



CONSTRUCTION EQUIPMENT

VOLVO A40G 353142 - DIESEL ENGINE



Sample No: VCP416306
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP416306	VCP411362	VCP397484	VCP386693
Sample Date	18 Aug 2023	12 Apr 2023	10 Jan 2023	06 Oct 2022
Machine Hours	2126	1624	0	585
Oil Hours	0	500	500	585
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	▲ 12.3	▲ 12.4	▲ 12.2	▲ 10.7
Base Number (BN)	mg KOH/g	■ 9.2	■ 8.5	■ 8.5	■ 6.7
Oxidation (PA)	%	75	63	79	61

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

Water	%	---	---	---	■ 0.107
Soot %	%	■ 0.2	■ 0.2	■ 0.2	■ 0.2
Nitration (PA)	%	64	58	70	91
Sulfation (PA)	%	58	51	65	59
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	■ 0.5
Silicon	ppm	■ 6	■ 5	■ 7	■ 29
Sodium	ppm	■ 3	■ 2	■ <1	■ 4
Potassium	ppm	■ <1	■ 0	■ 2	■ 1

WEAR METALS

Iron	ppm	■ 7	■ 6	■ 10	■ 17
Copper	ppm	■ 6	■ 8	▲ 81	▲ 293
Lead	ppm	■ <1	■ 0	■ 1	■ 4
Tin	ppm	■ 1	■ <1	■ 1	■ 3
Aluminum	ppm	■ 2	■ 1	■ 2	■ 2
Chromium	ppm	■ <1	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 47	■ 53	■ 47	■ 77
Nickel	ppm	■ 4	■ 2	■ 3	■ 1
Titanium	ppm	<1	0	0	0
Silver	ppm	■ 0	■ 0	■ 0	0
Manganese	ppm	■ <1	■ <1	■ 1	■ 3
Vanadium	ppm	<1	0	<1	0

ADDITIVES

Calcium	ppm	■ 1760	■ 1300	■ 1703	■ 2047
Magnesium	ppm	■ 639	806	■ 432	70
Zinc	ppm	■ 1228	■ 1228	■ 1116	■ 1202
Phosphorus	ppm	■ 1004	■ 1014	■ 906	■ 959
Barium	ppm	■ 0	■ 0	■ 2	■ 0
Boron	ppm	■ 30	■ 18	■ 27	■ 33

Depot: RIPTAM
Unique No: 10649657
Signed: Don Baldrige
Report Date: 20 Sep 2023



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GRAPHS

