CONSTRUCTION EQUIPMENT

600106 CRC VOLVO EC160E 310147 - DIESEL ENGINE

Sample No: VCP346235
Oil Type: CASTROL 15W40
Job No: 600106 CRC

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SAMPLE INFORMATION

Sample Number		**VCP346235**	VCP371480	VCP363390	VCP300183
Sample Date		**31 Mar 2023**	09 Jan 2023	11 Oct 2022	16 Mar 2021
Machine Hours		**0**	10533	10021	5652
Oil Hours		**0**	0	0	500
Oil Changed		**N/A**	Changed	N/A	Changed
Sample Status		**ABNORMAL**	ATTENTION	ABNORMAL	NORMAL

OIL CONDITION

Visc @ 100°C	cSt	**13.6**	14.1	14.0	13.6
Base Number (BN)	mg KOH/g	**7.2**	7.8	9.6	---
Oxidation (PA)	%	**50**	49	90	86

CONTAMINATION

Soot %	%	**0.4**	0.4	0.6	0.3
Nitration (PA)	%	**75**	73	92	66
Sulfation (PA)	%	**57**	52	68	67
Glycol	%	**NEG**	NEG	NEG	NEG
Fuel	%	**<1.0**	<1.0	<1.0	<1.0
Silicon	ppm	**19**	13	30	13
Sodium	ppm	**365**	94	145	2
Potassium	ppm	**6**	8	4	6

WEAR METALS

Iron	ppm	**13**	9	20	7
Copper	ppm	**2**	1	2	<1
Lead	ppm	**<1**	1	<1	1
Tin	ppm	**<1**	<1	1	<1
Aluminum	ppm	**7**	10	12	3
Chromium	ppm	**<1**	<1	<1	<1
Molybdenum	ppm	**14**	12	36	60
Nickel	ppm	**<1**	<1	0	1
Titanium	ppm	**<1**	<1	<1	<1
Silver	ppm	**0**	0	0	0
Manganese	ppm	**<1**	<1	<1	<1
Vanadium	ppm	**<1**	<1	0	0

ADDITIVES

Calcium	ppm	**2118**	1530	1967	1702
Magnesium	ppm	**243**	220	426	583
Zinc	ppm	**1158**	925	1216	859
Phosphorus	ppm	**916**	726	958	707
Barium	ppm	**0**	0	2	0
Boron	ppm	**6**	8	24	38

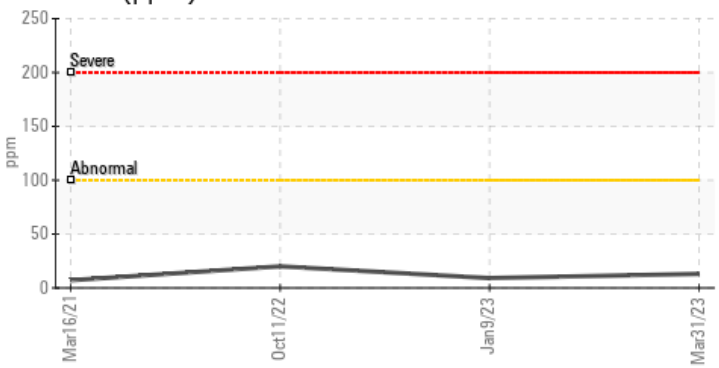
Diagnosis

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

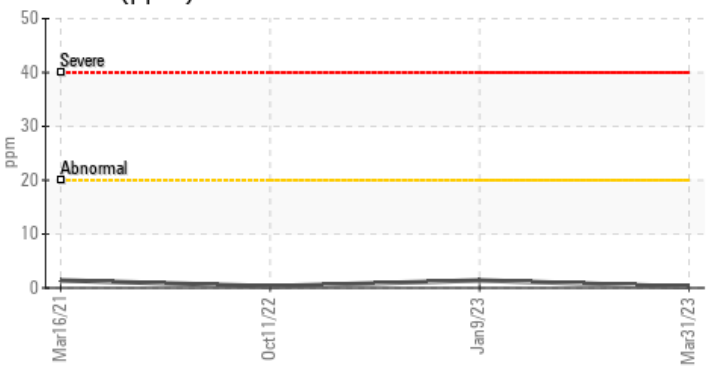
Depot: VOLVO1271
Unique No: 10661531
Signed: Jonathan Hester
Report Date: 27 Sep 2023

GRAPHS

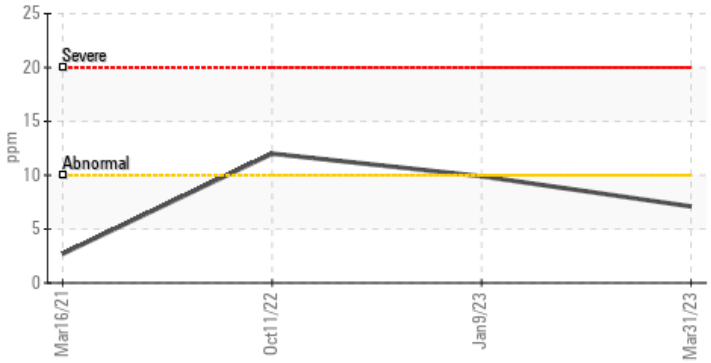
Iron (ppm)



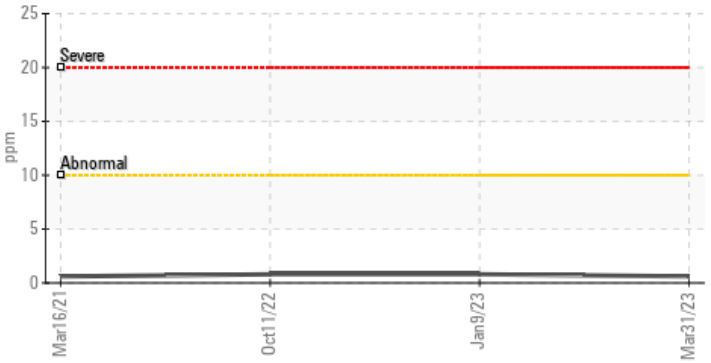
Lead (ppm)



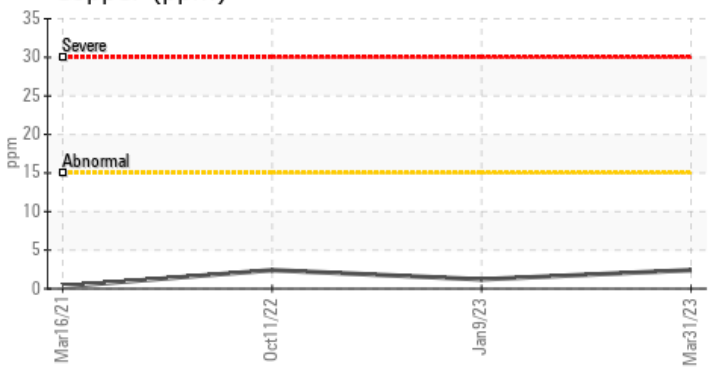
Aluminum (ppm)



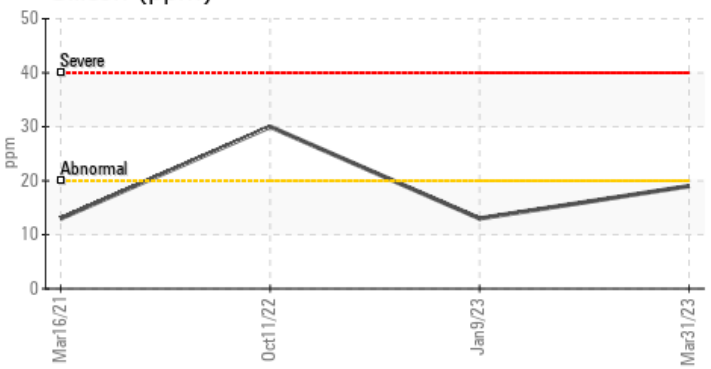
Chromium (ppm)



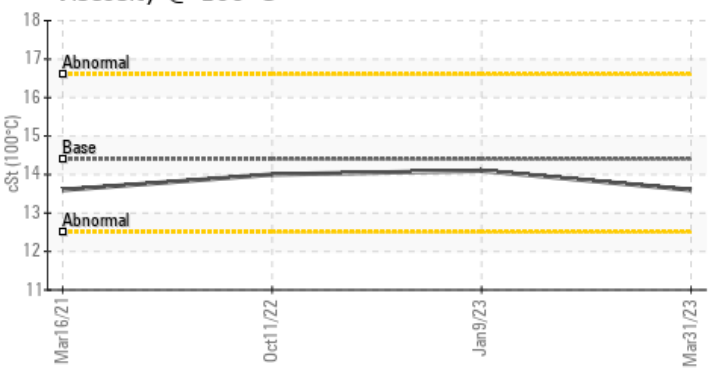
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number