



CONSTRUCTION EQUIPMENT

VOLVO A40F 342498 - DIESEL ENGINE



Sample No: VCP407863
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP407863	VCP394251	VCP386760	VCP377767
Sample Date	07 Jun 2023	27 Feb 2023	09 Sep 2022	15 Jun 2022
Machine Hours	7967	7463	6976	6561
Oil Hours	500	500	500	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	ATTENTION	NORMAL	ABNORMAL

RIPA AND ASSOCIATES
 10149 FISHER AVENUE
 TAMPA, FL
 US 33619
 Contact: ROBERT TURNER
 rturner@ripatampa.com
 T:
 F:

OIL CONDITION

Visc @ 100°C	cSt	▲ 12.2	▲ 12.1	■ 12.6	■ 12.8
Base Number (BN)	mg KOH/g	■ 10.0	■ 9.3	■ 10.7	■ 10.5
Oxidation (PA)	%	78	67	81	85

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. No other contaminants were detected 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 %	%	■ 0.2	■ 0.2	■ 0.2	■ 0.2
Nitration (PA)	%	63	63	72	72
Sulfation (PA)	%	60	55	62	63
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	■ 1.6	<1.0	<1.0
Silicon	ppm	■ 5	■ 6	■ 12	▲ 40
Sodium	ppm	■ 1	■ 0	■ 2	■ 3
Potassium	ppm	■ 0	■ 1	■ <1	■ 0

WEAR METALS

Iron	ppm	■ 6	■ 7	■ 8	■ 27
Copper	ppm	■ <1	■ 2	■ 1	■ 2
Lead	ppm	■ 0	■ <1	■ <1	■ 2
Tin	ppm	■ <1	■ <1	■ <1	■ 2
Aluminum	ppm	■ 3	■ 5	■ 4	▲ 25
Chromium	ppm	■ 0	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 42	■ 51	■ 39	■ 40
Nickel	ppm	■ 1	■ 6	■ <1	■ <1
Titanium	ppm	0	1	■ 11	1
Silver	ppm	■ 0	■ 0	0	<1
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	<1	<1	0	0

ADDITIVES

Calcium	ppm	■ 1539	■ 1532	■ 1674	■ 1661
Magnesium	ppm	■ 494	■ 504	■ 426	■ 497
Zinc	ppm	■ 1028	■ 1109	■ 1093	■ 1063
Phosphorus	ppm	■ 856	■ 901	■ 934	■ 881
Barium	ppm	■ 0	■ 2	■ 0	■ 0
Boron	ppm	■ 29	■ 22	■ 36	■ 31

Depot: RIPTAM
Unique No: 10551677
Signed: Don Baldrige
Report Date: 13 Jul 2023

VOLVO GRAPHS

