



CONSTRUCTION EQUIPMENT

VOLVO EC60E 3 12799 - DIESEL ENGINE



Sample No: VCP432196
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP432196	VCP386138	VCP306456	VCP272455
Sample Date	15 Nov 2023	09 Jan 2023	27 Jan 2021	09 Jul 2020
Machine Hours	0	2987	2073	1580
Oil Hours	0	900	500	520
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	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	13.5	13.1	13.2	13.3
Base Number (BN)	mg KOH/g	9.2	9.9	---	---
Oxidation (PA)	%	65	87	97	96

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.2	0.2	0.2
Nitration (PA)	%	71	77	85	82
Sulfation (PA)	%	53	63	67	69
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	7	6	6
Sodium	ppm	5	3	5	5
Potassium	ppm	3	0	6	0



WEAR METALS

Iron	ppm	51	8	10	10
Copper	ppm	7	<1	4	19
Lead	ppm	0	<1	2	0
Tin	ppm	<1	<1	0	0
Aluminum	ppm	▲ 14	1	2	2
Chromium	ppm	2	<1	<1	<1
Molybdenum	ppm	72	45	44	40
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1369	1724	1864	1836
Magnesium	ppm	811	531	556	584
Zinc	ppm	1246	1210	1154	1071
Phosphorus	ppm	1009	959	991	899
Barium	ppm	0	0	0	0
Boron	ppm	11	43	26	25

Depot: RIPTAM
Unique No: 10777235
Signed: Jonathan Hester
Report Date: 11 Dec 2023



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GRAPHS

