



CONSTRUCTION EQUIPMENT

42198 VOLVO L110H 631798 - DIESEL ENGINE



Sample No: VCP447503
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 42198



SAMPLE INFORMATION

Sample Number	VCP447503	VCP244427	VCP255910	VCP254781
Sample Date	24 May 2024	23 Jan 2020	23 Oct 2019	16 Sep 2019
Machine Hours	4126	0	1108	738
Oil Hours	0	1719	0	0
Oil Changed	Changed	N/A	N/A	N/A
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	13.6	13.6	13.7	13.4
Base Number (BN)	mg KOH/g	9.8	---	---	---
Oxidation (PA)	%	86	60	65	65

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.6	0.3	0.2	0.2
Nitration (PA)	%	68	63	60	49
Sulfation (PA)	%	65	54	56	56
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	6	7	13
Sodium	ppm	4	5	3	3
Potassium	ppm	4	5	2	9

Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The aluminum level is abnormal. 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 acceptable for the time in service.

WEAR METALS

Iron	ppm	27	11	9	10
Copper	ppm	2	5	5	5
Lead	ppm	2	3	1	1
Tin	ppm	2	<1	<1	0
Aluminum	ppm	▲ 26	6	8	16
Chromium	ppm	1	<1	<1	1
Molybdenum	ppm	41	20	22	23
Nickel	ppm	<1	<1	0	<1
Titanium	ppm	0	0	0	<1
Silver	ppm	<1	<1	<1	<1
Manganese	ppm	1	2	1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	1680	1754	1637	1479
Magnesium	ppm	518	738	672	637
Zinc	ppm	1110	875	909	787
Phosphorus	ppm	955	693	724	739
Barium	ppm	0	0	0	0
Boron	ppm	51	66	60	52

Depot: VOLVO0013
Unique No: 11050476
Signed: Sean Felton
Report Date: 30 May 2024

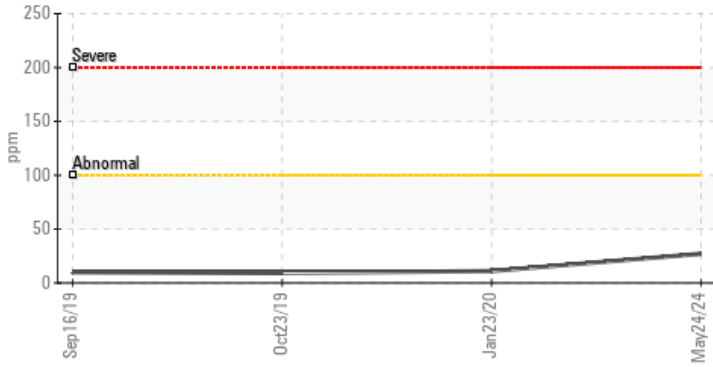


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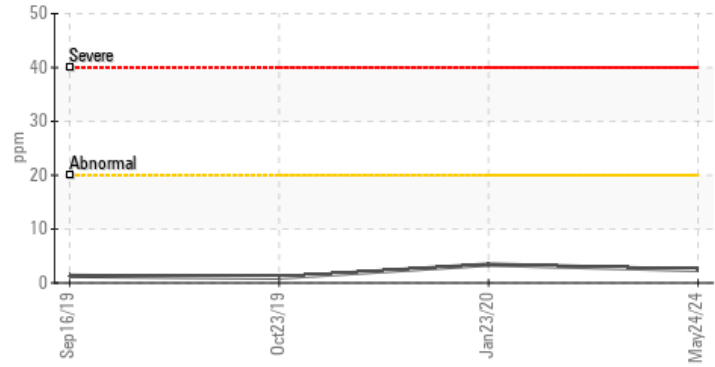


GRAPHS

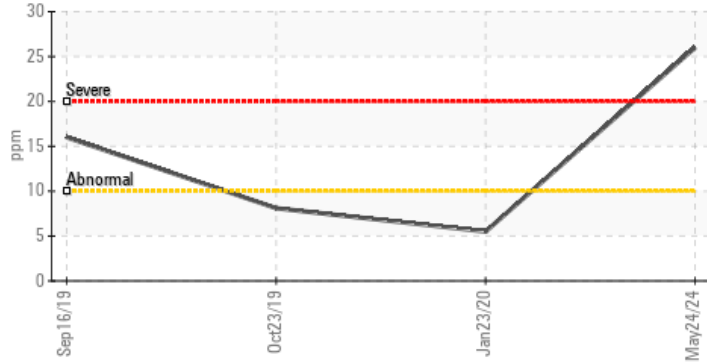
Iron (ppm)



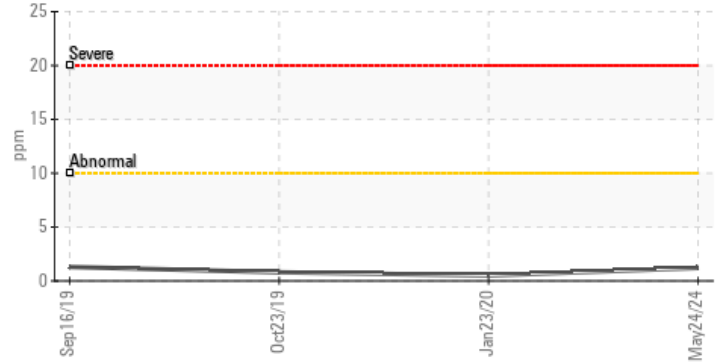
Lead (ppm)



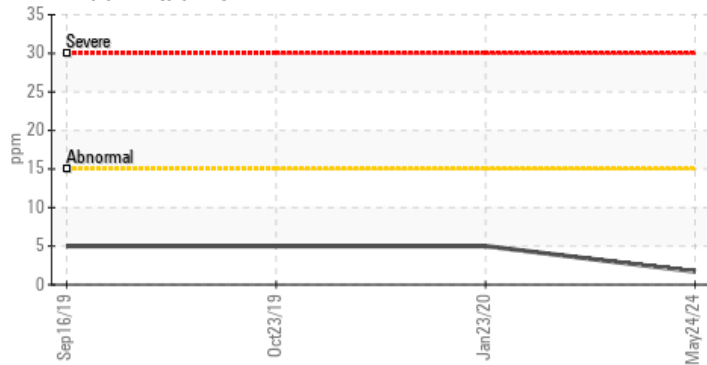
Aluminum (ppm)



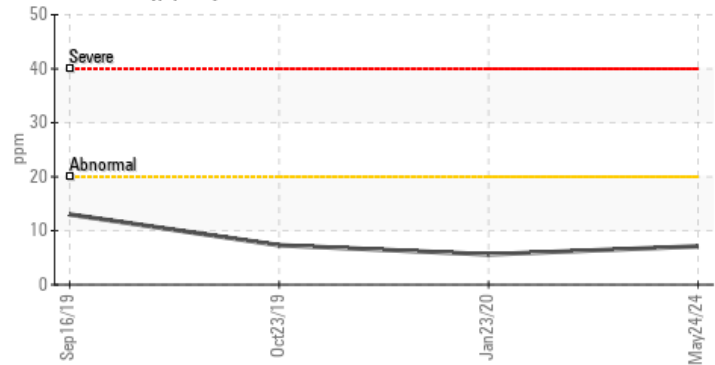
Chromium (ppm)



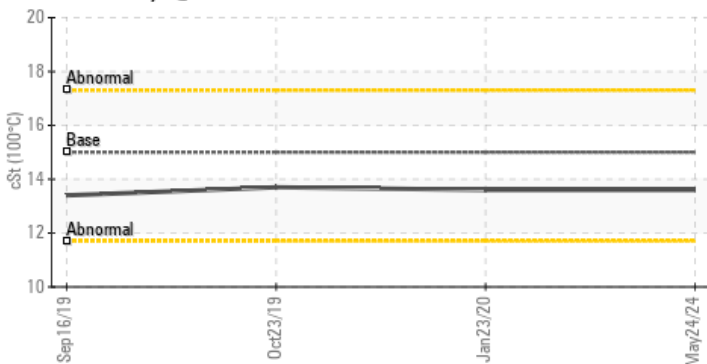
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

