



# CONSTRUCTION EQUIPMENT

SW1029638 VOLVO EC220EL 314016 - DIESEL ENGINE



**Sample No:** VCP440154  
**Oil Type:** DIESEL ENGINE OIL SAE 15W40  
**Job No:** SW1029638



## SAMPLE INFORMATION

Sample Number	VCP440154	---	---	---
Sample Date	05 Feb 2024	---	---	---
Machine Hours	3247	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ATTENTION	---	---	---

**ARNOLD MACHINERY COMPANY**  
 2975 WEST 2100 SOUTH  
 SALT LAKE CITY, UT  
 US 84119  
 Contact: TJ LARK  
 tlark@arnoldmachinery.com  
 T: (801)972-4000  
 F: (801)975-9434

## OIL CONDITION

Visc @ 100°C	cSt	▲ 17.6	---	---	---
Base Number (BN)	mg KOH/g	■ 7.6	---	---	---
Oxidation (PA)	%	141	---	---	---

## Diagnosis

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 no indication of any contamination in the oil. The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

## CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	■ 0.8	---	---	---
Nitration (PA)	%	153	---	---	---
Sulfation (PA)	%	93	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	■ 17	---	---	---
Sodium	ppm	■ 6	---	---	---
Potassium	ppm	■ 1	---	---	---

## WEAR METALS

Iron	ppm	■ 80	---	---	---
Copper	ppm	■ 8	---	---	---
Lead	ppm	■ 10	---	---	---
Tin	ppm	■ 3	---	---	---
Aluminum	ppm	■ 11	---	---	---
Chromium	ppm	■ 4	---	---	---
Molybdenum	ppm	■ 44	---	---	---
Nickel	ppm	■ <1	---	---	---
Titanium	ppm	■ 0	---	---	---
Silver	ppm	■ 0	---	---	---
Manganese	ppm	■ 2	---	---	---
Vanadium	ppm	0	---	---	---

## ADDITIVES

Calcium	ppm	■ 1817	---	---	---
Magnesium	ppm	■ 1094	---	---	---
Zinc	ppm	■ 1508	---	---	---
Phosphorus	ppm	■ 1268	---	---	---
Barium	ppm	■ 0	---	---	---
Boron	ppm	■ 24	---	---	---

**Depot:** VOLVO8770  
**Unique No:** 10873233  
**Signed:** Don Baldrige  
**Report Date:** 13 Feb 2024

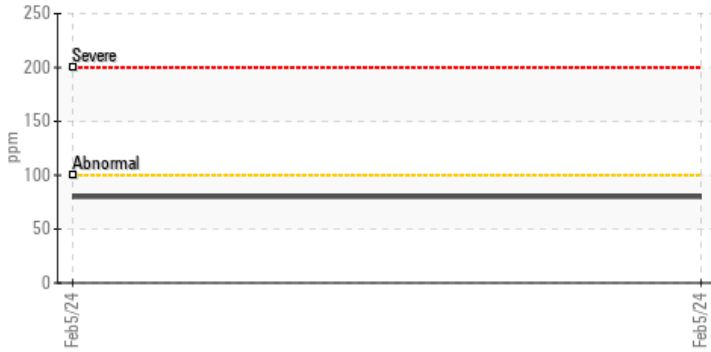


# CONSTRUCTION EQUIPMENT

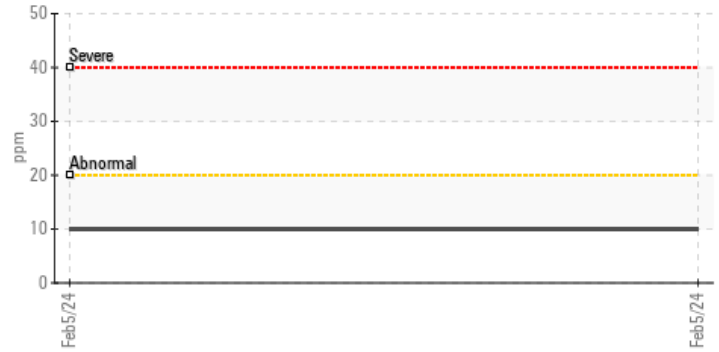


## GRAPHS

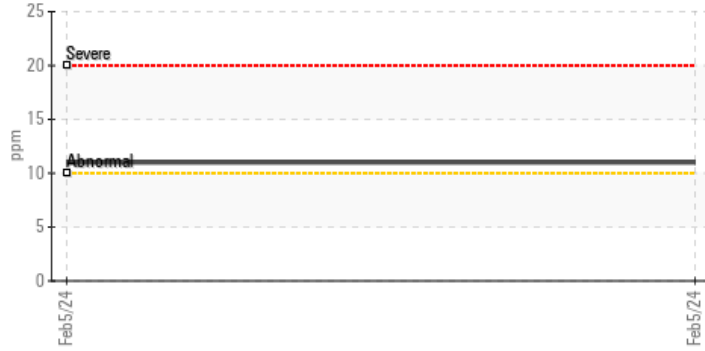
### Iron (ppm)



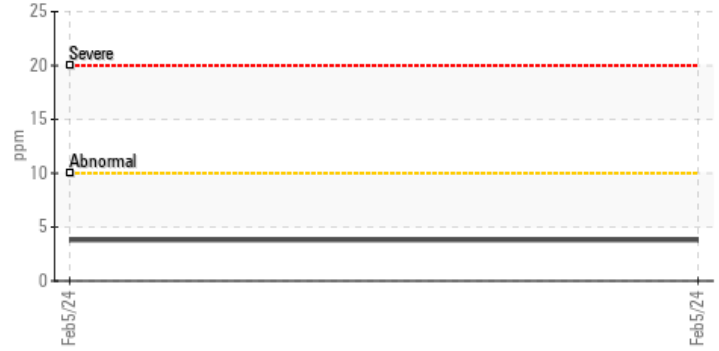
### Lead (ppm)



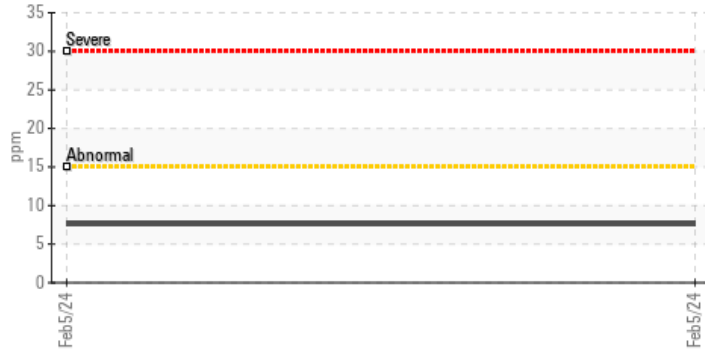
### Aluminum (ppm)



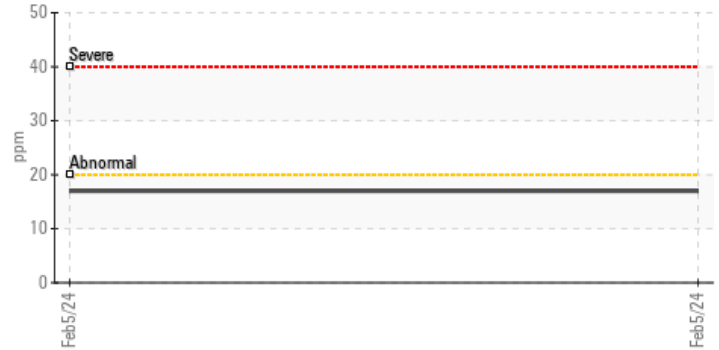
### Chromium (ppm)



### Copper (ppm)



### Silicon (ppm)



### ▲ Viscosity @ 100°C



### Base Number

