



# CONSTRUCTION EQUIPMENT

## VOLVO L90H 624818 - DIESEL ENGINE



**Sample No:** VCP446314  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP446314</b>	VCP452250	VCP416360	VCP415939
Sample Date	<b>01 Jul 2024</b>	30 Jan 2024	04 Oct 2023	05 Jun 2023
Machine Hours	<b>4539</b>	4037	3598	3023
Oil Hours	<b>0</b>	0	0	500
Oil Changed	<b>Changed</b>	N/A	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	ABNORMAL

**RIPA AND ASSOCIATES**  
 10149 FISHER AVENUE  
 TAMPA, FL  
 US 33619  
 Contact: PM Services  
 PMServices@ripaconstruction.com  
 T:  
 F:



### OIL CONDITION

Visc @ 100°C	cSt	<b>12.9</b>	12.6	12.8	13.4
Base Number (BN)	mg KOH/g	<b>10.1</b>	10.5	10.8	11.3
Oxidation (PA)	%	<b>78</b>	76	81	83

### 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>0.3</b>	0.3	0.5	0.5
Nitration (PA)	%	<b>60</b>	56	63	70
Sulfation (PA)	%	<b>58</b>	59	61	61
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>6</b>	6	6	8
Sodium	ppm	<b>2</b>	0	2	2
Potassium	ppm	<b>3</b>	2	2	<1



### WEAR METALS

Iron	ppm	<b>9</b>	13	10	14
Copper	ppm	<b>2</b>	<1	1	<1
Lead	ppm	<b>&lt;1</b>	0	<1	0
Tin	ppm	<b>&lt;1</b>	0	<1	<1
Aluminum	ppm	<b>9</b>	6	9	▲ 18
Chromium	ppm	<b>&lt;1</b>	<1	<1	<1
Molybdenum	ppm	<b>42</b>	38	39	38
Nickel	ppm	<b>0</b>	0	0	0
Titanium	ppm	<b>0</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	0	<1	<1
Vanadium	ppm	<b>0</b>	0	0	<1



### ADDITIVES

Calcium	ppm	<b>1796</b>	1741	1544	1602
Magnesium	ppm	<b>511</b>	486	487	486
Zinc	ppm	<b>1180</b>	1138	1061	1044
Phosphorus	ppm	<b>997</b>	872	896	865
Barium	ppm	<b>0</b>	5	0	0
Boron	ppm	<b>42</b>	43	41	33

**Depot:** RIPTAM  
**Unique No:** 1113271  
**Signed:** Wes Davis  
**Report Date:** 09 Jul 2024

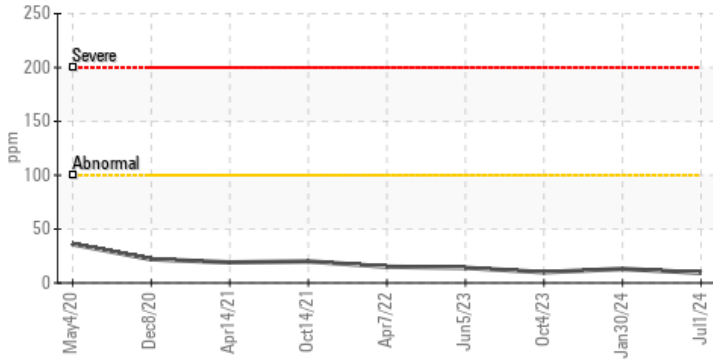


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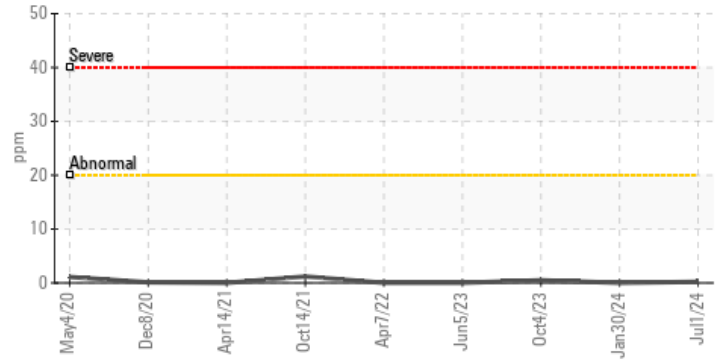


## GRAPHS

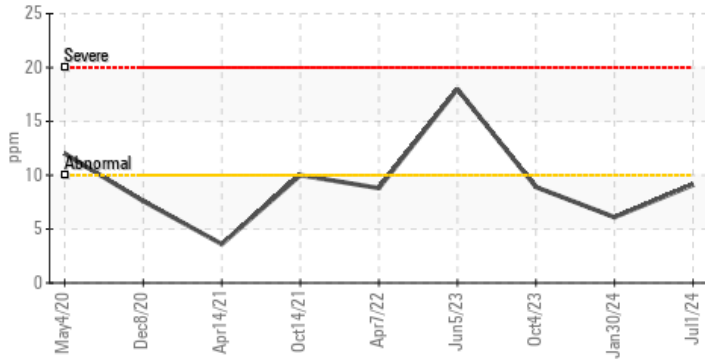
### Iron (ppm)



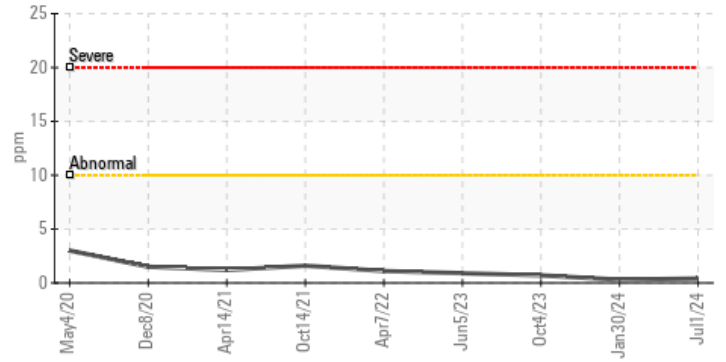
### Lead (ppm)



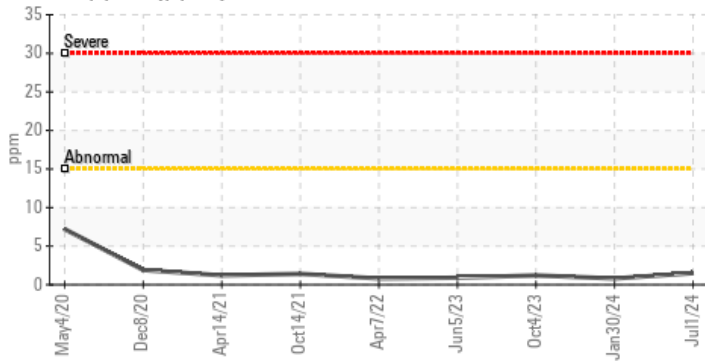
### Aluminum (ppm)



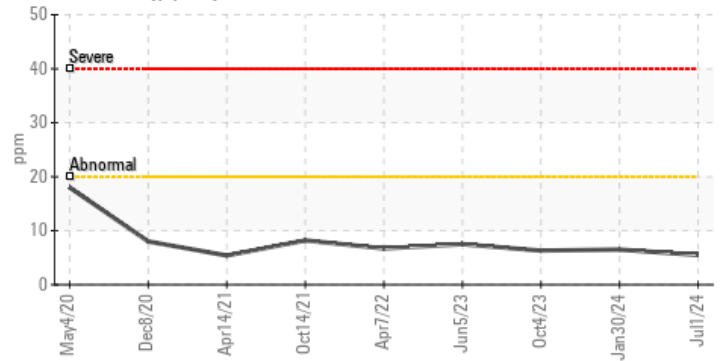
### Chromium (ppm)



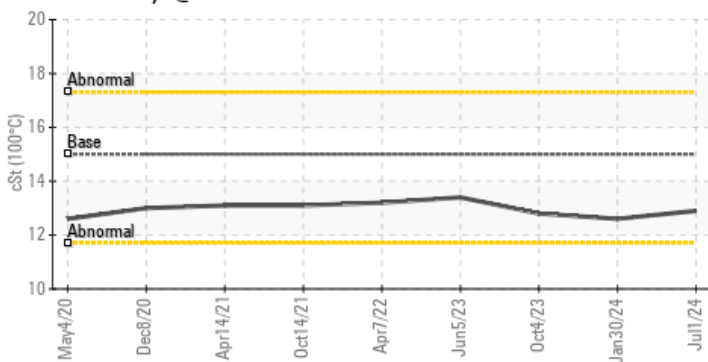
### Copper (ppm)



### Silicon (ppm)



### Viscosity @ 100°C



### Base Number

