



CONSTRUCTION EQUIPMENT

VOLVO ECR235EL 311165 - DIESEL ENGINE



Sample No: VCP432778
Oil Type: VALVOLINE 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP432778	VCP424489	VCP344882	VCP311611
Sample Date	26 Feb 2024	28 Sep 2023	30 Jan 2023	26 Jan 2023
Machine Hours	9249	9006	8302	0
Oil Hours	0	0	500	0
Oil Changed	Changed	Not Changd	N/A	Not Changd
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL

CITY CARTING
 221 OLD GATE LN
 MILFORD, CT
 US 06460
 Contact: TAVINS BANKS
 tavins@citycart.net
 T: (203)223-3885
 F:



OIL CONDITION

Visc @ 100°C	cSt	10.5	12.3	8.4	8.4
Base Number (BN)	mg KOH/g	7.3	6.7	2.8	3.3
Oxidation (PA)	%	65	33	57	58

Diagnosis

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. Piston wear is indicated. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.3	0.1	0.5	0.5
Nitration (PA)	%	47	40	49	52
Sulfation (PA)	%	57	40	53	54
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	0.4	0.5	1.3	1.3
Silicon	ppm	12	7	17	17
Sodium	ppm	3	4	<1	2
Potassium	ppm	2	5	2	2



WEAR METALS

Iron	ppm	33	24	28	28
Copper	ppm	2	3	6	6
Lead	ppm	0	<1	<1	<1
Tin	ppm	<1	<1	1	2
Aluminum	ppm	43	20	19	19
Chromium	ppm	9	2	15	15
Molybdenum	ppm	35	23	20	20
Nickel	ppm	3	<1	<1	<1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	1	<1	<1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	1196	1646	711	727
Magnesium	ppm	351	114	169	173
Zinc	ppm	959	902	730	750
Phosphorus	ppm	837	761	563	566
Barium	ppm	0	0	0	0
Boron	ppm	34	14	11	11

Depot: CITMILCON
Unique No: 10903922
Signed: Jonathan Hester
Report Date: 05 Mar 2024

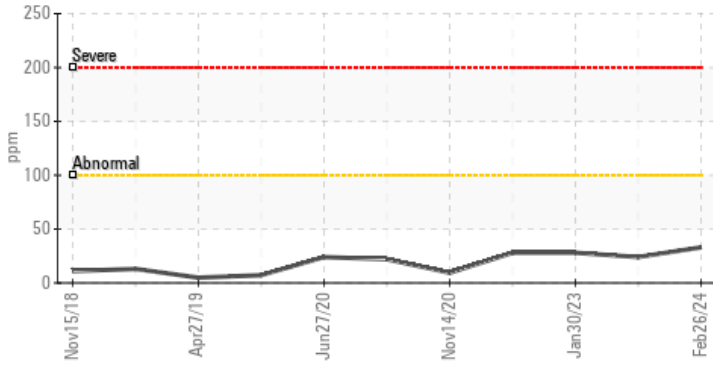


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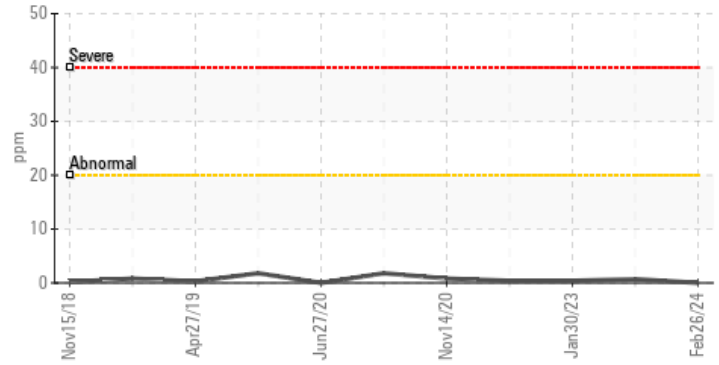


GRAPHS

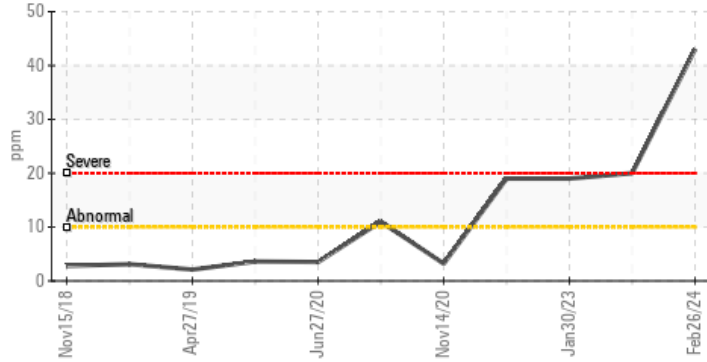
Iron (ppm)



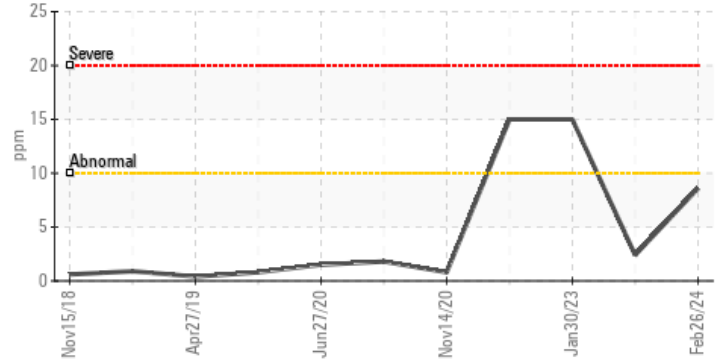
Lead (ppm)



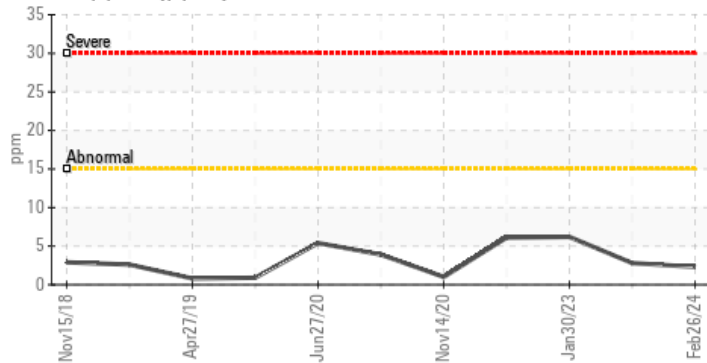
Aluminum (ppm)



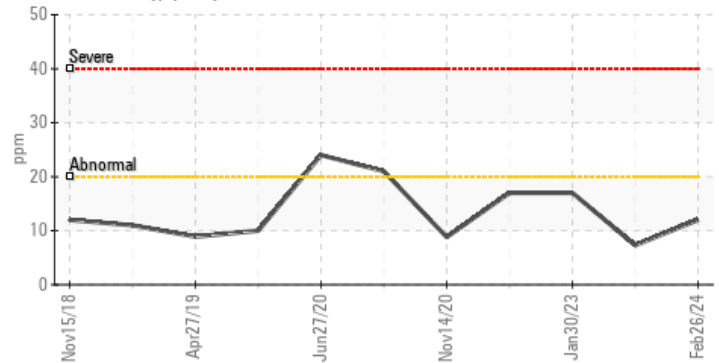
Chromium (ppm)



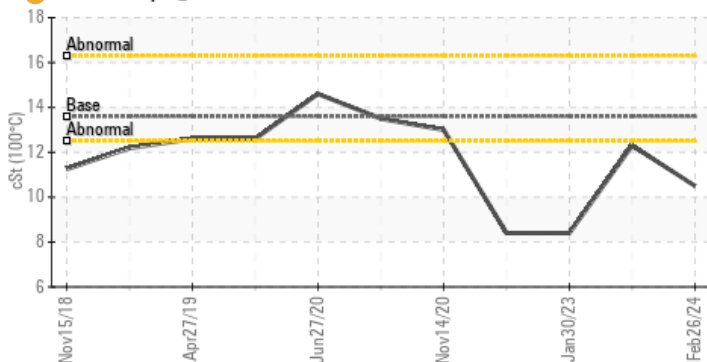
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

