

# OIL ANALYSIS REPORT



## - STARBOARD IPS

**Sample No:** VPA020177  
**Oil Type:** GEAR OIL SAE 75W90

### SAMPLE INFORMATION

Sample Number	VPA020177	VPA020812	VPA020149	VPA020708
Sample Date	20 May 2024	31 Jan 2024	13 Nov 2023	22 Aug 2023
Machine Hours	539	6465	6465	6000
Oil Hours	539	477	438	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**CHARLESTON NAVIGATION**  
 6 CONCORD STREET  
 CHARLESTON, SC  
 US 29401  
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### OIL CONDITION

Visc @ 40°C	cSt	█ 102	█ 102	█ 101	█ 101
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### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	█ 0	█ 1	█ <1	█ 1
Sodium	ppm	█ <1	█ 3	█ 0	█ <1
Potassium	ppm	█ 1	█ 1	█ 2	█ 1

### Diagnosis

No corrective action is recommended at this time. 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 condition of the oil is acceptable for the time in service.

### WEAR METALS

PQ		█ 15	█ 17	█ 16	█ 21
Iron	ppm	█ 29	█ 43	█ 48	█ 95
Copper	ppm	█ 8	█ 7	█ 8	█ 9
Lead	ppm	█ 0	█ 0	█ 0	█ 0
Tin	ppm	█ <1	█ 0	█ 0	█ 0
Aluminum	ppm	█ 2	█ 3	█ 2	█ 5
Chromium	ppm	█ <1	█ <1	█ <1	█ <1
Molybdenum	ppm	█ <1	█ 0	█ 0	█ 0
Nickel	ppm	█ <1	█ 0	█ <1	█ <1
Titanium	ppm	█ <1	█ 0	█ <1	█ 0
Silver	ppm	█ 0	█ 0	█ 0	█ 0
Manganese	ppm	█ <1	█ <1	█ <1	█ <1
Vanadium	ppm	█ 0	█ <1	█ 0	█ 0

### ADDITIVES

Calcium	ppm	█ 0	█ 0	█ 2	█ <1
Magnesium	ppm	█ 2	█ 0	█ 2	█ 1
Zinc	ppm	█ 9	█ 0	█ 0	█ 0
Phosphorus	ppm	█ 1444	█ 1411	█ 1265	█ 1343
Barium	ppm	█ 0	█ 0	█ <1	█ 0
Boron	ppm	█ 352	█ 367	█ 331	█ 355

**Depot:** VPCHACHA  
**Unique No:** 11060485  
**Signed:** Sean Felton  
**Report Date:** 05 Jun 2024

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**VOLVO  
PENTA**

## GRAPHS

