



CONSTRUCTION EQUIPMENT

VOLVO A40G 352778 - DIESEL ENGINE



Sample No: VCP402219
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP402219	VCP415814	VCP344076	VCP328956
Sample Date	18 Oct 2023	29 Jun 2023	21 Jan 2022	15 Oct 2021
Machine Hours	4162	3734	0	585
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	NORMAL	ATTENTION

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OIL CONDITION

Visc @ 100°C	cSt	▲ 12.2	▲ 12.3	■ 12.5	▲ 10.7
Base Number (BN)	mg KOH/g	▲ 3.5	■ 4.8	■ 10.2	---
Oxidation (PA)	%	100	104	86	65



CONTAMINATION

Soot %	%	■ 0.7	■ 0.6	■ 0.2	■ 0.2
Nitration (PA)	%	100	108	73	65
Sulfation (PA)	%	72	74	66	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	■ 0.8
Silicon	ppm	■ 9	■ 8	■ 8	■ 25
Sodium	ppm	■ 4	■ 4	■ 2	■ 1
Potassium	ppm	■ 2	■ 2	■ 0	■ 2



WEAR METALS

Iron	ppm	■ 36	■ 26	■ 10	■ 19
Copper	ppm	▲ 67	▲ 66	■ 7	■ 37
Lead	ppm	■ 2	■ 2	■ <1	■ 2
Tin	ppm	■ 3	■ 3	■ 1	■ 4
Aluminum	ppm	■ 7	■ 5	■ 1	■ 3
Chromium	ppm	■ 1	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 51	■ 49	■ 48	■ 61
Nickel	ppm	■ 11	■ 9	■ <1	■ <1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	■ 0	■ 0	<1	<1
Manganese	ppm	■ 1	■ 2	■ <1	■ 2
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	■ 1627	■ 1759	■ 1708	■ 1746
Magnesium	ppm	■ 480	■ 512	■ 463	■ 373
Zinc	ppm	■ 1068	■ 1116	■ 1099	■ 1198
Phosphorus	ppm	■ 738	■ 835	■ 912	■ 1028
Barium	ppm	■ 0	■ 0	■ 0	■ <1
Boron	ppm	■ 8	■ 6	■ 38	■ 66

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN level is low. Confirm oil type.

Depot: VOLVO0090
Unique No: 10701300
Signed: Jonathan Hester
Report Date: 24 Oct 2023

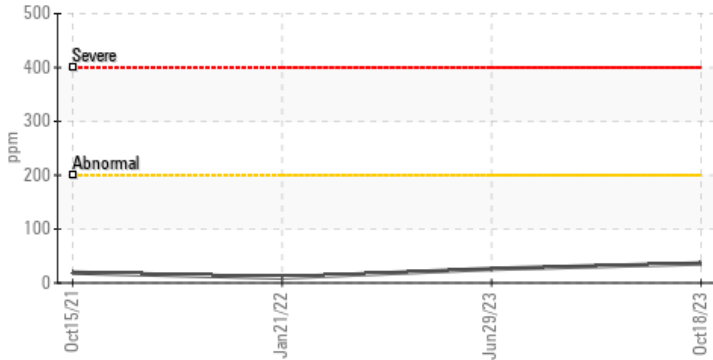


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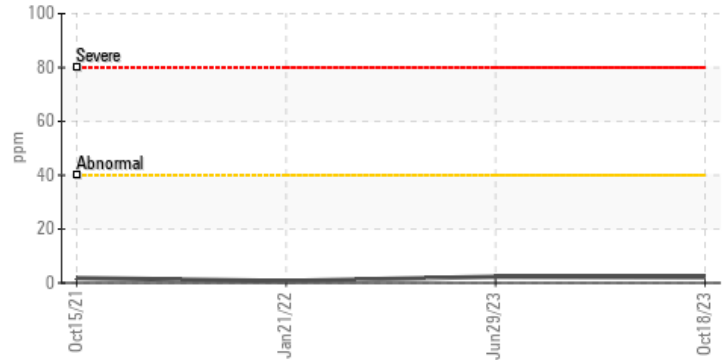


GRAPHS

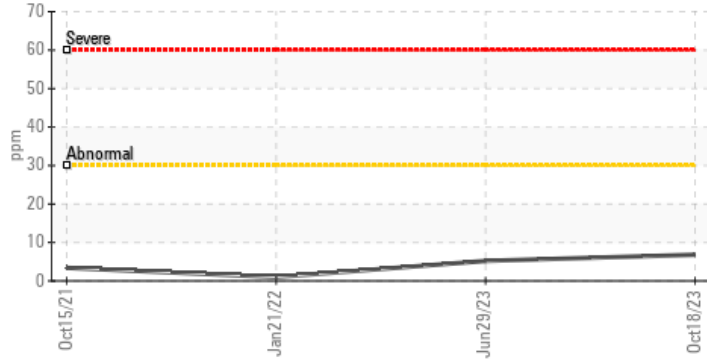
Iron (ppm)



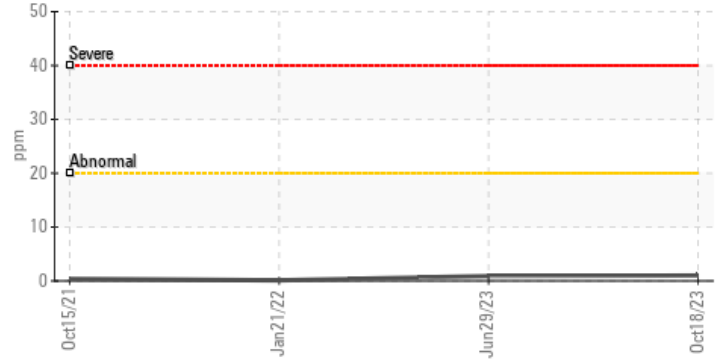
Lead (ppm)



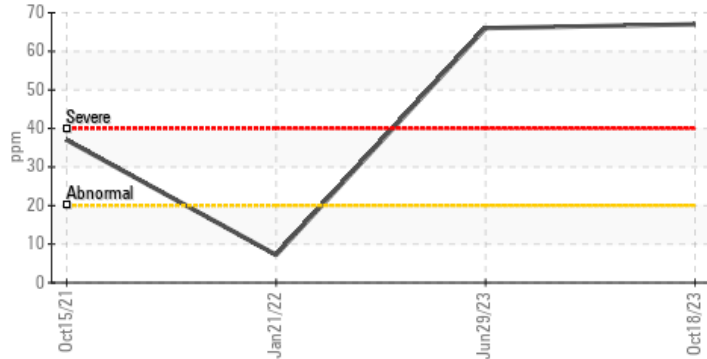
Aluminum (ppm)



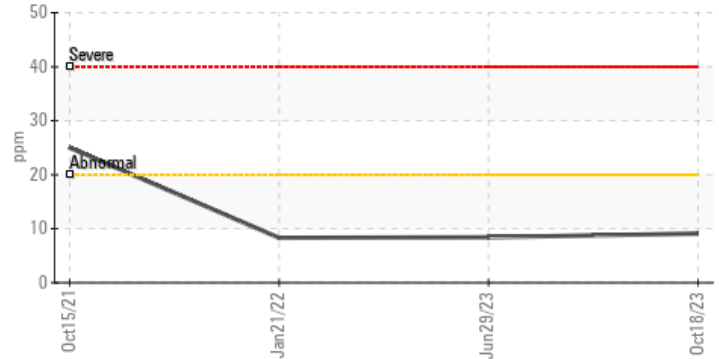
Chromium (ppm)



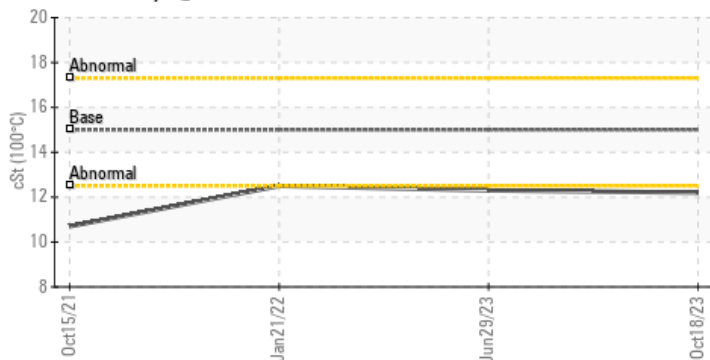
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

