



CONSTRUCTION EQUIPMENT

CITY OF LAKELAND VOLVO L60H 62236 - DIESEL ENGINE



Sample No: VCP440206
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: CITY OF LAKELAND



SAMPLE INFORMATION

Sample Number	VCP440206	VCP386069	VCP314589	VCP288915
Sample Date	14 Jun 2024	27 Sep 2022	06 Apr 2021	10 Nov 2020
Machine Hours	3495	2311	1004	524
Oil Hours	0	500	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.6	13.0	12.7	12.5
Base Number (BN)	mg KOH/g	10.2	11.6	---	---
Oxidation (PA)	%	77	87	76	62



CONTAMINATION

Water	%	NEG	NEG	NEG	0.107
Soot %	%	0.3	0.3	0.2	0.2
Nitration (PA)	%	60	65	65	68
Sulfation (PA)	%	58	66	61	55
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	9	8	8	19
Sodium	ppm	<1	3	3	3
Potassium	ppm	2	1	<1	3



WEAR METALS

Iron	ppm	31	12	16	35
Copper	ppm	3	1	2	10
Lead	ppm	<1	2	<1	2
Tin	ppm	1	1	1	2
Aluminum	ppm	▲ 20	10	0	6
Chromium	ppm	3	2	<1	2
Molybdenum	ppm	45	37	38	20
Nickel	ppm	<1	2	0	<1
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	1	1	4
Vanadium	ppm	0	1	0	0



ADDITIVES

Calcium	ppm	1618	1633	1512	1404
Magnesium	ppm	503	495	483	632
Zinc	ppm	1104	1111	1000	932
Phosphorus	ppm	885	938	897	894
Barium	ppm	0	0	0	<1
Boron	ppm	36	32	44	49

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. 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.

Depot: VOLVO0093
Unique No: 11089391
Signed: Sean Felton
Report Date: 24 Jun 2024

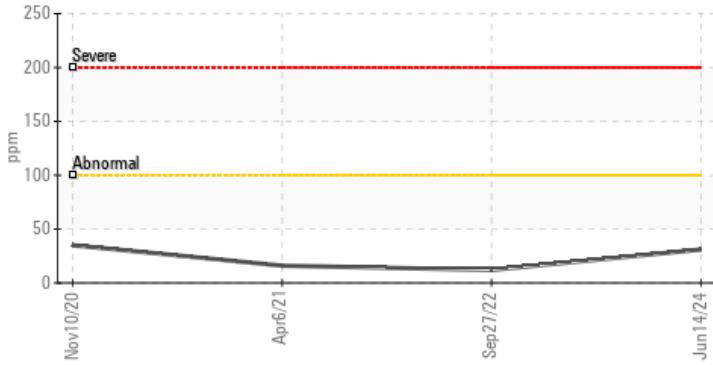


CONSTRUCTION EQUIPMENT

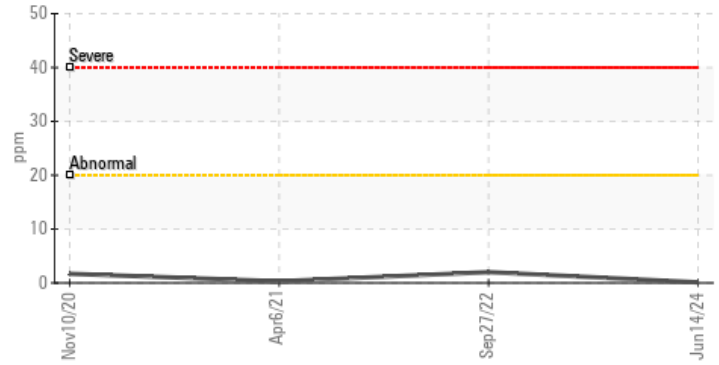


GRAPHS

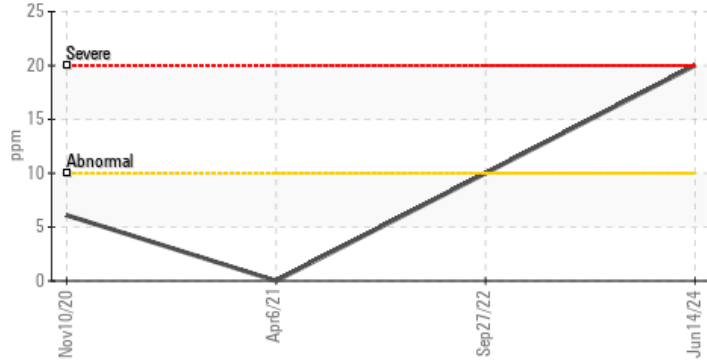
Iron (ppm)



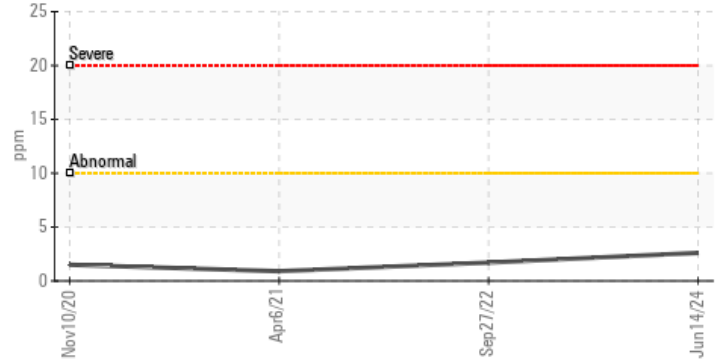
Lead (ppm)



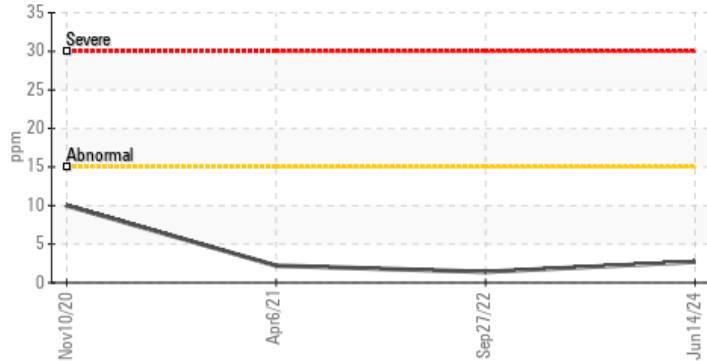
Aluminum (ppm)



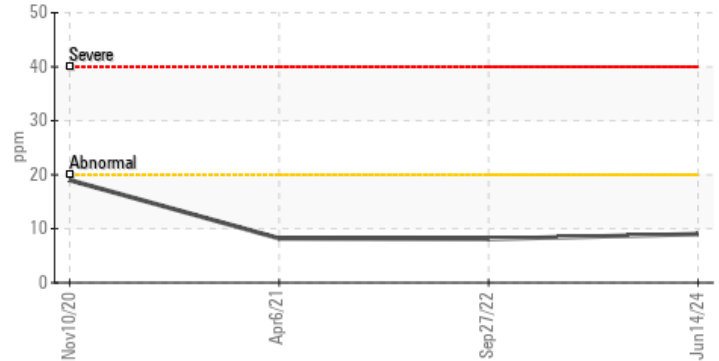
Chromium (ppm)



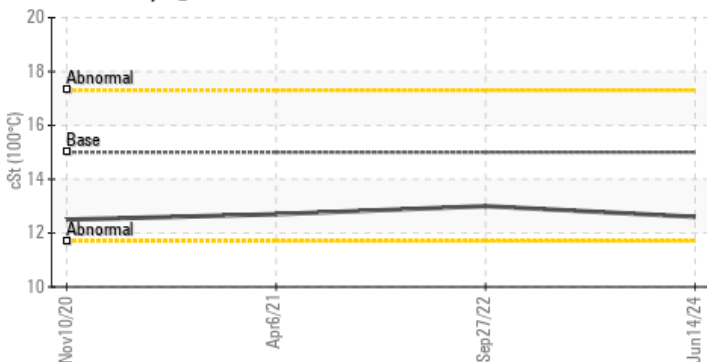
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

