



# CONSTRUCTION EQUIPMENT

## SW-23755-2 CASTLE VA VOLVO EC220EL 310178 - HYDRAULIC SYSTEM



**Sample No:** VCP414481  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** SW-23755-2 CASTLE VA



### SAMPLE INFORMATION

Sample Number	<b>VCP414481</b>	VCP299789	VCP277649	---
Sample Date	<b>07 Sep 2023</b>	23 Nov 2021	28 Aug 2020	---
Machine Hours	<b>6228</b>	3908	1965	---
Oil Hours	<b>2300</b>	2000	1965	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	ATTENTION	ABNORMAL	---

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



### OIL CONDITION

Visc @ 40°C	cSt	<b>39.7</b>	▲ 37.74	■ 43.1	---
Acid Number (AN)	mg KOH/g	<b>0.34</b>	■ 0.450	■ 0.676	---



### CONTAMINATION

Particles >4µm		<b>362</b>	■ 691	▲ 46374	---
Particles >6µm		<b>73</b>	■ 108	▲ 6454	---
Particles >14µm		<b>7</b>	■ 9	▲ 632	---
ISO 4406:1999 (c)		<b>16/13/10</b>	17/14/10	23/20/16	---
Silicon	ppm	<b>6</b>	■ 4	■ <1	---
Sodium	ppm	<b>0</b>	■ 0	■ 1	---
Potassium	ppm	<b>0</b>	■ <1	■ 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>10</b>	■ 6	■ 0	---
Copper	ppm	<b>12</b>	■ 23	■ 35	---
Lead	ppm	<b>0</b>	■ <1	■ <1	---
Tin	ppm	<b>0</b>	■ 0	■ 0	---
Aluminum	ppm	<b>2</b>	■ 0	■ <1	---
Chromium	ppm	<b>2</b>	■ 1	■ 0	---
Molybdenum	ppm	<b>0</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>&lt;1</b>	■ <1	■ 0	---
Vanadium	ppm	<b>0</b>	0	0	---



### ADDITIVES

Calcium	ppm	<b>109</b>	■ 108	■ 111	---
Magnesium	ppm	<b>2</b>	■ <1	■ 0	---
Zinc	ppm	<b>501</b>	■ 476	■ 603	---
Phosphorus	ppm	<b>396</b>	■ 372	■ 449	---
Barium	ppm	<b>0</b>	■ 0	■ 0	---
Boron	ppm	<b>0</b>	■ 1	■ <1	---

**Depot:** VOLVO8770  
**Unique No:** 10648646  
**Signed:** Wes Davis  
**Report Date:** 18 Sep 2023

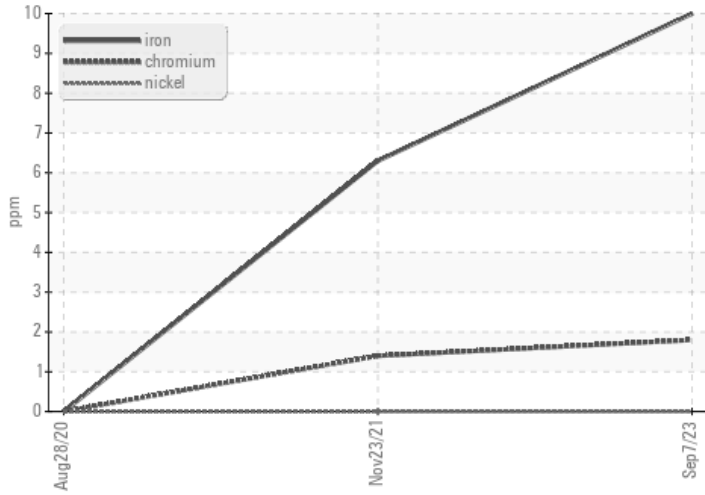


# CONSTRUCTION EQUIPMENT

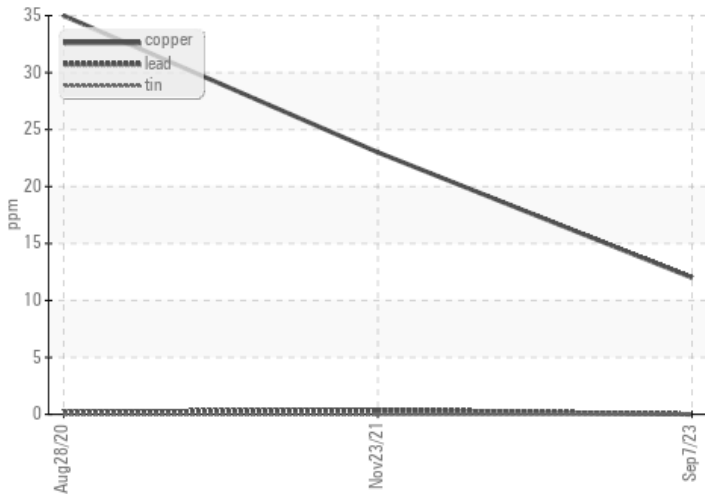


## VOLVO GRAPHS

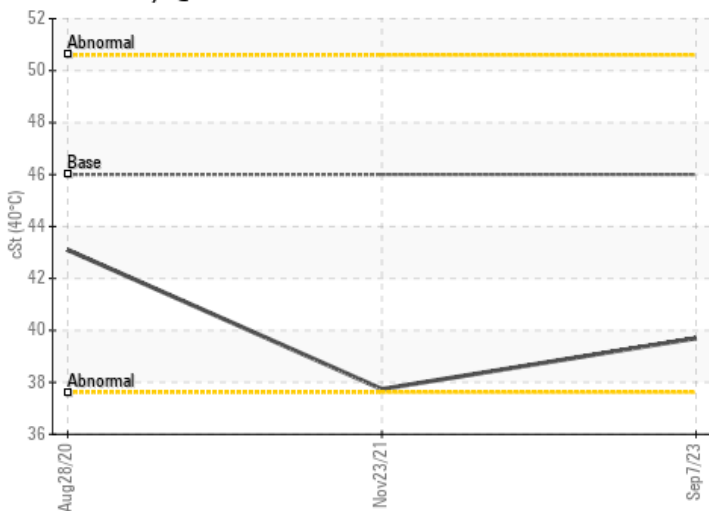
Ferrous Alloys



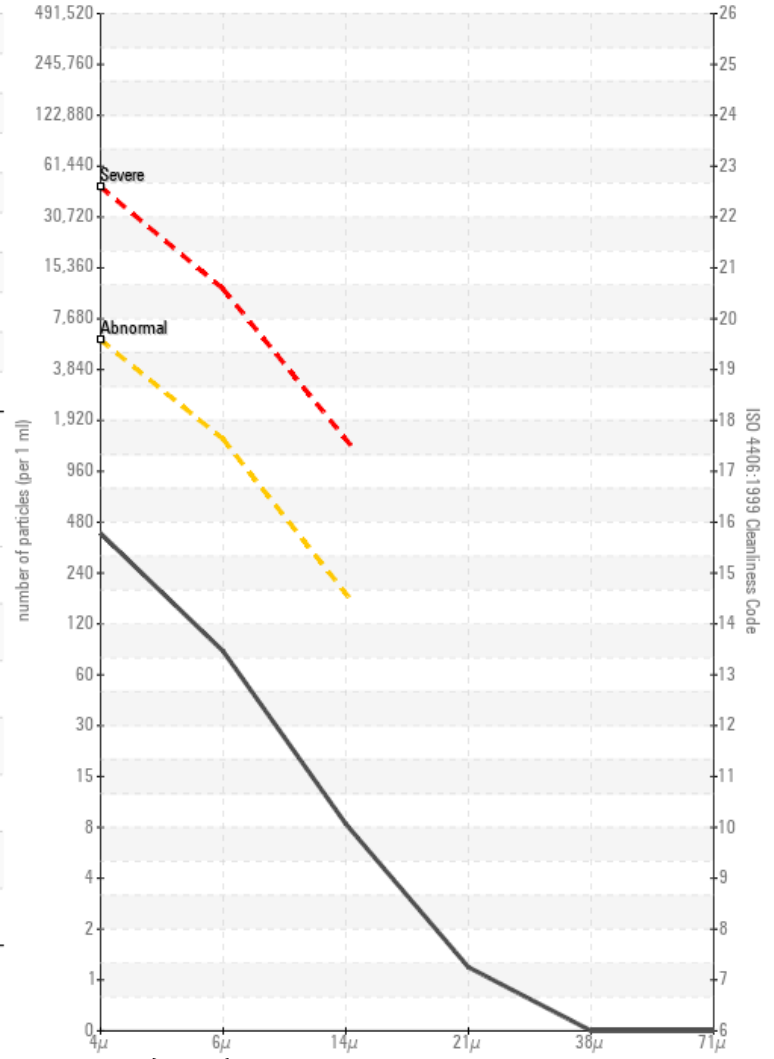
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

