



CONSTRUCTION EQUIPMENT

74 VOLVO ECR235DL 2 10480 - DIESEL ENGINE



Sample No: VC527564
Oil Type: MOBIL 15W40
Job No: 74



SAMPLE INFORMATION

Sample Number	VC527564	VC527533	VC527553	VC527541
Sample Date	15 Feb 2024	30 Mar 2023	30 Nov 2021	27 May 2021
Machine Hours	3838	3643	700	3037
Oil Hours	195	118	205	156
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

DUNN COUNTY HIGHWAY DEPARTMENT
 ROUTE 2 BOX 71A, 3303 US HWY 12 EAST
 MENOMONIE, WI
 US 54751
 Contact: DANNY NELSON
 dnelson@co.dunn.wi.us
 T: (715)232-2361
 F: (715)232-3888

OIL CONDITION

Visc @ 100°C	cSt	12.9	12.6	13.3	13.0
Base Number (BN)	mg KOH/g	8.8	9.4	10.5	---
Oxidation (PA)	%	57	61	76	69

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.2
Nitration (PA)	%	53	51	48	58
Sulfation (PA)	%	50	53	60	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	13	9	10	6
Sodium	ppm	3	1	2	2
Potassium	ppm	<1	<1	3	1

Diagnosis

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. An increase in the iron level is noted. Cylinder, crank, or cam shaft wear is indicated. 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	▲ 167	37	4	27
Copper	ppm	2	0	2	<1
Lead	ppm	0	0	<1	<1
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	6	2	2	3
Chromium	ppm	<1	0	<1	<1
Molybdenum	ppm	30	34	37	37
Nickel	ppm	<1	0	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	0	0	0	<1

ADDITIVES

Calcium	ppm	1904	1807	1741	1623
Magnesium	ppm	359	356	542	534
Zinc	ppm	1039	1009	916	974
Phosphorus	ppm	909	802	812	843
Barium	ppm	0	0	0	0
Boron	ppm	29	43	69	152

Depot: DUNMEN
Unique No: 10901692
Signed: Don Baldrige
Report Date: 02 Mar 2024

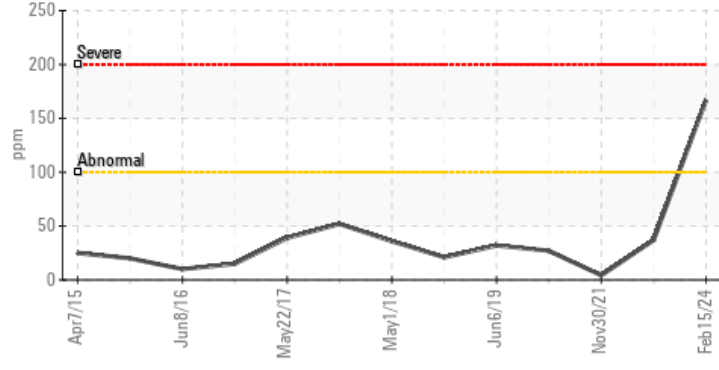


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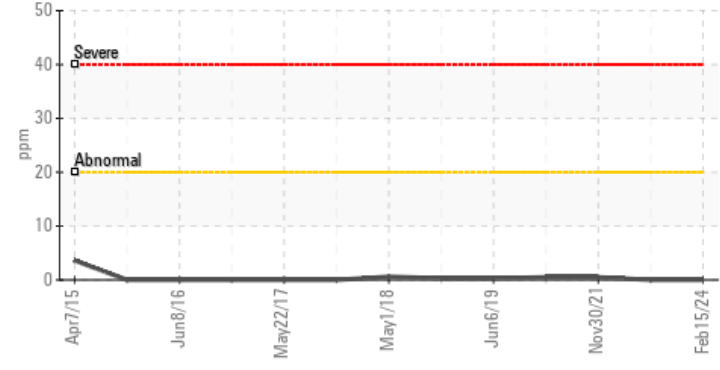


GRAPHS

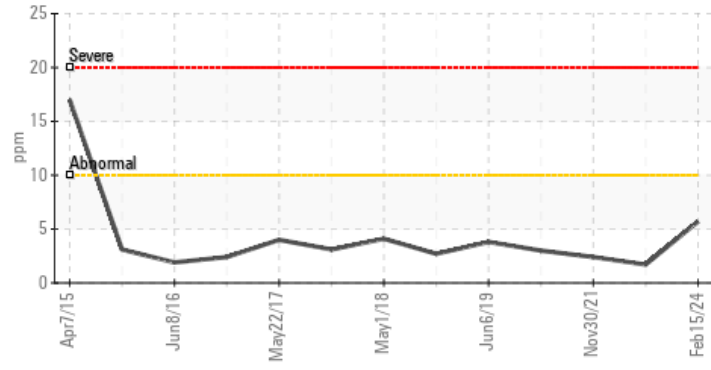
▲ Iron (ppm)



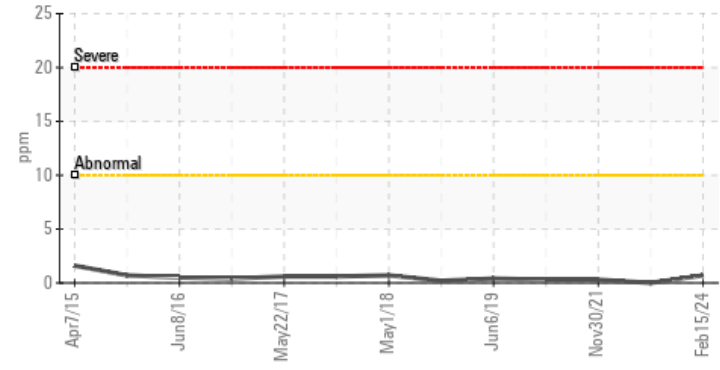
Lead (ppm)



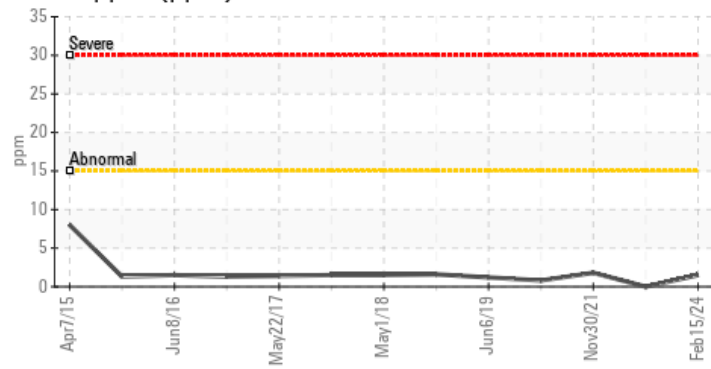
Aluminum (ppm)



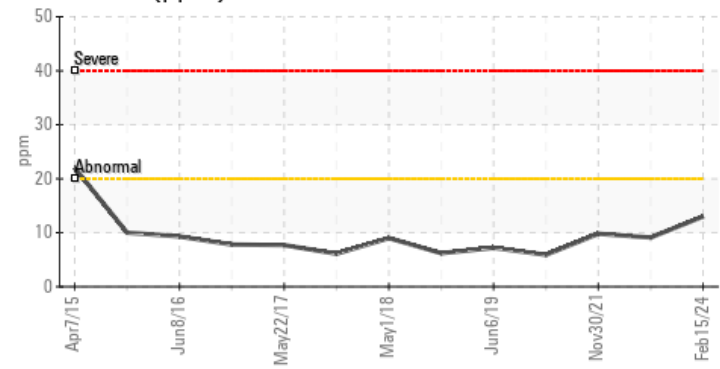
Chromium (ppm)



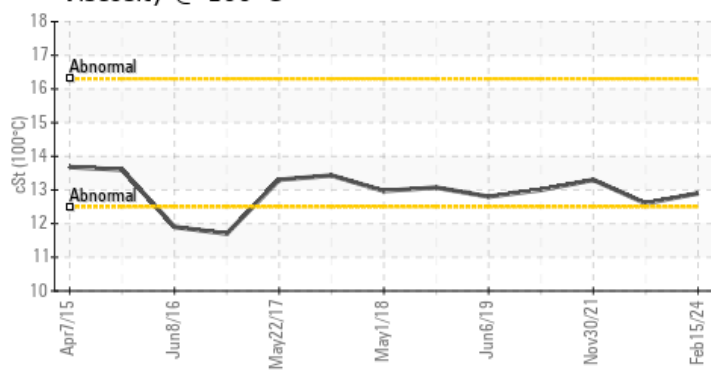
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

