

OIL ANALYSIS REPORT

VOLVO PENTA

RODNEY GRAHAM VOLVO D3 A427710 - CENTER DIESEL ENGINE

Sample No: VPA015390

Oil Type: CHEVRON DELO 400 MULTIGRADE 15W40

SAMPLE INFORMATION

Sample Number	VPA015390	VPA015382	VPA015384	VPA015385
Sample Date	18 Sep 2023	30 Dec 2022	30 Sep 2021	25 Sep 2018
Machine Hours	446	343	280	182
Oil Hours	103	63	30	73
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

RODNEY GRAHAM

20318 SE 119TH CT

ISSAQUAH, WA

US 98027

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OIL CONDITION

Visc @ 100°C	cSt	13.7	13.8	13.6	14.12
Base Number (BN)	mg KOH/g	7.9	8.4	---	---
Oxidation (PA)	%	49	48	51	54

CONTAMINATION

Soot %	%	0.3	0.2	0.2	0.3
Nitration (PA)	%	67	62	63	58
Sulfation (PA)	%	48	47	50	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	5	4	8
Sodium	ppm	7	6	6	3
Potassium	ppm	10	7	6	8

WEAR METALS

Iron	ppm	37	26	28	21
Copper	ppm	16	10	11	14
Lead	ppm	1	<1	1	1
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	7	6	5	5
Chromium	ppm	2	1	1	1
Molybdenum	ppm	4	3	3	39
Nickel	ppm	1	<1	1	2
Titanium	ppm	<1	0	<1	<1
Silver	ppm	<1	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	<1	<1

ADDITIVES

Calcium	ppm	1295	1313	1406	1453
Magnesium	ppm	694	632	676	656
Zinc	ppm	805	784	806	990
Phosphorus	ppm	685	668	719	864
Barium	ppm	13	1	0	0
Boron	ppm	86	100	94	221

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.

Depot: VPRODISS

Unique No: 10695901

Signed: Angela Borella

Report Date: 17 Oct 2023

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GRAPHS

