

OIL ANALYSIS REPORT

VOLVO PENTA

PARDON 50 VOLVO PENTA 7008535398 - STARBOARD DIESEL ENGINE

Sample No: VPA054457

Oil Type: VOLVO PENTA SAE 15W40

SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-------------|-----|-----|
| Sample Number | VPA054457 | VPA048288 | --- | --- |
| Sample Date | 05 Mar 2024 | 27 Nov 2022 | --- | --- |
| Machine Hours | 538 | 284 | --- | --- |
| Oil Hours | 0 | 0 | --- | --- |
| Oil Changed | N/A | N/A | --- | --- |
| Sample Status | NORMAL | NORMAL | --- | --- |

Marine International Diesels Inc.

3600 HACIENDA BLVD UNIT G
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US 33314
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OIL CONDITION

| | | | | | |
|------------------|----------|--------|--------|-----|-----|
| Visc @ 100°C | cSt | █ 14.1 | █ 14.6 | --- | --- |
| Base Number (BN) | mg KOH/g | █ 9.2 | █ 9.5 | --- | --- |
| Oxidation (PA) | % | 60 | 49 | --- | --- |

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.

CONTAMINATION

| | | | | | |
|----------------|-----|-------|-------|-----|-----|
| Water | % | NEG | NEG | --- | --- |
| Soot % | % | █ 1.2 | █ 1.9 | --- | --- |
| Nitration (PA) | % | 65 | 75 | --- | --- |
| Sulfation (PA) | % | 58 | 59 | --- | --- |
| Glycol | % | NEG | NEG | --- | --- |
| Fuel | % | <1.0 | <1.0 | --- | --- |
| Silicon | ppm | █ 11 | █ 22 | --- | --- |
| Sodium | ppm | █ 3 | █ 3 | --- | --- |
| Potassium | ppm | █ 0 | █ 2 | --- | --- |

WEAR METALS

| | | | | | |
|------------|-----|------|------|-----|-----|
| Iron | ppm | █ 28 | █ 41 | --- | --- |
| Copper | ppm | █ 55 | █ 92 | --- | --- |
| Lead | ppm | █ 0 | █ 1 | --- | --- |
| Tin | ppm | █ 0 | █ <1 | --- | --- |
| Aluminum | ppm | █ 2 | █ 3 | --- | --- |
| Chromium | ppm | █ 1 | █ 2 | --- | --- |
| Molybdenum | ppm | █ 58 | 8 | --- | --- |
| Nickel | ppm | █ <1 | █ 2 | --- | --- |
| Titanium | ppm | █ 0 | █ 0 | --- | --- |
| Silver | ppm | █ <1 | █ 2 | --- | --- |
| Manganese | ppm | █ <1 | █ 1 | --- | --- |
| Vanadium | ppm | 0 | 0 | --- | --- |

ADDITIVES

| | | | | | |
|------------|-----|--------|--------|-----|-----|
| Calcium | ppm | █ 1107 | █ 1503 | --- | --- |
| Magnesium | ppm | 977 | █ 864 | --- | --- |
| Zinc | ppm | █ 1280 | █ 1381 | --- | --- |
| Phosphorus | ppm | █ 1081 | █ 1091 | --- | --- |
| Barium | ppm | █ 0 | █ 0 | --- | --- |
| Boron | ppm | █ 3 | █ 22 | --- | --- |

Depot: VP694356
Unique No: 10928260
Signed: Don Baldrige
Report Date: 18 Mar 2024

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GRAPHS

