



# CONSTRUCTION EQUIPMENT

SWO782500 KOMATSU PC490LC A40410 - DIESEL ENGINE



**Sample No:** VCP311707  
**Oil Type:** DIESEL ENGINE OIL SAE 15W40  
**Job No:** SWO782500



## SAMPLE INFORMATION

Sample Number	VCP311707	---	---	---
Sample Date	03 Dec 2021	---	---	---
Machine Hours	4736	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

**ALTA EQUIPMENT CO - ORLAND PARK**  
 5000 INDUSTRIAL HWY  
 GARY, IN  
 US 46406  
 Contact: MARK DEROSA  
 mark.derosa@altg.com  
 T: (248)356-5200  
 F:



## OIL CONDITION

Visc @ 100°C	cSt	█ 13.7	---	---	---
Base Number (BN)	mg KOH/g	█ 9.6	---	---	---
Oxidation (PA)	%	67	---	---	---

## 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	%	NEG	---	---	---
Soot %	%	█ 0.1	---	---	---
Nitration (PA)	%	47	---	---	---
Sulfation (PA)	%	57	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	█ 4	---	---	---
Sodium	ppm	█ 3	---	---	---
Potassium	ppm	█ 6	---	---	---



## WEAR METALS

Iron	ppm	█ 41	---	---	---
Copper	ppm	█ 6	---	---	---
Lead	ppm	█ 2	---	---	---
Tin	ppm	█ <1	---	---	---
Aluminum	ppm	█ <1	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ 2	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	█ 0	---	---	---
Silver	ppm	█ <1	---	---	---
Manganese	ppm	█ <1	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	█ 2168	---	---	---
Magnesium	ppm	█ 19	---	---	---
Zinc	ppm	█ 1154	---	---	---
Phosphorus	ppm	█ 1013	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 193	---	---	---

**Depot:** VOLVO8885  
**Unique No:** 9775049  
**Signed:** Wes Davis  
**Report Date:** 14 Dec 2021

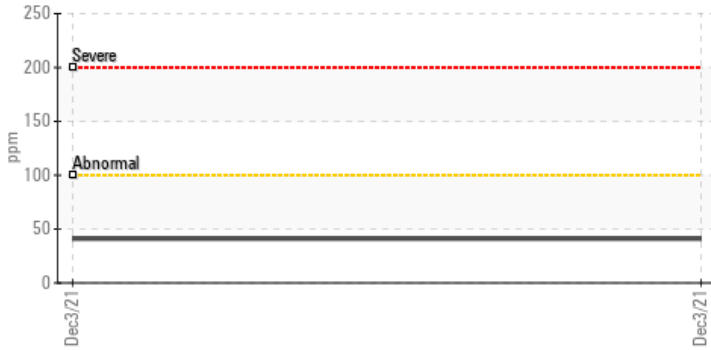


# CONSTRUCTION EQUIPMENT



## GRAPHS

### Iron (ppm)



### Lead (ppm)



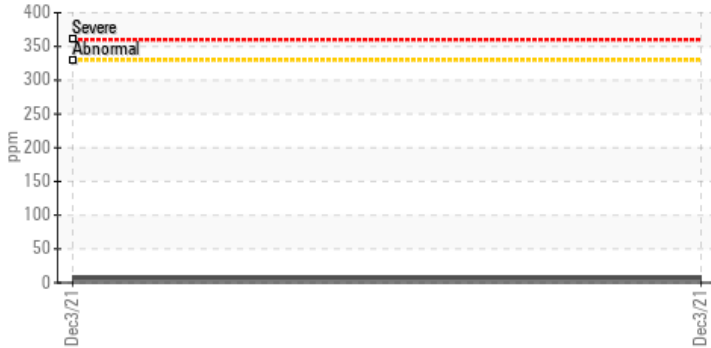
### Aluminum (ppm)



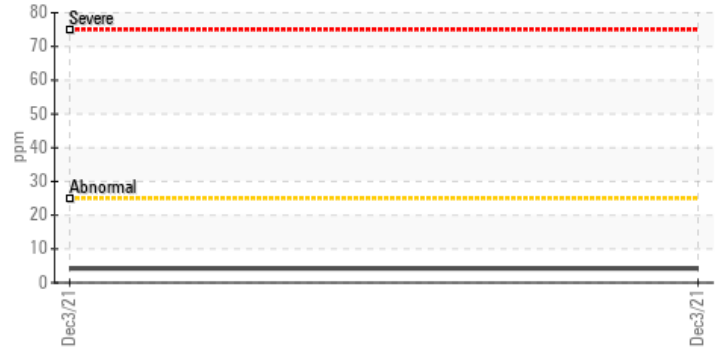
### Chromium (ppm)



### Copper (ppm)



### Silicon (ppm)



### Viscosity @ 100°C



### Base Number





# CONSTRUCTION EQUIPMENT

## SWO782500 ACQUA KOMATSU PC490LC A40410 - HYDRAULIC SYSTEM



**Sample No:** VCP05421147  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** SWO782500 ACQUA



### SAMPLE INFORMATION

Sample Number	VCP05421147	---	---	---
Sample Date	03 Dec 2021	---	---	---
Machine Hours	4736	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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### OIL CONDITION

Visc @ 40°C	cSt	█ 44.8	---	---	---
Acid Number (AN)	mg KOH/g	█ 0.327	---	---	---



### CONTAMINATION

Water	%	NEG	---	---	---
Particles >4µm		▲ 21439	---	---	---
Particles >6µm		▲ 6360	---	---	---
Particles >14µm		▲ 632	---	---	---
ISO 4406:1999 (c)		22/20/16	---	---	---
Silicon	ppm	█ <1	---	---	---
Sodium	ppm	█ 2	---	---	---
Potassium	ppm	█ 0	---	---	---

### Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



### WEAR METALS

Iron	ppm	█ 7	---	---	---
Copper	ppm	█ 2	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 0	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	█ 0	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	█ 0	---	---	---
Vanadium	ppm	█ 0	---	---	---



### ADDITIVES

Calcium	ppm	█ 111	---	---	---
Magnesium	ppm	█ 7	---	---	---
Zinc	ppm	█ 443	---	---	---
Phosphorus	ppm	█ 353	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 2	---	---	---

**Depot:** VOLVO8885  
**Unique No:** 9775338  
**Signed:** Angela Borella  
**Report Date:** 14 Dec 2021

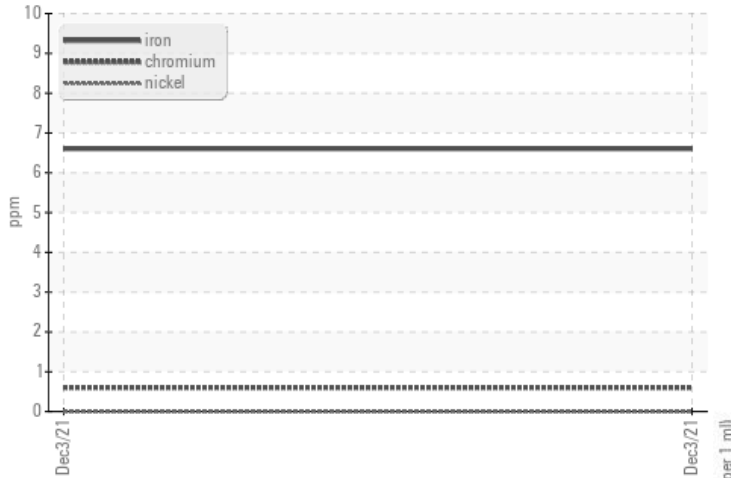


# CONSTRUCTION EQUIPMENT

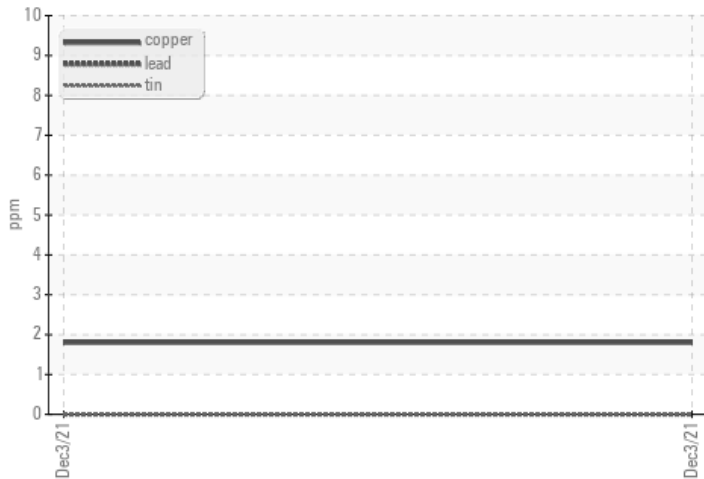


## GRAPHS

### Ferrous Alloys



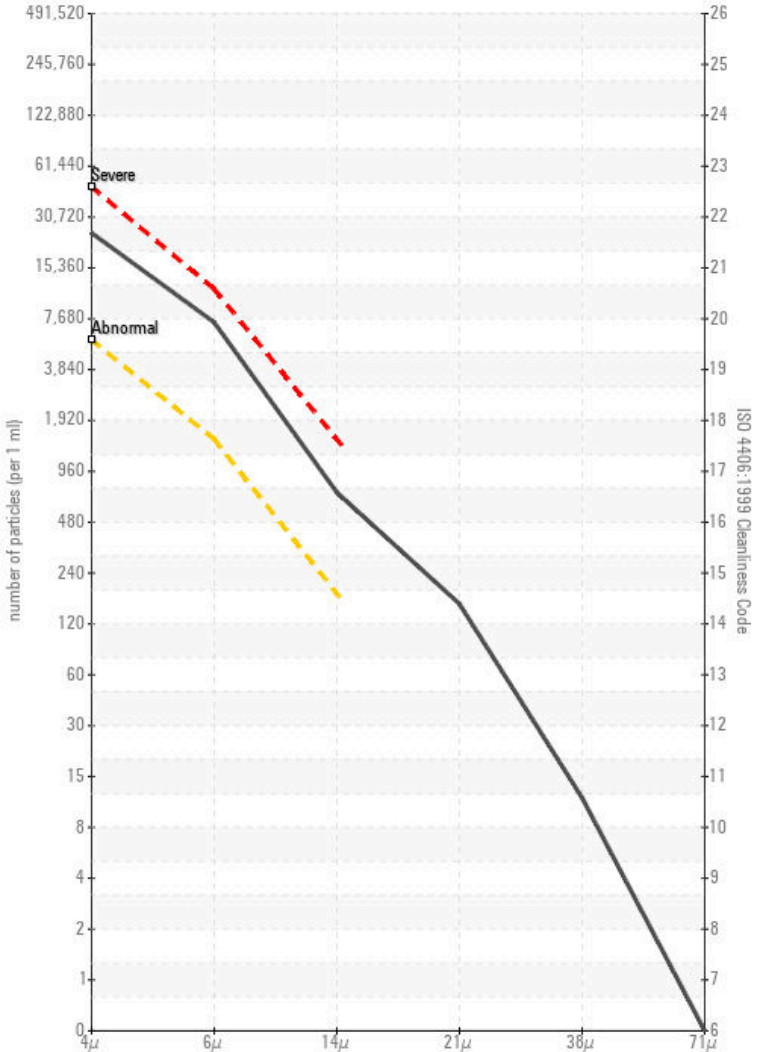
### Non-ferrous Metals



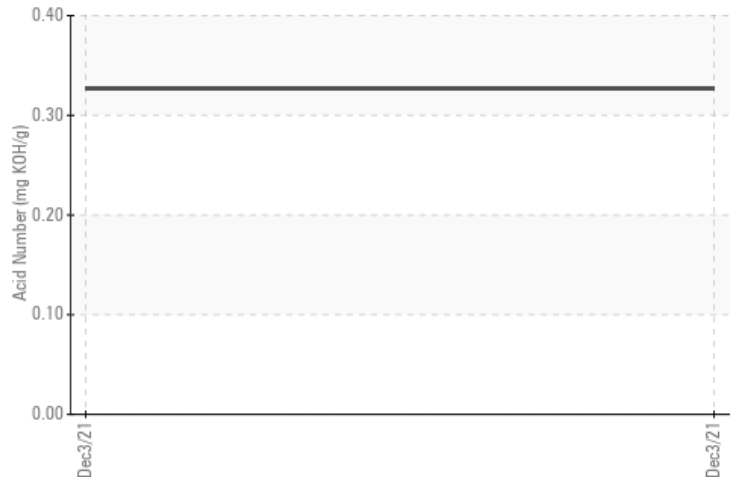
### Viscosity @ 40°C



### Particle Count



### Acid Number





# CONSTRUCTION EQUIPMENT

## SWO782500 KOMATSU PC490LC A40410 - LEFT FINAL DRIVE



**Sample No:** VCP309763

**Oil Type:** TDTO FLUID SAE 30

**Job No:** SWO782500



### SAMPLE INFORMATION

Sample Number	VCP309763	---	---	---
Sample Date	03 Dec 2021	---	---	---
Machine Hours	4736	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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### OIL CONDITION

Visc @ 40°C	cSt	■ 96.4	---	---	---
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### CONTAMINATION

Water	%	■ NEG	---	---	---
Silicon	ppm	▲ 214	---	---	---
Sodium	ppm	■ 4	---	---	---
Potassium	ppm	■ 10	---	---	---



### WEAR METALS

Iron	ppm	▲ 854	---	---	---
Copper	ppm	■ 12	---	---	---
Lead	ppm	■ <1	---	---	---
Tin	ppm	■ <1	---	---	---
Aluminum	ppm	● 24	---	---	---
Chromium	ppm	■ 8	---	---	---
Molybdenum	ppm	■ 2	---	---	---
Nickel	ppm	<1	---	---	---
Titanium	ppm	4	---	---	---
Silver	ppm	<1	---	---	---
Manganese	ppm	■ 8	---	---	---
Vanadium	ppm	<1	---	---	---



### ADDITIVES

Calcium	ppm	■ 2723	---	---	---
Magnesium	ppm	■ 16	---	---	---
Zinc	ppm	■ 1014	---	---	---
Phosphorus	ppm	■ 919	---	---	---
Barium	ppm	■ 0	---	---	---
Boron	ppm	■ 6	---	---	---

### Diagnosis

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Gear wear is indicated. All other component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The condition of the oil is acceptable for the time in service.

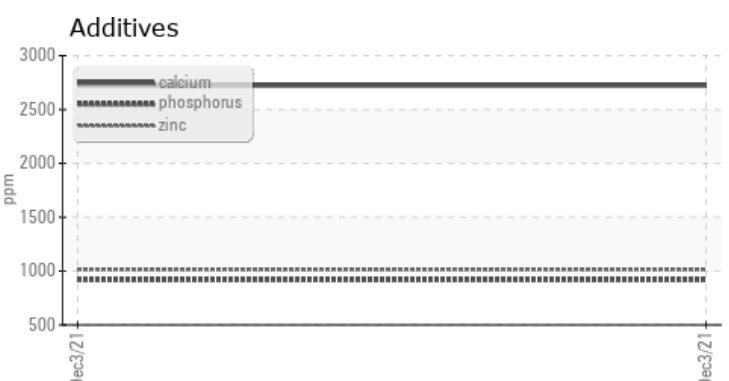
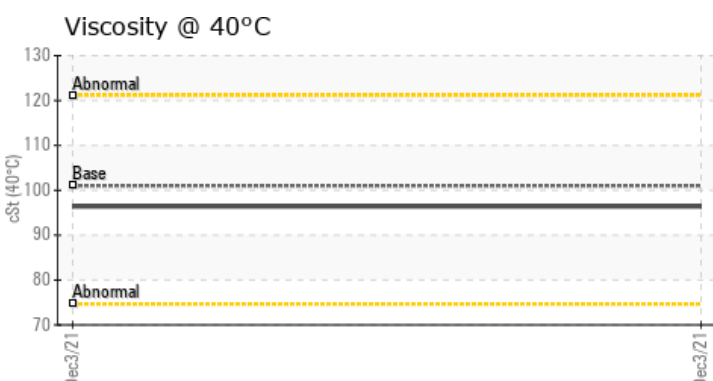
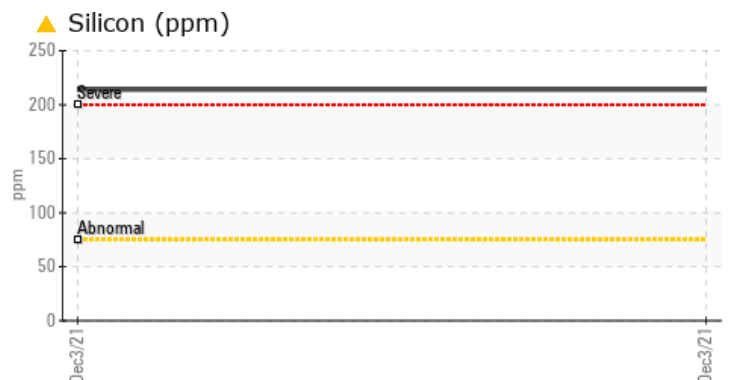
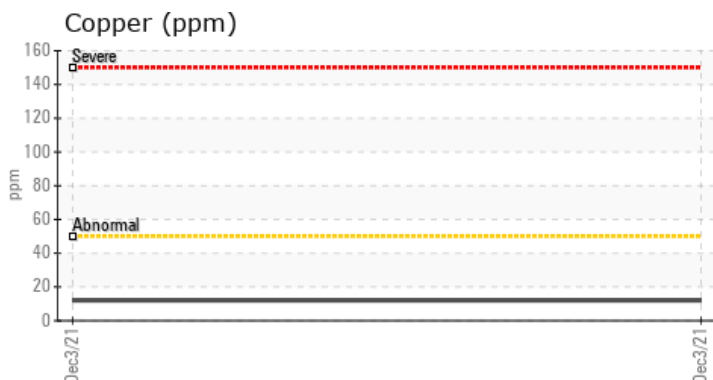
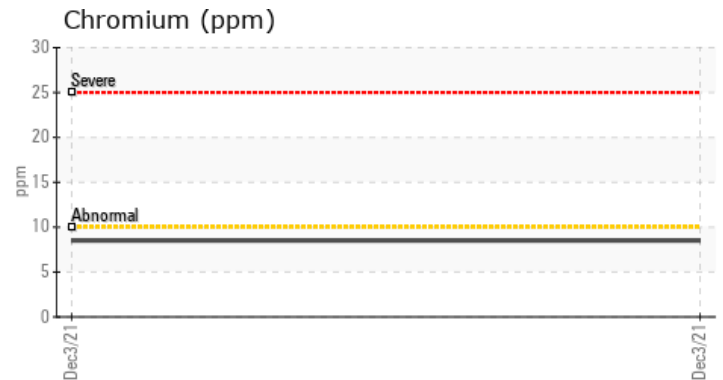
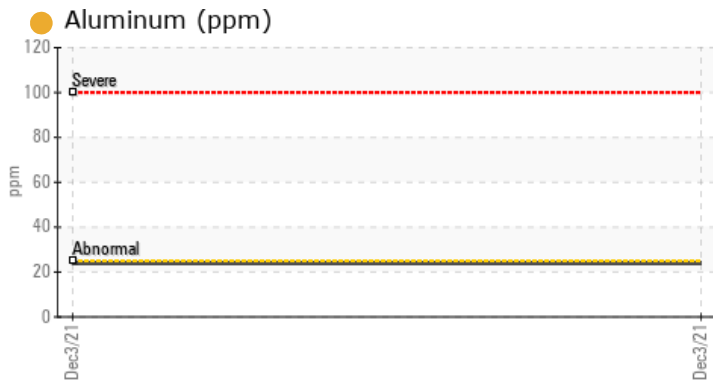
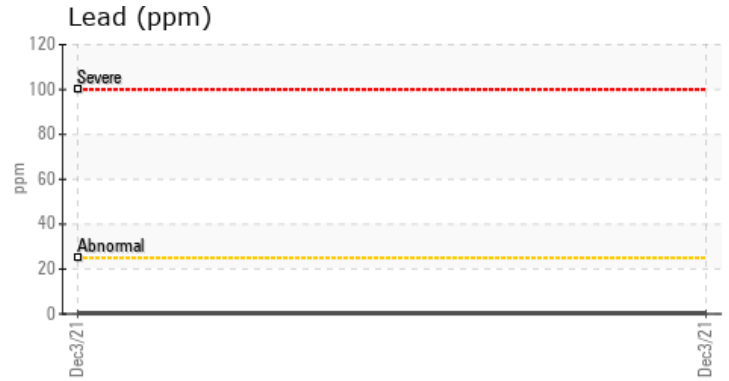
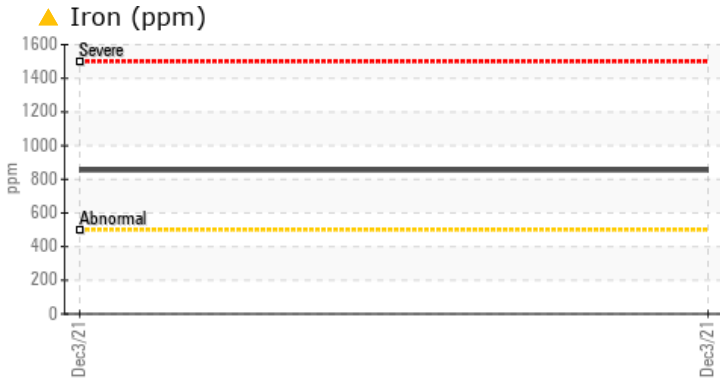
**Depot:** VOLVO8885  
**Unique No:** 9776048  
**Signed:** Don Baldrige  
**Report Date:** 15 Dec 2021



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

## SWO782500 KOMATSU PC490LC A40410 - RIGHT FINAL DRIVE



**Sample No:** VCP05421850

**Oil Type:** TDTO FLUID SAE 30

**Job No:** SWO782500



### SAMPLE INFORMATION

Sample Number	VCP05421850	---	---	---
Sample Date	03 Dec 2021	---	---	---
Machine Hours	4736	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	SEVERE	---	---	---

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 mark.derosa@altg.com  
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 F:



### OIL CONDITION

Visc @ 40°C	cSt	■ 91.9	---	---	---
-------------	-----	--------	-----	-----	-----



### CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	▲ 450	---	---	---
Sodium	ppm	■ 11	---	---	---
Potassium	ppm	■ 25	---	---	---



### WEAR METALS

Iron	ppm	▲ 1380	---	---	---
Copper	ppm	■ 16	---	---	---
Lead	ppm	■ <1	---	---	---
Tin	ppm	■ <1	---	---	---
Aluminum	ppm	● 54	---	---	---
Chromium	ppm	▲ 15	---	---	---
Molybdenum	ppm	■ 2	---	---	---
Nickel	ppm	1	---	---	---
Titanium	ppm	7	---	---	---
Silver	ppm	<1	---	---	---
Manganese	ppm	■ 11	---	---	---
Vanadium	ppm	<1	---	---	---



### ADDITIVES

Calcium	ppm	■ 2673	---	---	---
Magnesium	ppm	■ 27	---	---	---
Zinc	ppm	■ 1019	---	---	---
Phosphorus	ppm	■ 891	---	---	---
Barium	ppm	■ 5	---	---	---
Boron	ppm	■ 7	---	---	---

### Diagnosis

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil is no longer serviceable due to the presence of contaminants.

**Depot:** VOLVO8885  
**Unique No:** 9776041  
**Signed:** Don Baldrige  
**Report Date:** 15 Dec 2021



# CONSTRUCTION EQUIPMENT



## GRAPHS

