



CONSTRUCTION EQUIPMENT

506 VOLVO L120H 632890 - DIESEL ENGINE



Sample No: VCP412872
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 506



SAMPLE INFORMATION

Sample Number	VCP412872	VCP372837	VCP337536	VCP351335
Sample Date	23 Oct 2023	03 Aug 2023	24 May 2023	16 Jan 2023
Machine Hours	8399	7763	7260	6131
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	SEVERE	ABNORMAL	ABNORMAL

VCES- VOLVO CONSTRUCTION EQUIPMENT
 12345 MAPLEVIEW STREET
 LAKESIDE, CA
 US 92040
 Contact: Mark Stewart
 mark.stewart@vcesvolvo.com
 T: X:
 F: X:

OIL CONDITION

Visc @ 100°C	cSt	▲ 11.9	▲ 10.1	▲ 10.7	■ 13.2
Base Number (BN)	mg KOH/g	■ 4.1	▲ 0.7	▲ 3.7	■ 5.4
Oxidation (PA)	%	163	189	139	135

CONTAMINATION

Soot %	%	■ 0.5	■ 0.6	■ 0.6	■ 1.2
Nitration (PA)	%	92	92	86	113
Sulfation (PA)	%	89	96	80	83
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	▲ 6.7	● 15.1	▲ 5.9	<1.0
Silicon	ppm	▲ 43	▲ 31	▲ 39	▲ 50
Sodium	ppm	■ 5	■ 0	■ 3	■ 3
Potassium	ppm	■ 4	■ 5	■ 2	■ 2

WEAR METALS

Iron	ppm	■ 29	■ 20	■ 28	■ 51
Copper	ppm	■ 6	■ 2	■ 3	■ 6
Lead	ppm	■ 10	■ 18	■ 11	■ 11
Tin	ppm	■ <1	■ <1	■ 1	■ 2
Aluminum	ppm	▲ 17	▲ 15	▲ 21	▲ 25
Chromium	ppm	■ 1	■ <1	■ 2	■ 2
Molybdenum	ppm	■ 40	■ 20	■ 34	■ 32
Nickel	ppm	■ 1	■ <1	■ 1	■ 1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	■ 0	■ <1	■ 0	■ <1
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	<1	0	<1	<1

ADDITIVES

Calcium	ppm	■ 1724	■ 1727	■ 1426	■ 1599
Magnesium	ppm	■ 470	■ 225	■ 429	■ 549
Zinc	ppm	■ 1168	■ 1012	■ 1071	■ 1100
Phosphorus	ppm	■ 909	■ 812	■ 847	■ 813
Barium	ppm	■ <1	■ 2	■ 0	■ 2
Boron	ppm	■ 17	■ 26	■ 14	■ 25

Diagnosis

We advise that you check the fuel injection system. 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. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Depot: VOLVO4488
Unique No: 10723701
Signed: Don Baldrige
Report Date: 03 Nov 2023

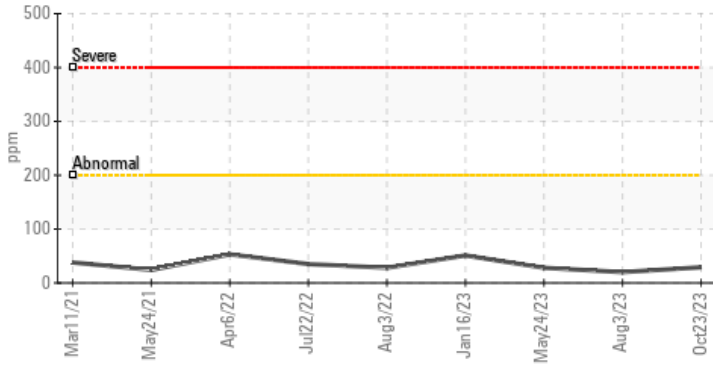


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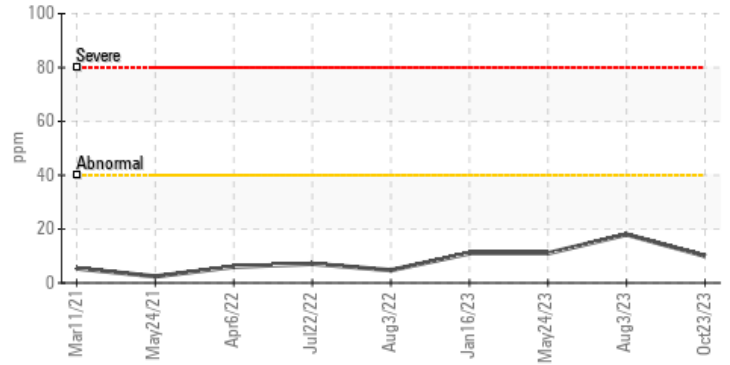


GRAPHS

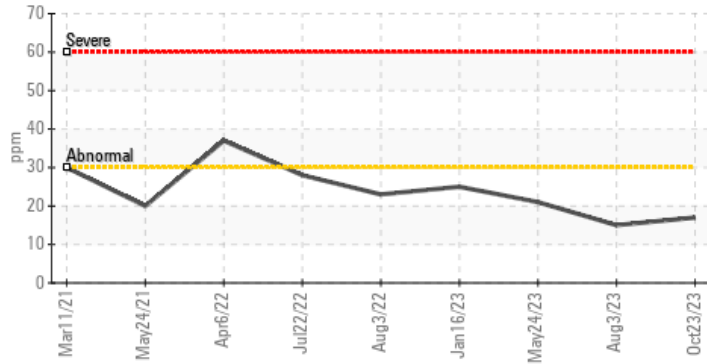
Iron (ppm)



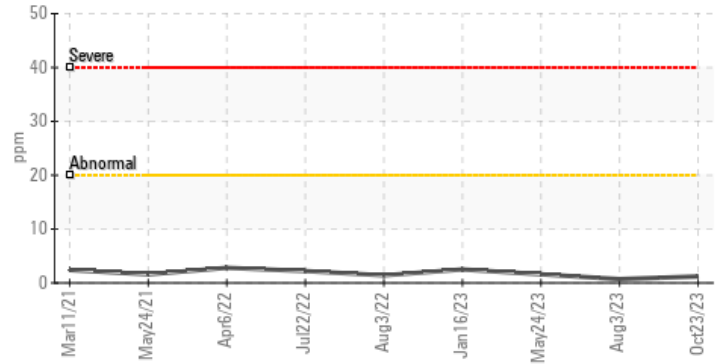
Lead (ppm)



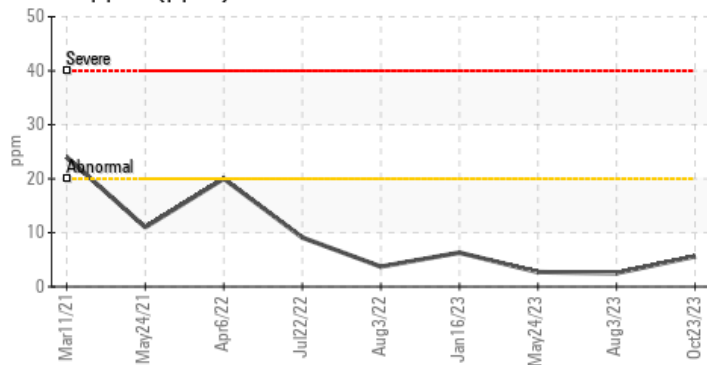
Aluminum (ppm)



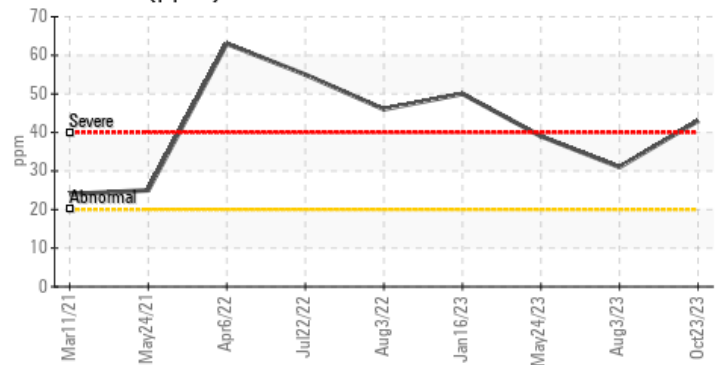
Chromium (ppm)



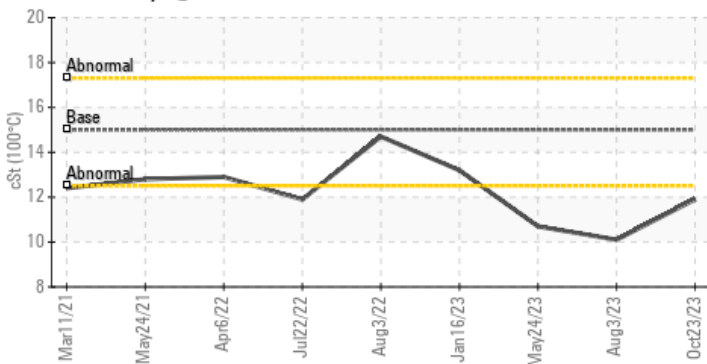
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

