



CONSTRUCTION EQUIPMENT

VOLVO A40F 12382 - DIESEL ENGINE



Sample No: VCP307505
Oil Type: MOBIL 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP307505	VCP339735	VCP312560	VCP385110
Sample Date	30 Jan 2024	10 Oct 2023	01 Sep 2023	26 Jul 2023
Machine Hours	14544	14258	13992	13692
Oil Hours	286	266	300	186
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.8	12.9	12.4	12.6
Base Number (BN)	mg KOH/g	7.1	7.7	10.4	9.5
Oxidation (PA)	%	58	62	79	76



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.3	0.2	0.2	0.1
Nitration (PA)	%	68	60	50	46
Sulfation (PA)	%	50	51	60	58
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	▲ 21	11	11	9
Sodium	ppm	4	2	<1	2
Potassium	ppm	3	2	2	<1



WEAR METALS

Iron	ppm	11	6	7	5
Copper	ppm	2	<1	<1	<1
Lead	ppm	<1	<1	<1	<1
Tin	ppm	<1	0	<1	0
Aluminum	ppm	10	7	6	2
Chromium	ppm	<1	<1	0	<1
Molybdenum	ppm	122	100	42	39
Nickel	ppm	1	<1	<1	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	<1
Manganese	ppm	<1	0	<1	<1
Vanadium	ppm	<1	0	0	<1



ADDITIVES

Calcium	ppm	1039	1353	1658	1743
Magnesium	ppm	573	611	469	522
Zinc	ppm	747	869	904	900
Phosphorus	ppm	583	743	735	751
Barium	ppm	34	0	0	0
Boron	ppm	105	103	54	60

Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal. 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.

Depot: SCHGRE
Unique No: 10898190
Signed: Don Baldrige
Report Date: 27 Feb 2024

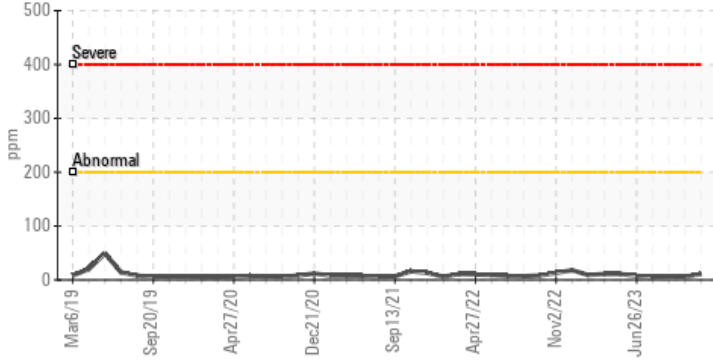


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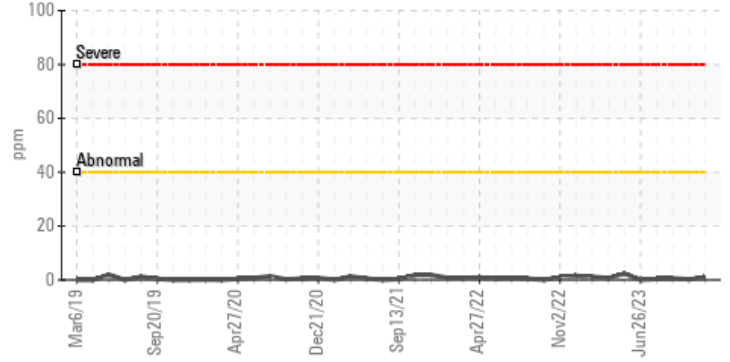


GRAPHS

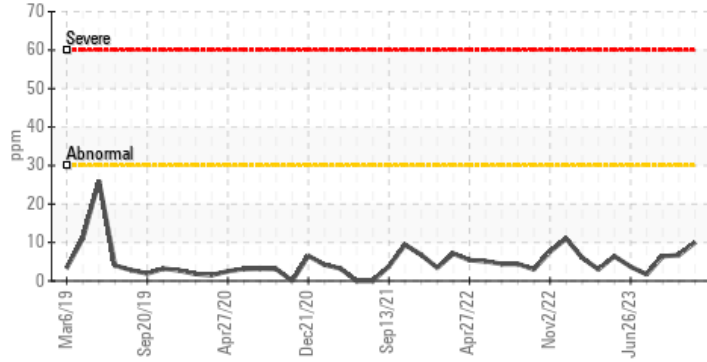
Iron (ppm)



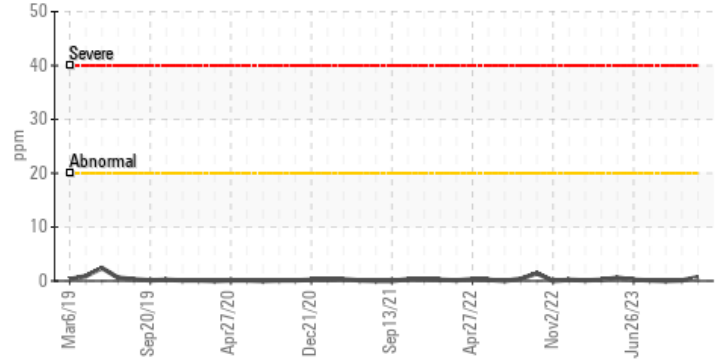
Lead (ppm)



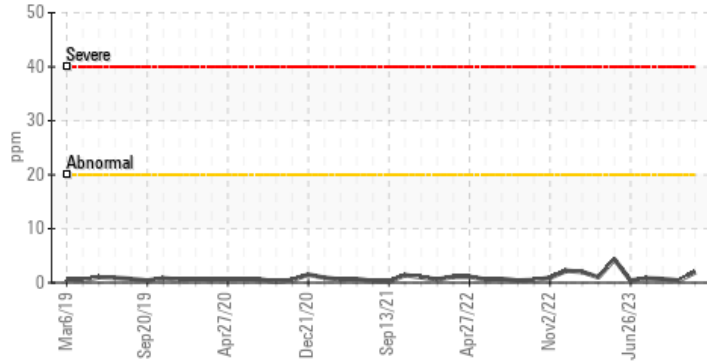
Aluminum (ppm)



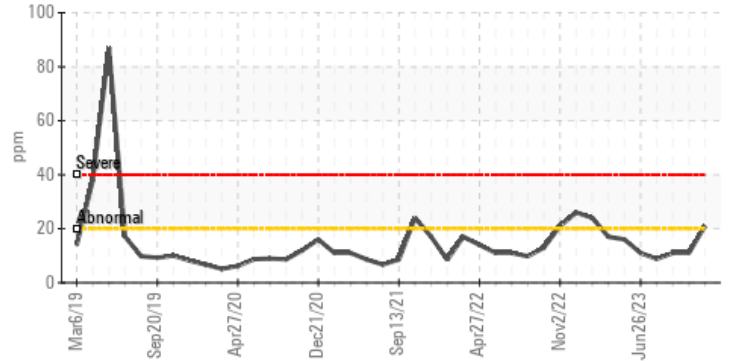
Chromium (ppm)



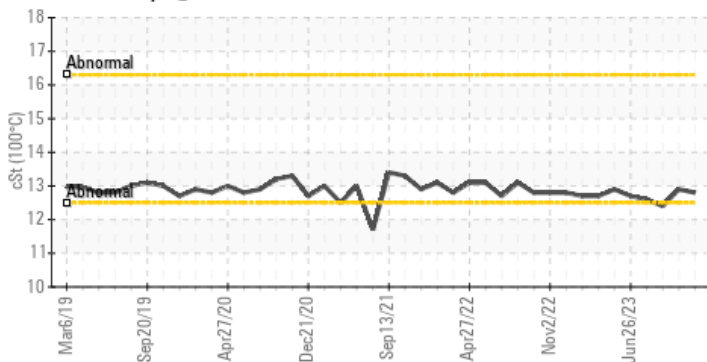
Copper (ppm)



▲ Silicon (ppm)



Viscosity @ 100°C



Base Number

