



CONSTRUCTION EQUIPMENT

581562 VOLVO SD115B 236537 - DIESEL ENGINE



Sample No: VCP416193
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 581562



SAMPLE INFORMATION

Sample Number	VCP416193	VCP420232	VCP385154	VCP364358
Sample Date	23 Aug 2023	27 Apr 2023	15 Nov 2022	25 Aug 2022
Machine Hours	6784	6187	5430	6947
Oil Hours	500	500	500	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	ATTENTION	ATTENTION	ABNORMAL

RIPA AND ASSOCIATES

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



OIL CONDITION

Visc @ 100°C	cSt	▲ 11.9	▲ 12.4	▲ 12.0	▲ 12.0
Base Number (BN)	mg KOH/g	■ 8.7	■ 9.3	■ 11.2	■ 9.7
Oxidation (PA)	%	86	84	86	94

Diagnosis

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. 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

Soot %	%	■ 0.9	■ 0.5	■ 0.4	■ 0.5
Nitration (PA)	%	100	83	76	99
Sulfation (PA)	%	61	61	64	65
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	▲ 2.4	▲ 4.5
Silicon	ppm	■ 7	■ 5	■ 5	■ 6
Sodium	ppm	■ 2	■ <1	■ 2	■ 3
Potassium	ppm	■ 8	■ 8	■ 7	■ 11



WEAR METALS

Iron	ppm	■ 21	■ 16	■ 10	■ 16
Copper	ppm	■ 2	■ 1	■ 2	■ 1
Lead	ppm	■ 1	■ <1	■ <1	■ <1
Tin	ppm	■ 1	■ <1	■ <1	■ 1
Aluminum	ppm	■ 7	■ 3	■ 4	■ 5
Chromium	ppm	■ 2	■ 2	■ 1	■ 1
Molybdenum	ppm	■ 55	■ 52	■ 42	■ 42
Nickel	ppm	■ 0	■ 0	■ <1	■ 0
Titanium	ppm	0	0	0	0
Silver	ppm	■ 0	■ 0	■ 0	0
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	■ 1858	■ 1825	■ 1615	■ 1666
Magnesium	ppm	■ 400	■ 395	■ 516	■ 492
Zinc	ppm	■ 1194	■ 1151	■ 1110	■ 1080
Phosphorus	ppm	■ 961	■ 945	■ 866	■ 883
Barium	ppm	■ 0	■ 0	■ 0	■ <1
Boron	ppm	■ 13	■ 44	■ 21	■ 15

Depot: RIPTAM
Unique No: 10668489
Signed: Jonathan Hester
Report Date: 27 Sep 2023

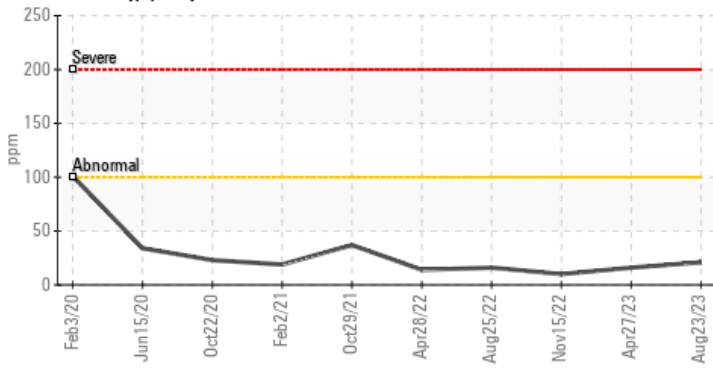


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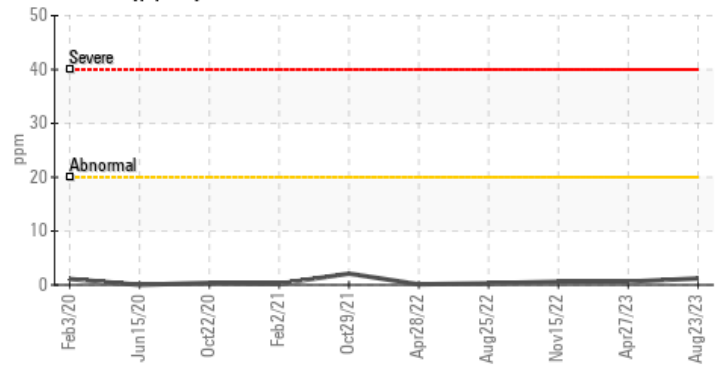


GRAPHS

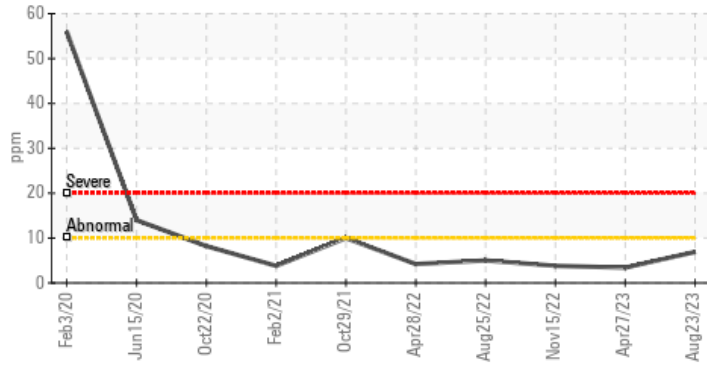
Iron (ppm)



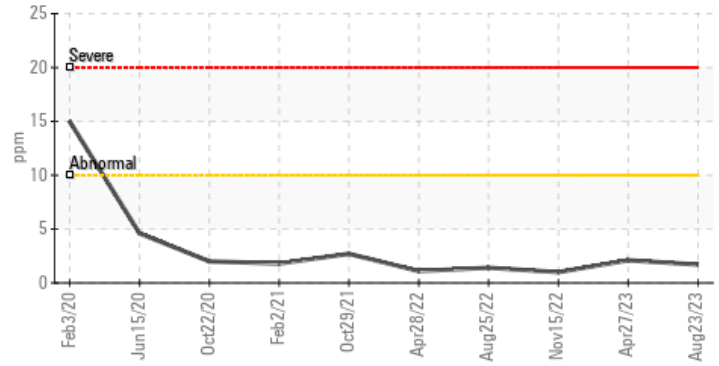
Lead (ppm)



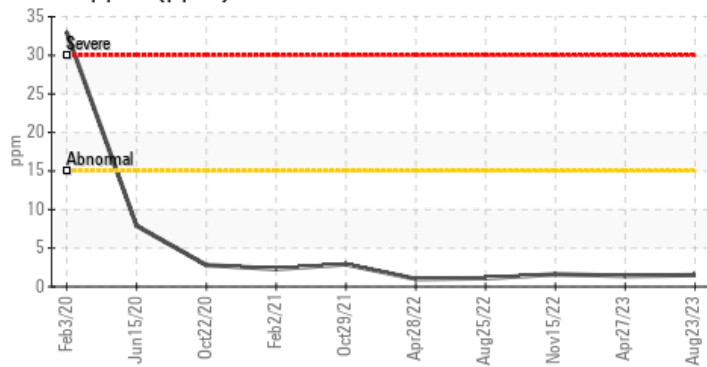
Aluminum (ppm)



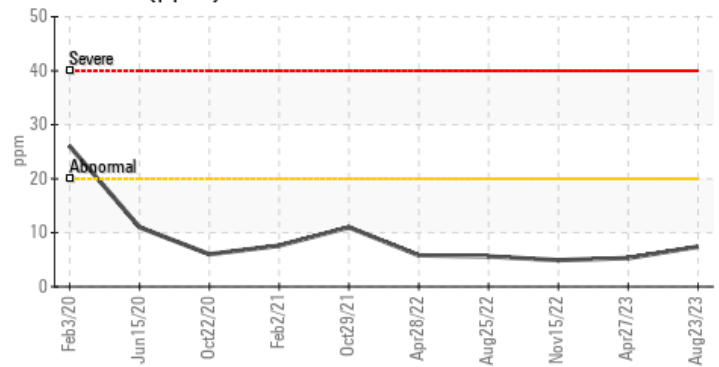
Chromium (ppm)



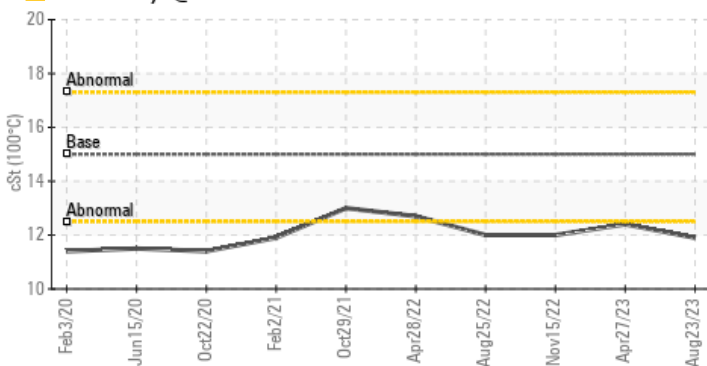
Copper (ppm)



Silicon (ppm)



▲ Viscosity @ 100°C



Base Number

