



CONSTRUCTION EQUIPMENT

VOLVO L220H 3440 - DIESEL ENGINE



Sample No: VCP441590
Oil Type: SHELL ROTELLA T3 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP441590	VCP440504	VCP440713	VCP440501
Sample Date	03 May 2024	19 Apr 2024	05 Apr 2024	22 Mar 2024
Machine Hours	9275	9005	8728	8460
Oil Hours	270	277	268	263
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

COVANTA ENERGY
 141 CRANBERRY HWY
 WEST WAREHAM, MA
 US 02576
 Contact: SAWYER
 ssawyer@woodcomachinery.com
 T:
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OIL CONDITION

Visc @ 100°C	cSt	13.3	13.4	13.3	13.3
Base Number (BN)	mg KOH/g	6.3	6.6	6.6	6.7
Oxidation (PA)	%	39	39	39	39



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	53	53	53	53
Sulfation (PA)	%	46	47	47	46
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	10	4	4	6
Sodium	ppm	5	<1	1	<1
Potassium	ppm	5	<1	<1	<1



WEAR METALS

Iron	ppm	5	0	<1	1
Copper	ppm	3	3	<1	0
Lead	ppm	3	0	<1	0
Tin	ppm	3	0	0	0
Aluminum	ppm	4	0	<1	<1
Chromium	ppm	2	0	0	0
Molybdenum	ppm	17	10	11	13
Nickel	ppm	2	0	0	0
Titanium	ppm	2	0	0	0
Silver	ppm	3	0	0	0
Manganese	ppm	2	0	0	0
Vanadium	ppm	2	0	<1	0



ADDITIVES

Calcium	ppm	2903	2485	2295	2491
Magnesium	ppm	54	44	56	67
Zinc	ppm	1340	1184	964	1173
Phosphorus	ppm	1146	981	899	1023
Barium	ppm	<1	0	0	0
Boron	ppm	14	5	10	12

Diagnosis

Resample at the next service interval to monitor. All 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.

Depot: COVWES
Unique No: 11033711
Signed: Don Baldrige
Report Date: 20 May 2024

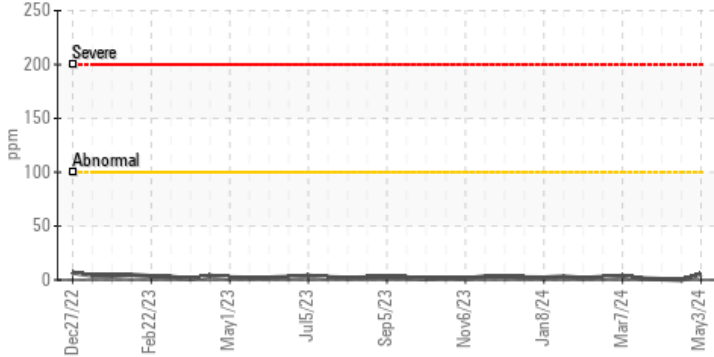


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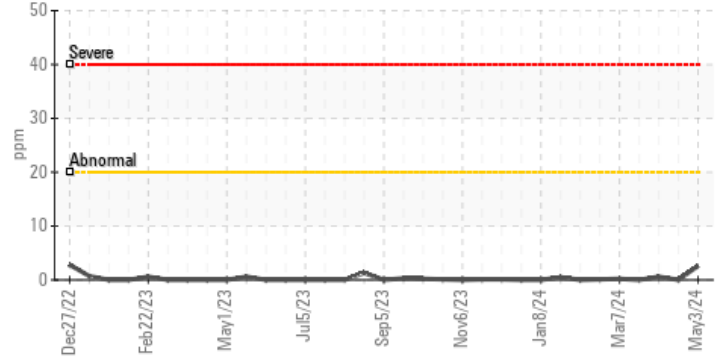


GRAPHS

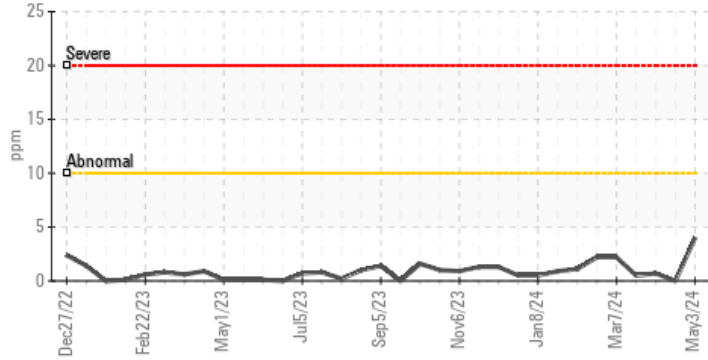
Iron (ppm)



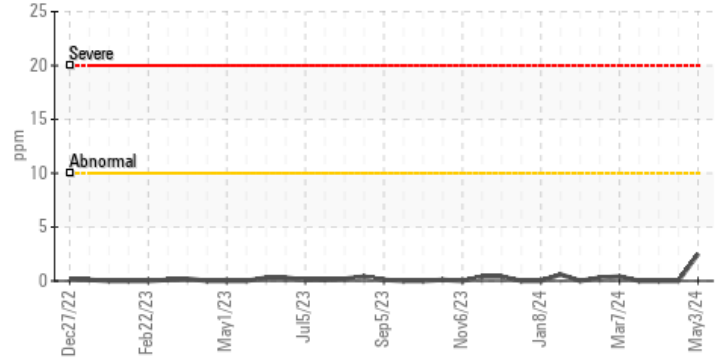
Lead (ppm)



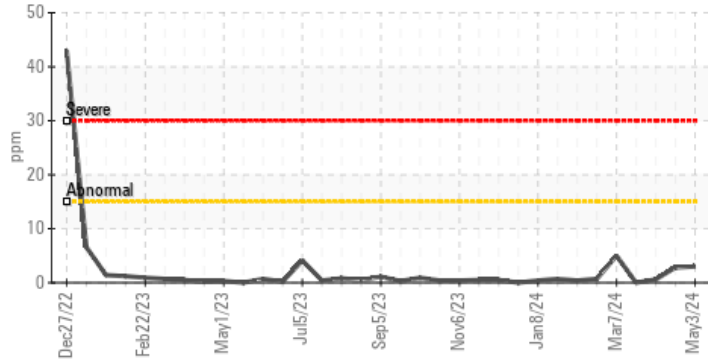
Aluminum (ppm)



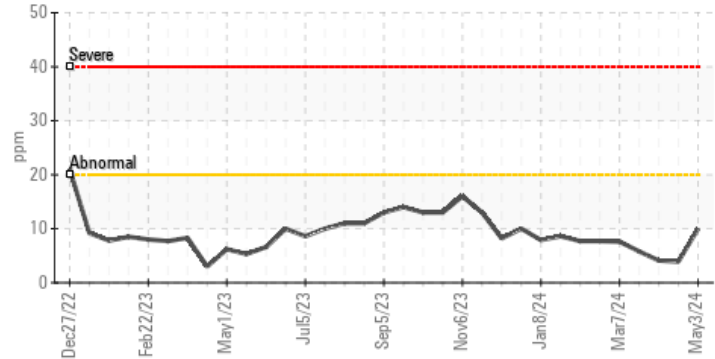
Chromium (ppm)



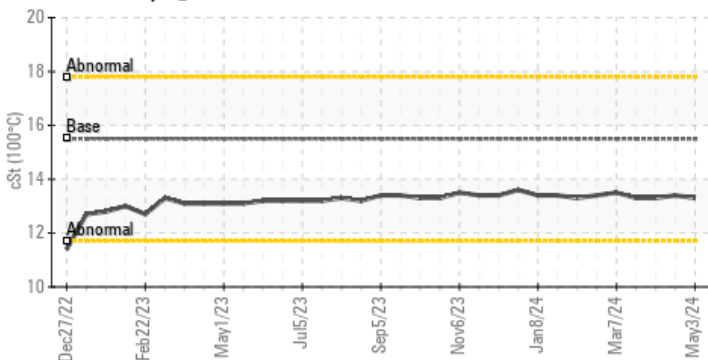
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

