



# CONSTRUCTION EQUIPMENT

## VOLVO EC220EL 3 10484 - HYDRAULIC SYSTEM



**Sample No:** VCP428556  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP428556</b>	VCP372475	VCP306438	---
Sample Date	<b>27 Feb 2024</b>	24 May 2022	01 Feb 2021	---
Machine Hours	<b>2440</b>	1935	1354	---
Oil Hours	<b>0</b>	1935	1354	---
Oil Changed	<b>Not Changd</b>	Changed	Not Changd	---
Sample Status	<b>NORMAL</b>	ABNORMAL	NORMAL	---

### RIPA AND ASSOCIATES

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



### OIL CONDITION

Visc @ 40°C	cSt	<b>44.2</b>	44.2	48.3	---
Acid Number (AN)	mg KOH/g	<b>0.33</b>	0.36	0.181	---



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Particles >4µm		<b>9786</b>	▲ 146208	■ 32345	---
Particles >6µm		<b>1491</b>	▲ 31124	■ 1405	---
Particles >14µm		<b>62</b>	■ 44	■ 41	---
ISO 4406:1999 (c)		<b>20/18/13</b>	24/22/13	22/18/13	---
Silicon	ppm	<b>8</b>	■ 18	■ 30	---
Sodium	ppm	<b>&lt;1</b>	■ <1	■ 0	---
Potassium	ppm	<b>0</b>	■ 0	■ 0	---

### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



### WEAR METALS

Iron	ppm	<b>8</b>	■ 15	■ 4	---
Copper	ppm	<b>19</b>	■ 30	■ 29	---
Lead	ppm	<b>0</b>	■ <1	■ <1	---
Tin	ppm	<b>0</b>	<1	0	---
Aluminum	ppm	<b>&lt;1</b>	■ 4	■ 0	---
Chromium	ppm	<b>0</b>	■ <1	■ <1	---
Molybdenum	ppm	<b>&lt;1</b>	■ 1	■ <1	---
Nickel	ppm	<b>0</b>	■ 0	■ 0	---
Titanium	ppm	<b>0</b>	0	0	---
Silver	ppm	<b>0</b>	<1	0	---
Manganese	ppm	<b>0</b>	■ <1	■ <1	---
Vanadium	ppm	<b>0</b>	0	0	---



### ADDITIVES

Calcium	ppm	<b>21</b>	■ 74	■ 82	---
Magnesium	ppm	<b>2</b>	■ <1	■ 2	---
Zinc	ppm	<b>386</b>	■ 422	■ 425	---
Phosphorus	ppm	<b>333</b>	■ 356	■ 344	---
Barium	ppm	<b>0</b>	■ 0	■ 0	---
Boron	ppm	<b>0</b>	■ 1	■ <1	---

**Depot:** RIPTAM  
**Unique No:** 11018645  
**Signed:** Wes Davis  
**Report Date:** 09 May 2024

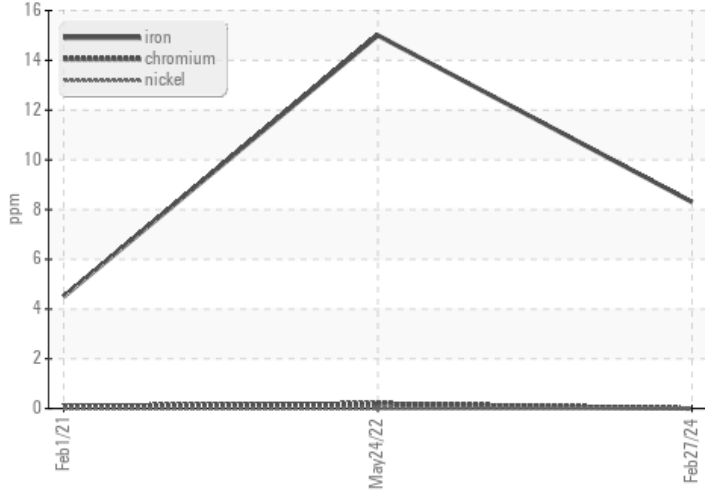


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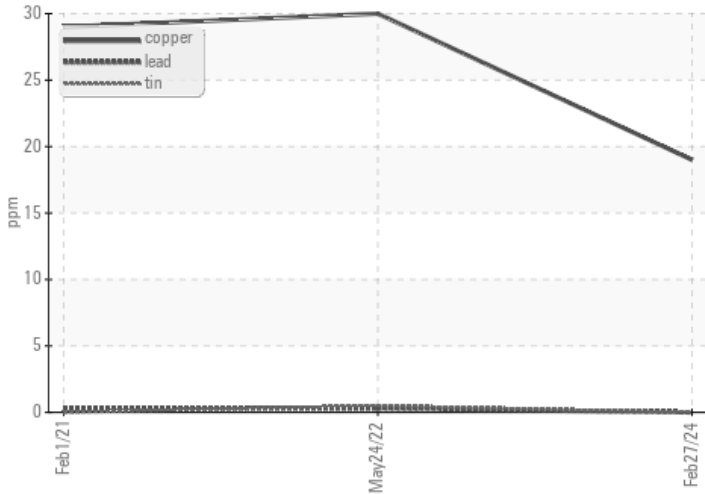


## GRAPHS

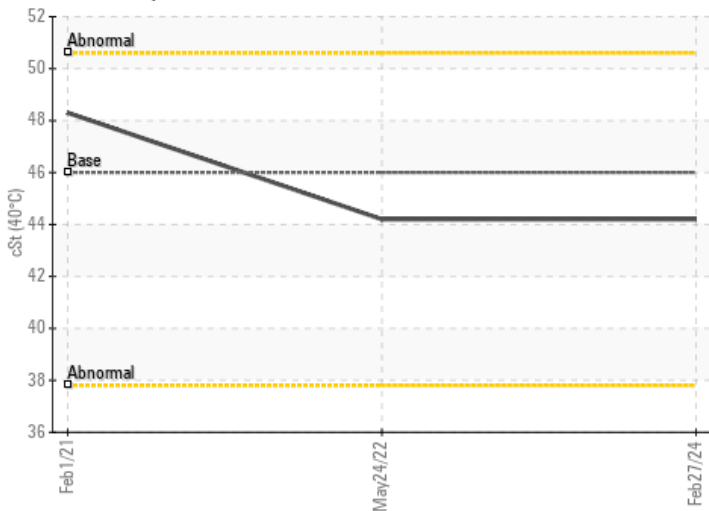
### Ferrous Alloys



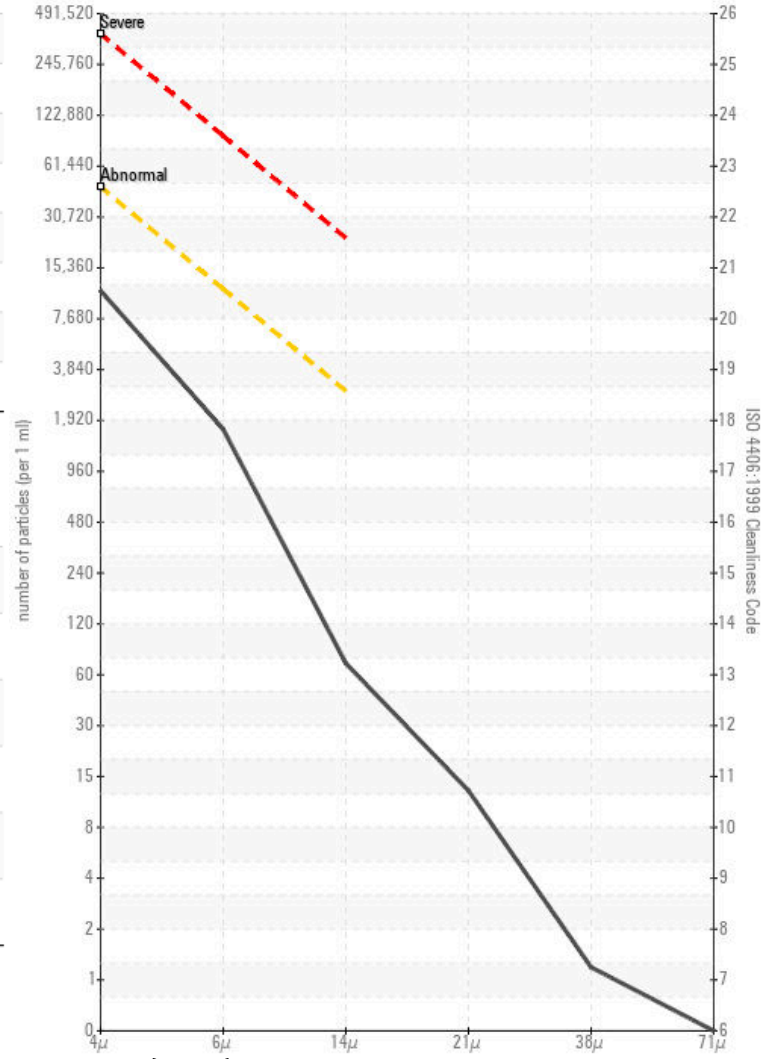
### Non-ferrous Metals



### Viscosity @ 40°C



### Particle Count



### Acid Number

