



CONSTRUCTION EQUIPMENT

662069 VOLVO A35F 10350 - DIESEL ENGINE



Sample No: VCP441874
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 662069



SAMPLE INFORMATION

Sample Number	VCP441874	VCP400005	VCP310933	VCP268153
Sample Date	01 Feb 2024	12 Jul 2023	18 Jun 2021	15 Jan 2020
Machine Hours	12432	12035	11179	10665
Oil Hours	500	0	500	500
Oil Changed	Changed	N/A	Changed	Changed
Sample Status	ABNORMAL	NORMAL	ABNORMAL	NORMAL

RIPA AND ASSOCIATES
 10149 FISHER AVENUE
 TAMPA, FL
 US 33619
 Contact: PM Services
 PMServices@ripaconstruction.com
 T:
 F:

OIL CONDITION

Visc @ 100°C	cSt	12.2	13.6	12.2	13.0
Base Number (BN)	mg KOH/g	7.7	8.5	---	---
Oxidation (PA)	%	55	58	82	74

CONTAMINATION

Water	%	NEG	NEG	0.109	NEG
Soot %	%	0.1	0.1	0.4	1
Nitration (PA)	%	69	58	75	74
Sulfation (PA)	%	50	52	66	61
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	0.8	0.3	0.8	<1.0
Silicon	ppm	30	13	19	6
Sodium	ppm	3	2	3	3
Potassium	ppm	3	6	2	1

Diagnosis
 We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil viscosity is lower than normal. Confirm oil type.

WEAR METALS

Iron	ppm	21	8	26	12
Copper	ppm	7	2	25	2
Lead	ppm	1	1	2	1
Tin	ppm	1	<1	<1	<1
Aluminum	ppm	16	6	15	6
Chromium	ppm	2	<1	1	<1
Molybdenum	ppm	74	61	40	28
Nickel	ppm	2	0	1	<1
Titanium	ppm	1	<1	<1	0
Silver	ppm	0	0	<1	0
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	<1	<1	0	0

ADDITIVES

Calcium	ppm	1941	1972	1582	1532
Magnesium	ppm	177	193	544	555
Zinc	ppm	1165	1158	1014	781
Phosphorus	ppm	964	961	930	726
Barium	ppm	1	0	0	0
Boron	ppm	56	86	60	23

Depot: RIPTAM
Unique No: 10900912
Signed: Jonathan Hester
Report Date: 04 Mar 2024

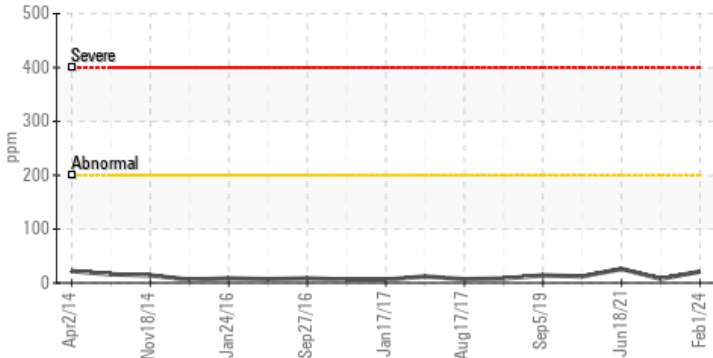


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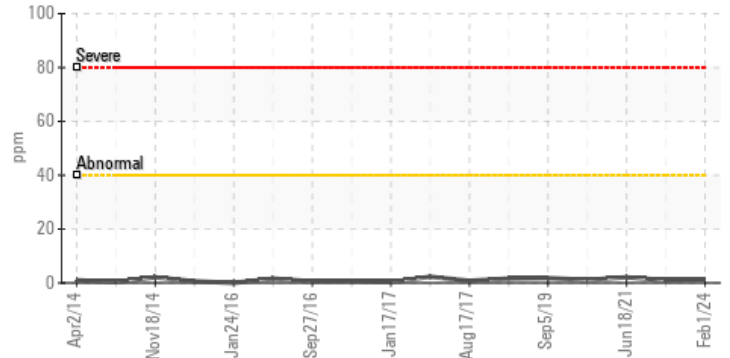


GRAPHS

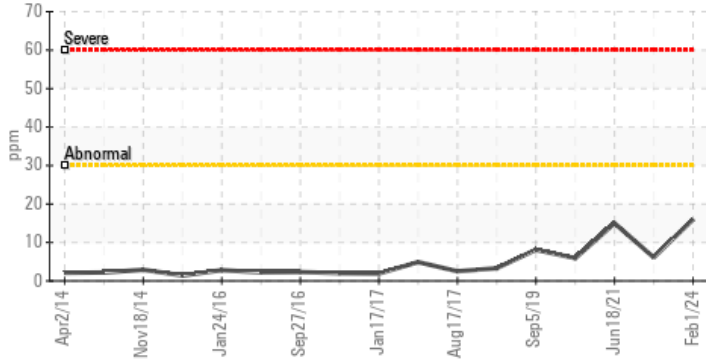
Iron (ppm)



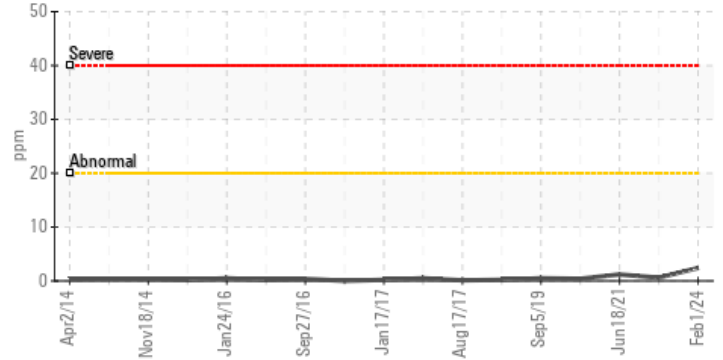
Lead (ppm)



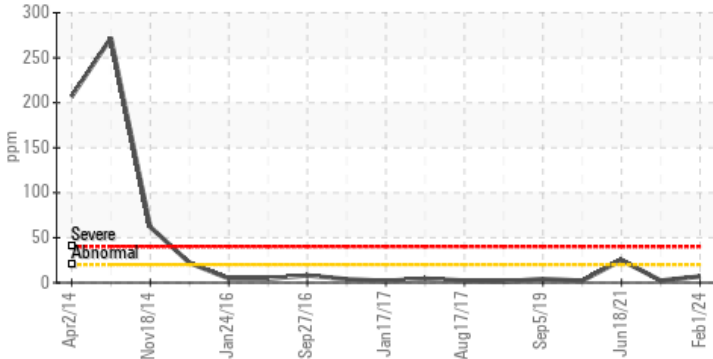
Aluminum (ppm)



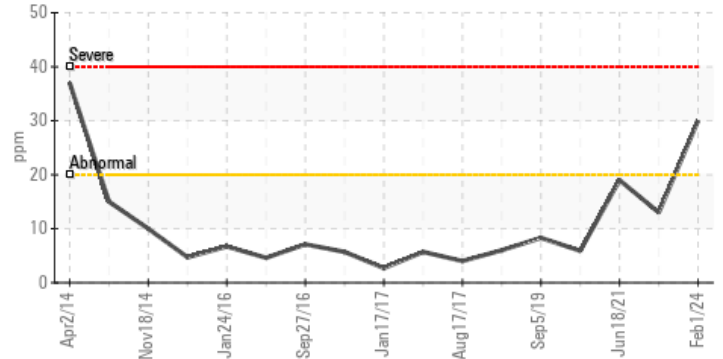
Chromium (ppm)



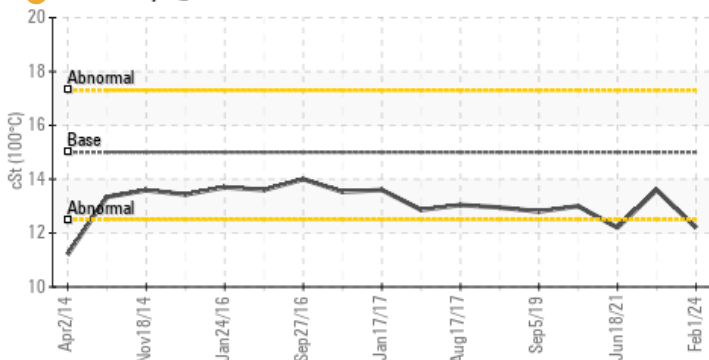
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

