



# CONSTRUCTION EQUIPMENT

MWO000310-1 FREIGHTLINER M2 EDFYN7858 (S/N 3ALACWDT2EDFYN858) DIESEL ENGINE



**Sample No:** VCP414567  
**Oil Type:** VALVOLINE 15W40  
**Job No:** MWO000310-1



## SAMPLE INFORMATION

Sample Number	<b>VCP414567</b>	VCP414544	VCP409423	VCP287612
Sample Date	<b>01 Dec 2023</b>	25 Sep 2023	31 Jul 2023	10 Aug 2020
Machine Hours	<b>12636</b>	11462	150914	9069
Oil Hours	<b>0</b>	0	0	0
Oil Changed	<b>N/A</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	ABNORMAL	NORMAL

**MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND**  
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## OIL CONDITION

Visc @ 100°C	cSt	<b>13.6</b>	13.8	13.7	13.6
Base Number (BN)	mg KOH/g	<b>8.5</b>	8.4	6.7	---
Oxidation (PA)	%	<b>73</b>	75	66	96

## 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.



## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.6</b>	0.6	0.6	0.7
Nitration (PA)	%	<b>81</b>	86	78	100
Sulfation (PA)	%	<b>58</b>	59	54	63
Glycol	%	<b>NEG</b>	0.0	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>5</b>	5	6	5
Sodium	ppm	<b>103</b>	141	169	4
Potassium	ppm	<b>37</b>	52	80	6



## WEAR METALS

Iron	ppm	<b>16</b>	19	41	20
Copper	ppm	<b>&lt;1</b>	<1	2	<1
Lead	ppm	<b>0</b>	<1	0	<1
Tin	ppm	<b>0</b>	<1	<1	<1
Aluminum	ppm	<b>1</b>	2	6	4
Chromium	ppm	<b>&lt;1</b>	<1	2	<1
Molybdenum	ppm	<b>55</b>	56	57	35
Nickel	ppm	<b>0</b>	0	<1	<1
Titanium	ppm	<b>&lt;1</b>	0	<1	0
Silver	ppm	<b>0</b>	0	<1	0
Manganese	ppm	<b>0</b>	<1	1	<1
Vanadium	ppm	<b>0</b>	<1	<1	0



## ADDITIVES

Calcium	ppm	<b>1222</b>	1363	1275	1636
Magnesium	ppm	<b>741</b>	822	807	441
Zinc	ppm	<b>892</b>	981	923	773
Phosphorus	ppm	<b>755</b>	786	735	692
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>27</b>	23	21	22

**Depot:** VOLVO8882  
**Unique No:** 10769482  
**Signed:** Jonathan Hester  
**Report Date:** 11 Dec 2023



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## VOLVO GRAPHS

