



CONSTRUCTION EQUIPMENT

DOOSAN HP1600 494124UEA - DIESEL ENGINE



Sample No: VCP400442
Oil Type: DIESEL ENGINE OIL SAE 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP400442	---	---	---
Sample Date	26 Jul 2023	---	---	---
Machine Hours	1161	---	---	---
Oil Hours	37	---	---	---
Oil Changed	N/A	---	---	---
Sample Status	ABNORMAL	---	---	---

VCES- VOLVO CONSTRUCTION EQUIPMENT
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OIL CONDITION

Visc @ 100°C	cSt	█ 13.5	---	---	---
Base Number (BN)	mg KOH/g	█ 6.8	---	---	---
Oxidation (PA)	%	█ 119	---	---	---

Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor. Cylinder, crank, or cam shaft 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



CONTAMINATION

Soot %	%	█ 0.4	---	---	---
Nitration (PA)	%	█ 90	---	---	---
Sulfation (PA)	%	█ 79	---	---	---
Glycol	%	█ NEG	---	---	---
Fuel	%	█ <1.0	---	---	---
Silicon	ppm	▲ 24	---	---	---
Sodium	ppm	█ 4	---	---	---
Potassium	ppm	█ 3	---	---	---



WEAR METALS

Iron	ppm	▲ 62	---	---	---
Copper	ppm	█ 15	---	---	---
Lead	ppm	█ 1	---	---	---
Tin	ppm	█ 2	---	---	---
Aluminum	ppm	▲ 6	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ 35	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	█ 0	---	---	---
Silver	ppm	█ <1	---	---	---
Manganese	ppm	█ 4	---	---	---
Vanadium	ppm	█ 0	---	---	---



ADDITIVES

Calcium	ppm	█ 2155	---	---	---
Magnesium	ppm	█ 426	---	---	---
Zinc	ppm	█ 1150	---	---	---
Phosphorus	ppm	█ 877	---	---	---
Barium	ppm	█ 2	---	---	---
Boron	ppm	█ 27	---	---	---

Depot: VOLVO4486
Unique No: 10575969
Signed: Don Baldrige
Report Date: 30 Jul 2023

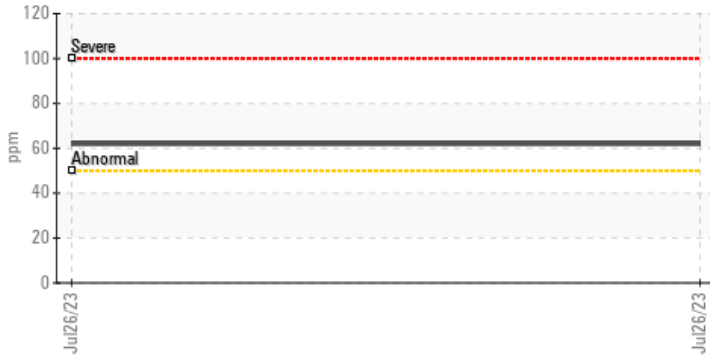


CONSTRUCTION EQUIPMENT



GRAPHS

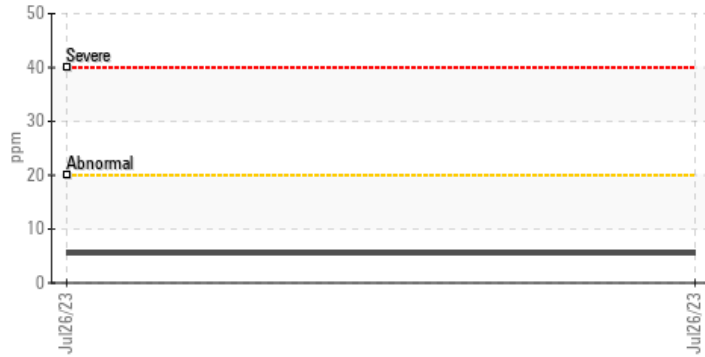
▲ Iron (ppm)



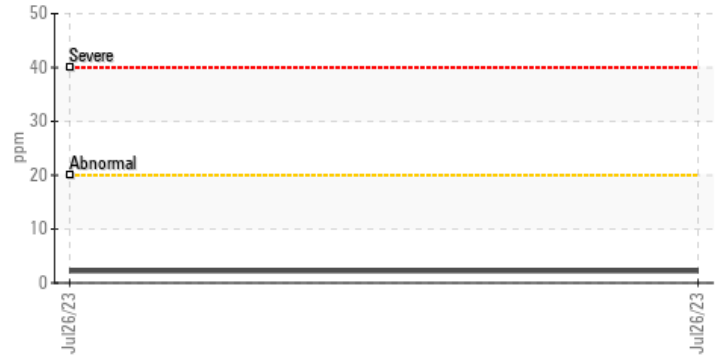
Lead (ppm)



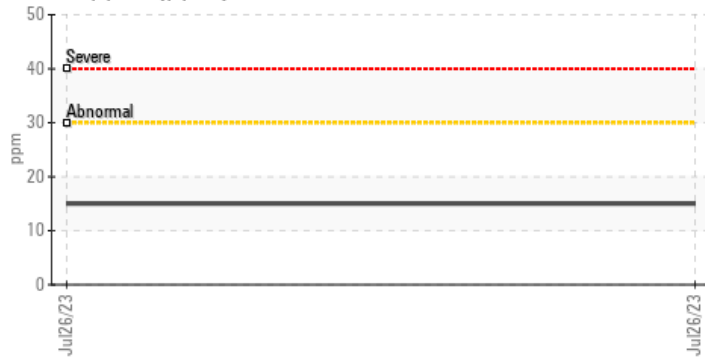
▲ Aluminum (ppm)



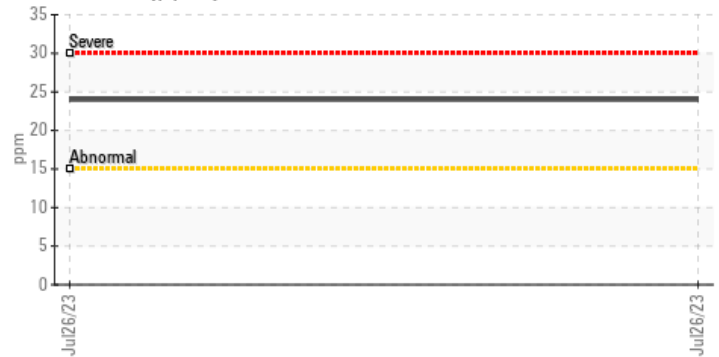
Chromium (ppm)



Copper (ppm)



▲ Silicon (ppm)



Viscosity @ 100°C



Base Number

