



CONSTRUCTION EQUIPMENT

VOLVO A40G 342175 - DIESEL ENGINE



Sample No: VCP440009
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP440009	VCP407857	VCP386184	VCP386799
Sample Date	17 Jan 2024	16 Jun 2023	28 Nov 2022	15 Sep 2022
Machine Hours	9773	9340	8479	8071
Oil Hours	0	500	500	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

RIPA AND ASSOCIATES
 10149 FISHER AVENUE
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 US 33619
 Contact: PM Services
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 T:
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OIL CONDITION

Visc @ 100°C	cSt	▲ 12.0	■ 12.3	■ 12.7	■ 13.0
Base Number (BN)	mg KOH/g	■ 9.5	■ 9.8	■ 10.2	■ 11.2
Oxidation (PA)	%	72	76	77	85

Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. Valve wear is indicated. All other component wear rates are normal. 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 %	%	■ 0.4	■ 0.5	■ 0.4	■ 0.4
Nitration (PA)	%	62	67	71	68
Sulfation (PA)	%	58	61	64	66
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	■ 0.7	■ 0.7	<1.0	<1.0
Silicon	ppm	■ 4	■ 4	■ 5	■ 6
Sodium	ppm	■ 14	■ 7	■ 10	■ 18
Potassium	ppm	■ 15	■ 4	■ 10	■ 17



WEAR METALS

Iron	ppm	■ 16	■ 10	■ 8	■ 10
Copper	ppm	■ 7	■ 1	■ <1	■ 2
Lead	ppm	■ <1	■ 0	■ 0	■ <1
Tin	ppm	■ <1	■ <1	■ <1	■ <1
Aluminum	ppm	■ 9	■ 11	■ 8	■ 11
Chromium	ppm	■ <1	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 49	■ 51	■ 52	■ 47
Nickel	ppm	▲ 11	■ 1	■ <1	■ 3
Titanium	ppm	<1	0	0	0
Silver	ppm	■ 0	■ 0	■ 0	■ 0
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	0	<1	0	0



ADDITIVES

Calcium	ppm	■ 1540	■ 1580	■ 1768	■ 1697
Magnesium	ppm	■ 456	■ 446	■ 392	■ 452
Zinc	ppm	■ 1069	■ 1027	■ 1125	■ 1091
Phosphorus	ppm	■ 931	■ 851	■ 947	■ 930
Barium	ppm	■ <1	■ 0	■ 0	■ 0
Boron	ppm	■ 38	■ 37	■ 37	■ 28

Depot: RIPTAM
Unique No: 10870783
Signed: Don Baldrige
Report Date: 09 Feb 2024



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GRAPHS

