

OIL ANALYSIS REPORT



A284258 - CENTER DIESEL ENGINE

Sample No: VPA042542
Oil Type: SHELL ROTELLA T4 15W40

SAMPLE INFORMATION

Sample Number	VPA042542	VPA023201	VPA022826	VPA023202
Sample Date	03 Dec 2023	12 Dec 2022	27 Nov 2021	17 Dec 2020
Machine Hours	1946	1773	1527	1306
Oil Hours	173	246	221	161
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION

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OIL CONDITION

Visc @ 100°C	cSt	14.7	14.9	15.0	15.48
Base Number (BN)	mg KOH/g	6.6	7.3	7.7	---
Oxidation (PA)	%	73	82	75	75

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	0.6	0.2	0.7
Nitration (PA)	%	77	92	72	83
Sulfation (PA)	%	60	68	63	65
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	7	8	9
Sodium	ppm	3	5	7	13
Potassium	ppm	14	13	12	9

Diagnosis

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

WEAR METALS

Iron	ppm	80	65	66	104
Copper	ppm	35	42	48	58
Lead	ppm	2	3	3	4
Tin	ppm	1	1	1	2
Aluminum	ppm	5	8	9	14
Chromium	ppm	4	4	4	7
Molybdenum	ppm	2	2	4	11
Nickel	ppm	3	2	2	3
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	<1	2	<1	2
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	<1	<1	0

ADDITIVES

Calcium	ppm	2228	2260	2377	2449
Magnesium	ppm	18	23	46	127
Zinc	ppm	1179	1185	1198	1257
Phosphorus	ppm	931	941	1064	1098
Barium	ppm	11	<1	0	0
Boron	ppm	145	116	120	68

Depot: VPCURCOU
Unique No: 10782822
Signed: Don Baldrige
Report Date: 15 Dec 2023

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VOLVO PENTA

GRAPHS

