

# OIL ANALYSIS REPORT



## VOLVO PENTA 1013543198 - PORT DIESEL ENGINE

Sample No: VPA020150

Oil Type: CHEVRON DELO 400 LE 15W40

### SAMPLE INFORMATION

Sample Number	VPA020150	VPA020825	VPA020711	VPA020717
Sample Date	20 May 2024	31 Jan 2024	13 Nov 2023	22 Aug 2023
Machine Hours	7496	6956	6479	6000
Oil Hours	540	477	443	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**CHARLESTON NAVIGATION**  
 6 CONCORD STREET  
 CHARLESTON, SC  
 US 29401  
 Contact: David Matash  
 dmatash@charlestonpilots.com  
 T: (843)296-8344  
 F: (843)577-0632

### OIL CONDITION

Visc @ 100°C	cSt	13.3	13.1	13.1	13.4
Base Number (BN)	mg KOH/g	7.6	6.4	7.3	5.9
Oxidation (PA)	%	71	67	67	67

### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.5	0.5	0.6	0.8
Nitration (PA)	%	73	66	69	73
Sulfation (PA)	%	65	64	64	65
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	6	5	6
Sodium	ppm	<1	0	0	1
Potassium	ppm	0	<1	0	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	8	17	12	23
Copper	ppm	<1	2	<1	1
Lead	ppm	2	1	1	2
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	4	2	3	4
Chromium	ppm	0	1	<1	<1
Molybdenum	ppm	112	97	98	87
Nickel	ppm	0	1	<1	0
Titanium	ppm	0	<1	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0

### ADDITIVES

Calcium	ppm	1490	1295	1423	1408
Magnesium	ppm	607	436	537	440
Zinc	ppm	974	1268	1115	1286
Phosphorus	ppm	805	904	911	1022
Barium	ppm	0	0	0	0
Boron	ppm	228	292	197	143

Depot: VPCHACHA  
 Unique No: 11060594  
 Signed: Don Baldrige  
 Report Date: 05 Jun 2024

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# VOLVO PENTA

## GRAPHS

