



CONSTRUCTION EQUIPMENT

SW-24082-2 TNT VOLVO L110H 631862 - DIESEL ENGINE



Sample No: VCP432510
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-24082-2 TNT



SAMPLE INFORMATION

Sample Number	VCP432510	---	---	---
Sample Date	15 Sep 2023	---	---	---
Machine Hours	3492	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	SEVERE	---	---	---

ARNOLD MACHINERY COMPANY

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OIL CONDITION

Visc @ 100°C	cSt	█ 15.3	---	---	---
Base Number (BN)	mg KOH/g	█ 9.5	---	---	---
Oxidation (PA)	%	73	---	---	---

Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Cylinder, crank, or cam shaft wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.



CONTAMINATION

Soot %	%	█ 0.7	---	---	---
Nitration (PA)	%	73	---	---	---
Sulfation (PA)	%	63	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	● 78	---	---	---
Sodium	ppm	█ 3	---	---	---
Potassium	ppm	█ 6	---	---	---



WEAR METALS

Iron	ppm	▲ 127	---	---	---
Copper	ppm	█ 14	---	---	---
Lead	ppm	█ 2	---	---	---
Tin	ppm	█ 4	---	---	---
Aluminum	ppm	▲ 21	---	---	---
Chromium	ppm	▲ 17	---	---	---
Molybdenum	ppm	█ 72	---	---	---
Nickel	ppm	█ 2	---	---	---
Titanium	ppm	1	---	---	---
Silver	ppm	█ <1	---	---	---
Manganese	ppm	█ 2	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 1717	---	---	---
Magnesium	ppm	█ 1001	---	---	---
Zinc	ppm	█ 1564	---	---	---
Phosphorus	ppm	█ 1287	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 14	---	---	---

Depot: VOLVO8770
Unique No: 10659620
Signed: Don Baldrige
Report Date: 23 Sep 2023

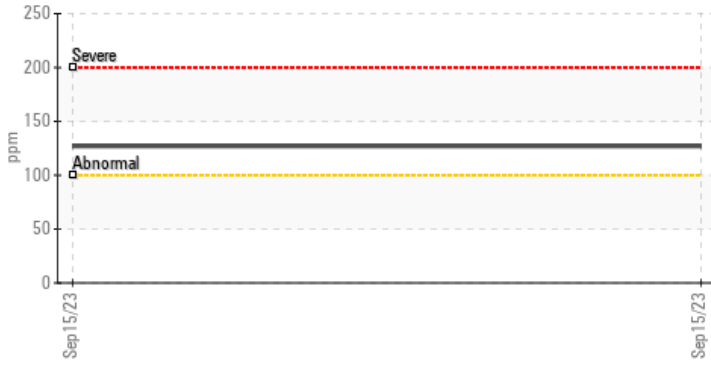


CONSTRUCTION EQUIPMENT



GRAPHS

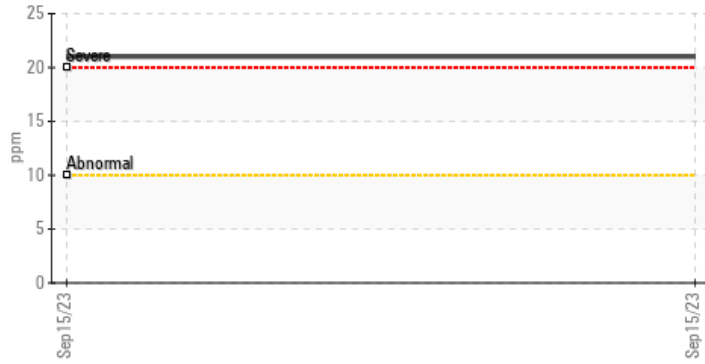
▲ Iron (ppm)



Lead (ppm)



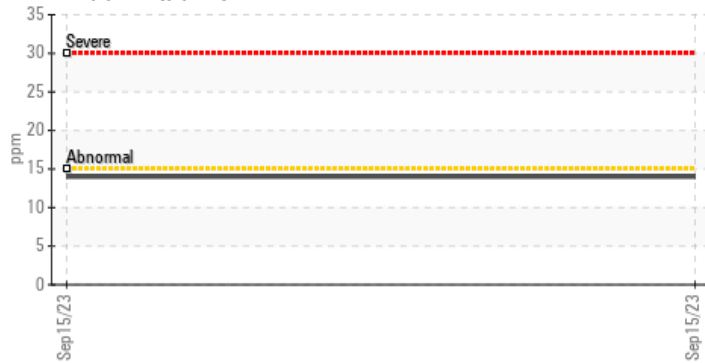
▲ Aluminum (ppm)



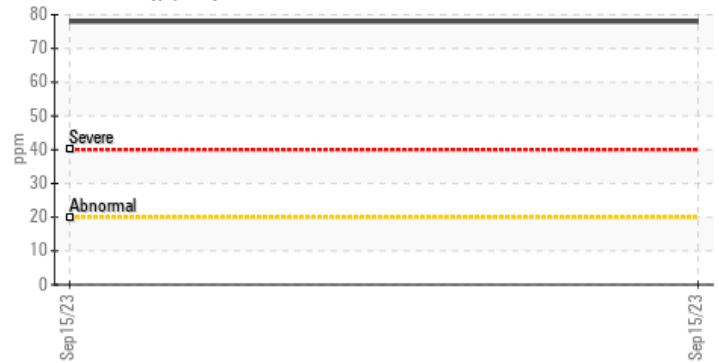
▲ Chromium (ppm)



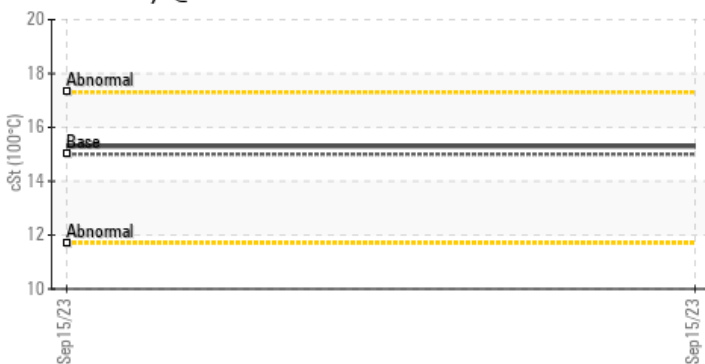
Copper (ppm)



◆ Silicon (ppm)



Viscosity @ 100°C



Base Number

