



CONSTRUCTION EQUIPMENT

SW1031084 EWING IRR I VOLVO L60H 622769 - DIESEL ENGINE



Sample No: VCP437523
Oil Type: DIESEL ENGINE OIL SAE 15W40
Job No: SW1031084 EWING IRR I



SAMPLE INFORMATION

Sample Number	VCP437523	VCP441008	VCP406949	VCP403613
Sample Date	14 Mar 2024	03 Nov 2023	30 Jun 2023	28 Mar 2023
Machine Hours	3597	2934	2163	1507
Oil Hours	0	0	0	0
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.9	13.2	13.9	14.6
Base Number (BN)	mg KOH/g	10.3	10.4	9.6	7.2
Oxidation (PA)	%	78	80	67	52

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.3	0.4	0.3	0.2
Nitration (PA)	%	58	61	58	71
Sulfation (PA)	%	60	60	55	50
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	9	8	7	6
Sodium	ppm	4	2	2	2
Potassium	ppm	1	<1	0	<1

Diagnosis

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

WEAR METALS

Iron	ppm	▲ 169	▲ 152	▲ 116	■ 52
Copper	ppm	■ 2	■ <1	■ <1	■ <1
Lead	ppm	■ <1	■ 0	■ 0	■ 0
Tin	ppm	■ 1	■ <1	■ <1	■ <1
Aluminum	ppm	■ 6	■ 2	■ 2	■ 3
Chromium	ppm	■ 3	■ 2	■ 2	■ 1
Molybdenum	ppm	■ 59	■ 42	■ 58	■ 94
Nickel	ppm	■ <1	■ 0	■ 0	■ 0
Titanium	ppm	■ <1	■ 0	■ <1	■ <1
Silver	ppm	■ 0	■ 0	■ 0	■ 0
Manganese	ppm	■ 3	■ 2	■ 2	■ 1
Vanadium	ppm	<1	0	0	0

ADDITIVES

Calcium	ppm	■ 2246	■ 1671	■ 1330	■ 2347
Magnesium	ppm	■ 795	■ 573	■ 785	■ 35
Zinc	ppm	■ 1646	■ 1225	■ 1208	■ 1324
Phosphorus	ppm	■ 1373	■ 970	■ 989	■ 1111
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 47	■ 36	■ 20	■ 72

Depot: VOLVO6174
Unique No: 10937585
Signed: Don Baldrige
Report Date: 22 Mar 2024

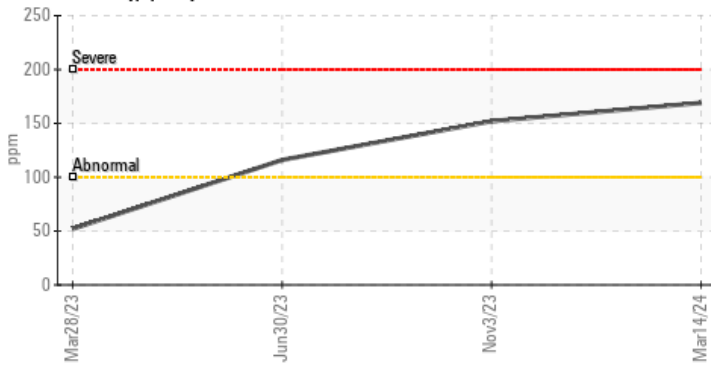


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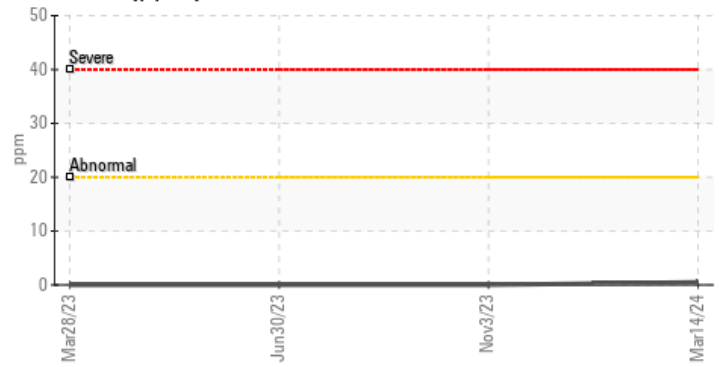


GRAPHS

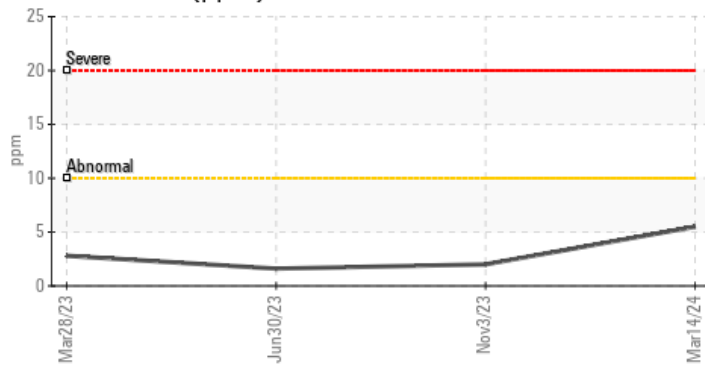
▲ Iron (ppm)



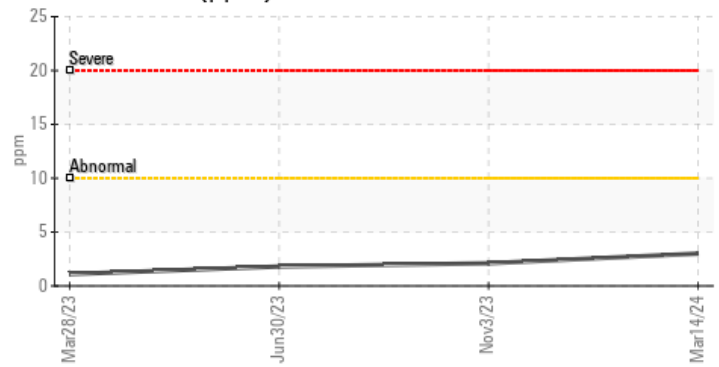
Lead (ppm)



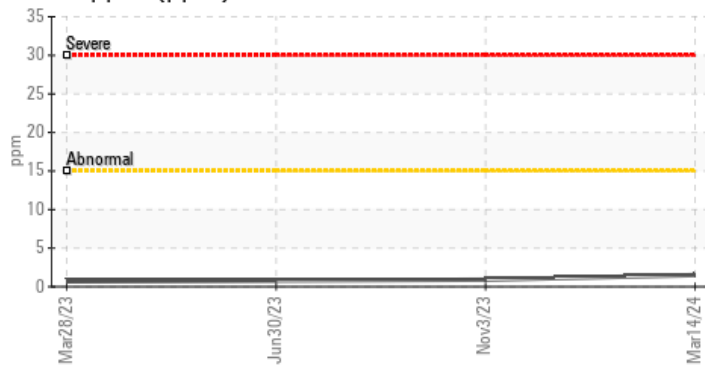
Aluminum (ppm)



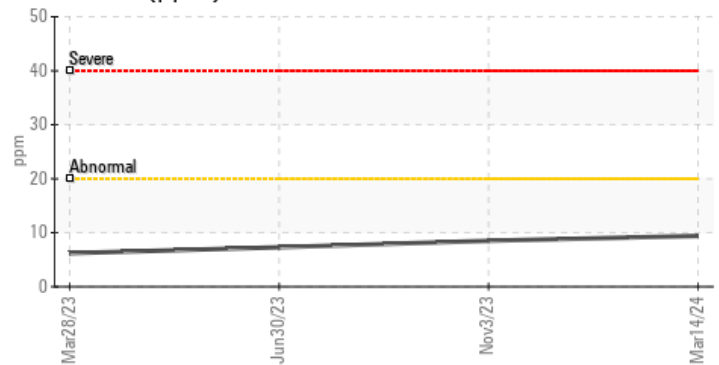
Chromium (ppm)



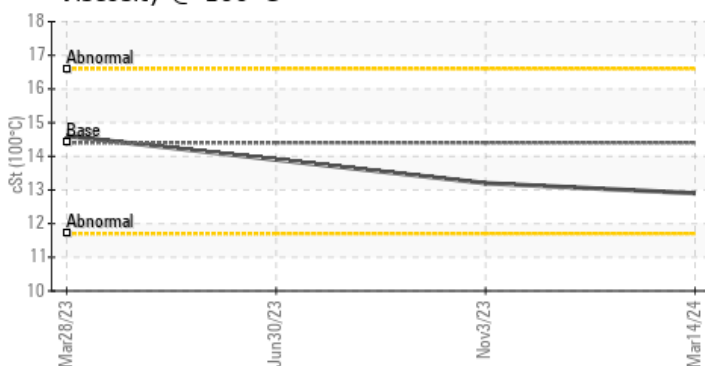
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

