



# CONSTRUCTION EQUIPMENT

## VOLVO L90H 624034 - DIESEL ENGINE



**Sample No:** VCP443039  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP443039</b>	VCP378031	VCP343532	VCP322131
Sample Date	<b>11 Jun 2024</b>	21 Jun 2022	16 Nov 2021	16 Jun 2021
Machine Hours	<b>6477</b>	5006	4308	3692
Oil Hours	<b>0</b>	1500	500	500
Oil Changed	<b>Changed</b>	Changed	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>13.3</b>	13.2	13.5	13.6
Base Number (BN)	mg KOH/g	<b>10.2</b>	11.4	---	---
Oxidation (PA)	%	<b>80</b>	88	84	82

### 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 acceptable for the time in service.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	▲ 0.106
Soot %	%	<b>0.4</b>	0.6	0.4	0.5
Nitration (PA)	%	<b>59</b>	78	71	76
Sulfation (PA)	%	<b>61</b>	64	63	63
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>5</b>	8	7	6
Sodium	ppm	<b>0</b>	2	4	3
Potassium	ppm	<b>2</b>	1	1	3



### WEAR METALS

Iron	ppm	<b>9</b>	13	14	15
Copper	ppm	<b>5</b>	1	1	2
Lead	ppm	<b>&lt;1</b>	0	0	<1
Tin	ppm	<b>&lt;1</b>	<1	<1	<1
Aluminum	ppm	<b>9</b>	15	11	6
Chromium	ppm	<b>&lt;1</b>	<1	1	<1
Molybdenum	ppm	<b>42</b>	48	40	44
Nickel	ppm	<b>&lt;1</b>	0	<1	<1
Titanium	ppm	<b>&lt;1</b>	<1	<1	<1
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>0</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1581</b>	1695	1694	1562
Magnesium	ppm	<b>511</b>	480	530	561
Zinc	ppm	<b>1084</b>	1122	1077	1051
Phosphorus	ppm	<b>854</b>	928	952	936
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>28</b>	33	25	36

**Depot:** RIPTAM  
**Unique No:** 11077109  
**Signed:** Don Baldrige  
**Report Date:** 17 Jun 2024

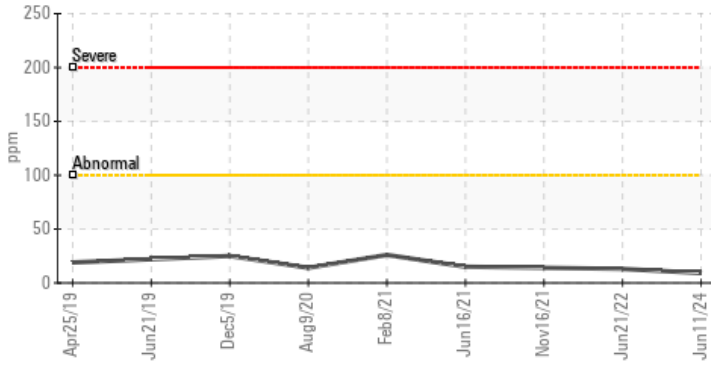


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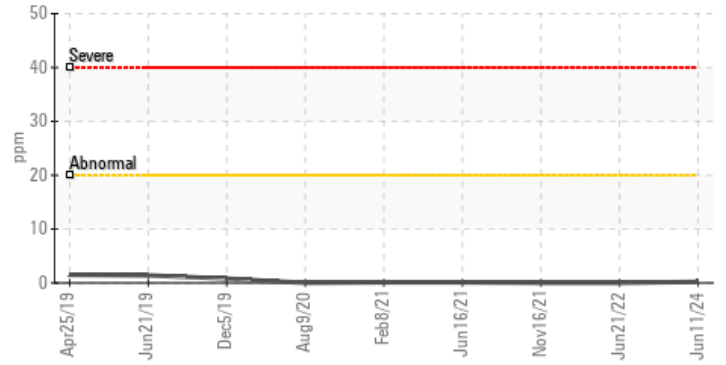


## GRAPHS

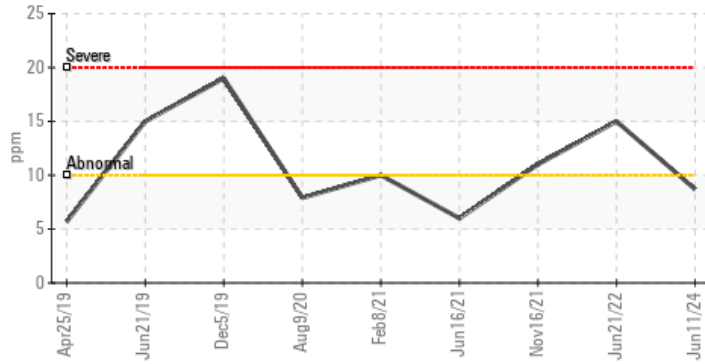
### Iron (ppm)



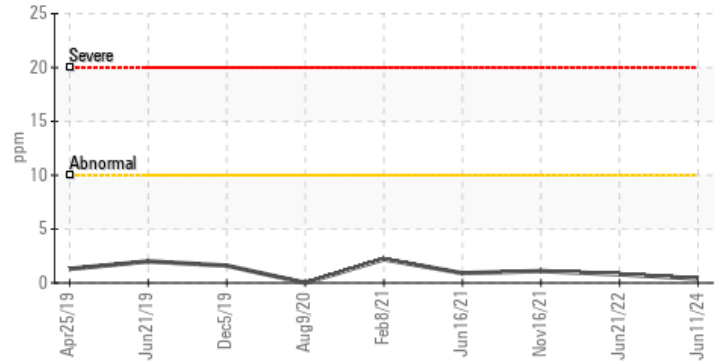
### Lead (ppm)



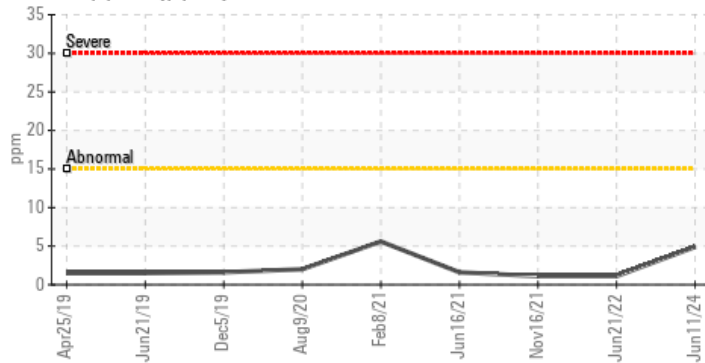
### Aluminum (ppm)



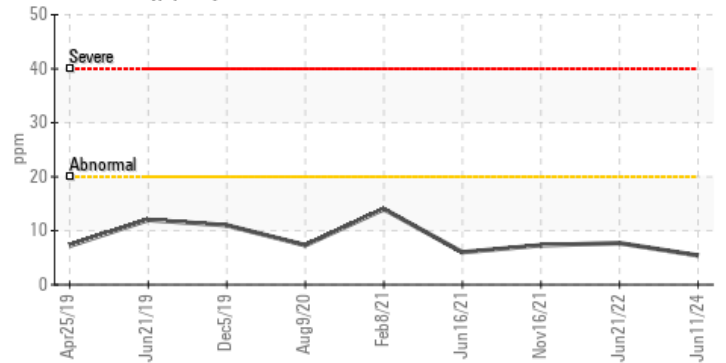
### Chromium (ppm)



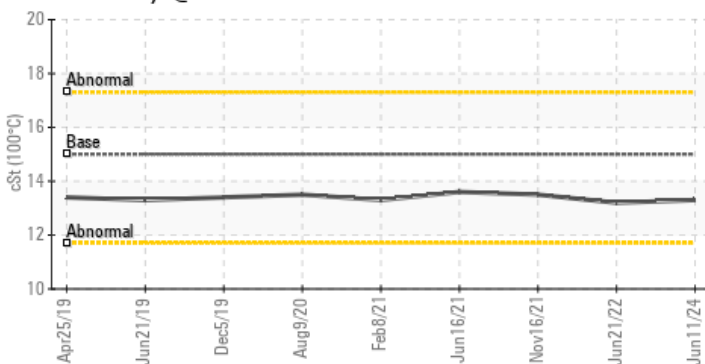
### Copper (ppm)



### Silicon (ppm)



### Viscosity @ 100°C



### Base Number

