	<1	<1
Aluminum	ppm	<b>1</b>	2	1	1
Chromium	ppm	<b>&lt;1</b>	<1	<1	<1
Molybdenum	ppm	<b>40</b>	46	42	47
Nickel	ppm	<b>0</b>	0	0	0
Titanium	ppm	<b>0</b>	0	0	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0



## ADDITIVES

Calcium	ppm	<b>1624</b>	1773	1795	1562
Magnesium	ppm	<b>477</b>	544	537	529
Zinc	ppm	<b>1042</b>	1141	1200	1138
Phosphorus	ppm	<b>843</b>	930	975	939
Barium	ppm	<b>2</b>	0	0	0
Boron	ppm	<b>30</b>	8	47	28

## 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:** VOLVO0093  
**Unique No:** 10776009  
**Signed:** Wes Davis  
**Report Date:** 07 Dec 2023



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## GRAPHS

