

OIL ANALYSIS REPORT



JOE WHITE CUMMINS 46009079 - PORT DIESEL ENGINE

Sample No: VPA036996
Oil Type: VALVOLINE PREMIUM BLUE 2000 15W40

SAMPLE INFORMATION

Sample Number	VPA036996	VPA040620	VPA035809	VPA032970
Sample Date	20 Oct 2023	25 Oct 2022	29 Oct 2021	02 Nov 2020
Machine Hours	1018	970	906	849
Oil Hours	98	67	57	36
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

Point Judith Marina
 360 Gooseberry Road
 WAKEFIELD, RI
 US 02879
 Contact: MATT ST. ANGELO
 service@pjmarina.com;canastasio@wearcheckusa.com
 T: (401)789-7189
 F: (401)783-5350

OIL CONDITION

Visc @ 100°C	cSt	13.5	13.6	14.5	14.3
Base Number (BN)	mg KOH/g	8.7	11.3	---	---
Oxidation (PA)	%	79	59	68	55

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.2	0.1	0.2	0.1
Nitration (PA)	%	80	45	73	64
Sulfation (PA)	%	56	55	56	51
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	6	6	5
Sodium	ppm	0	1	3	1
Potassium	ppm	2	0	<1	<1

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	54	41	22	33
Copper	ppm	23	14	15	8
Lead	ppm	<1	<1	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	2	2	5	10
Chromium	ppm	1	1	1	1
Molybdenum	ppm	53	49	37	23
Nickel	ppm	2	1	1	1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	<1	<1	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	1205	1200	1636	1997
Magnesium	ppm	808	789	513	254
Zinc	ppm	899	880	985	1139
Phosphorus	ppm	700	724	732	918
Barium	ppm	10	0	0	0
Boron	ppm	39	43	38	29

Depot: VP153811
Unique No: 10819342
Signed: Don Baldrige
Report Date: 09 Jan 2024

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VOLVO PENTA

GRAPHS

