



# CONSTRUCTION EQUIPMENT

D13189 YANMAR 4TNV88-BDSA2 I3194 - DIESEL ENGINE



**Sample No:** VCP418681  
**Oil Type:** {unknown}  
**Job No:** D13189



## SAMPLE INFORMATION

Sample Number	VCP418681	---	---	---
Sample Date	02 Jan 2024	---	---	---
Machine Hours	1292	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	SEVERE	---	---	---

ARING EQUIPMENT COMPANY INC - MAIN (MILWAUKEE)  
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US 53007  
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T: (262)282-0715  
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## OIL CONDITION

Visc @ 100°C	cSt	4.6	---	---	---
Base Number (BN)	mg KOH/g	7.8	---	---	---
Oxidation (PA)	%	37	---	---	---



## CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	0.3	---	---	---
Nitration (PA)	%	60	---	---	---
Sulfation (PA)	%	40	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	41.3	---	---	---
Silicon	ppm	7	---	---	---
Sodium	ppm	0	---	---	---
Potassium	ppm	2	---	---	---



## WEAR METALS

Iron	ppm	9	---	---	---
Copper	ppm	<1	---	---	---
Lead	ppm	0	---	---	---
Tin	ppm	0	---	---	---
Aluminum	ppm	3	---	---	---
Chromium	ppm	<1	---	---	---
Molybdenum	ppm	38	---	---	---
Nickel	ppm	0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	0	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	944	---	---	---
Magnesium	ppm	46	---	---	---
Zinc	ppm	540	---	---	---
Phosphorus	ppm	624	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	60	---	---	---

## Diagnosis

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a very high amount of fuel present 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.

**Depot:** VOLVO0069  
**Unique No:** 10821658  
**Signed:** Don Baldrige  
**Report Date:** 14 Jan 2024

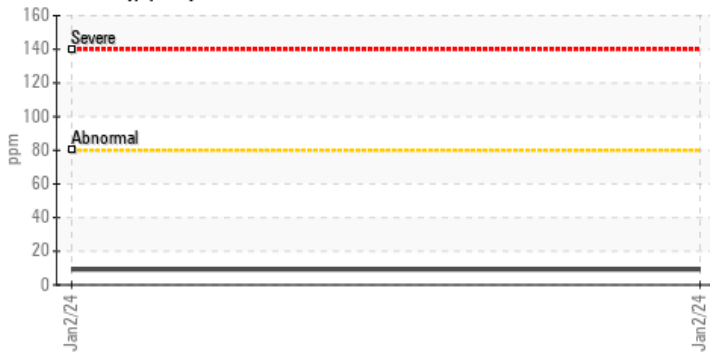


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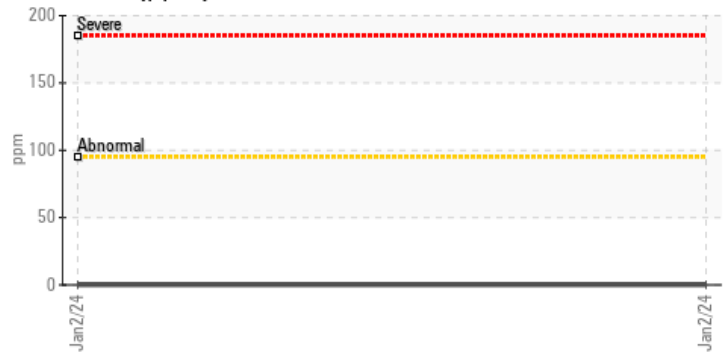


## GRAPHS

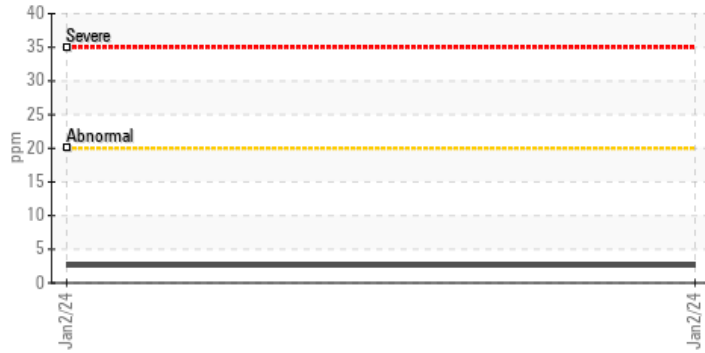
### Iron (ppm)



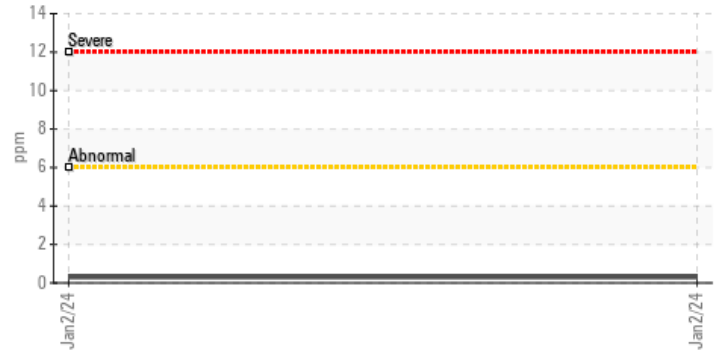
### Lead (ppm)



### Aluminum (ppm)



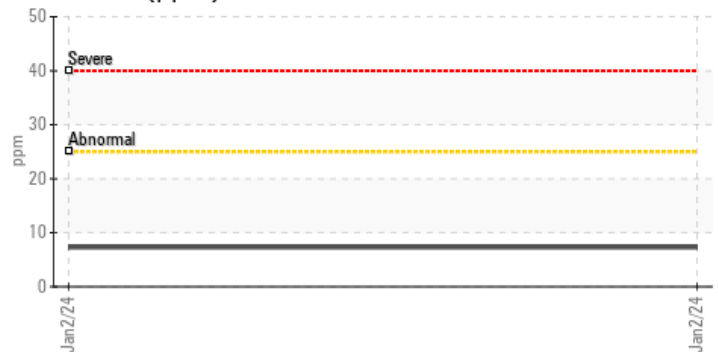
### Chromium (ppm)



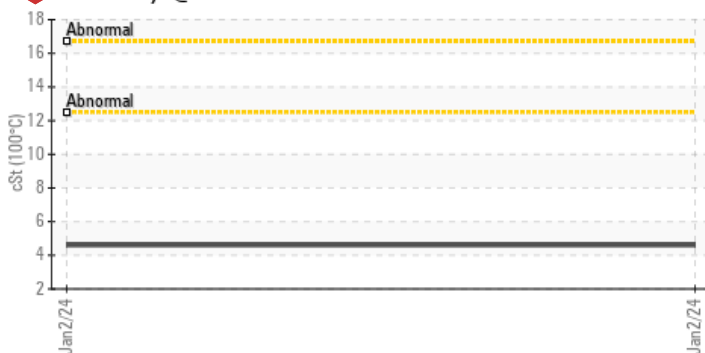
### Copper (ppm)



### Silicon (ppm)



### Viscosity @ 100°C



### Base Number

