



| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
RAYCO 87D 1X3 (S/N L87D0010804)

Component
Diesel Engine

Fluid
PHILLIPS 66 Fleet Supreme EC 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0191298 | JR0157184 | JR0117412 |
| Sample Date | | Client Info | | 04 Jan 2024 | 29 Dec 2022 | 31 Jan 2022 |
| Machine Age | hrs | Client Info | | 875 | 1327 | 0 |
| Oil Age | hrs | Client Info | | 0 | 250 | 0 |
| Filter Age | hrs | Client Info | | 0 | 250 | 0 |
| Oil Changed | | Client Info | | N/A | Changed | N/A |
| Filter Changed | | Client Info | | N/A | Changed | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 4 | 6 | 5 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 2 | 0 |
| Lead | ppm | ASTM D5185m | >40 | 8 | 21 | 13 |
| Copper | ppm | ASTM D5185m | >330 | 2 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

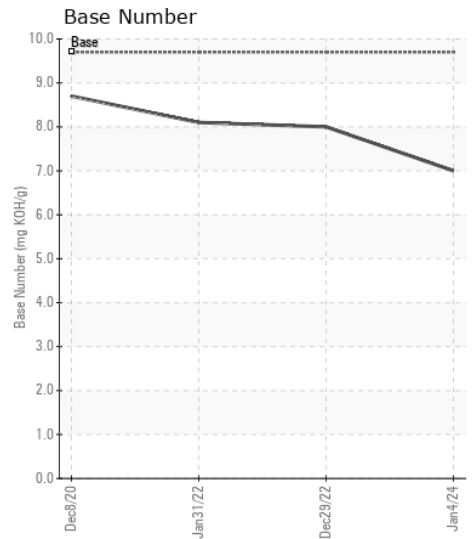
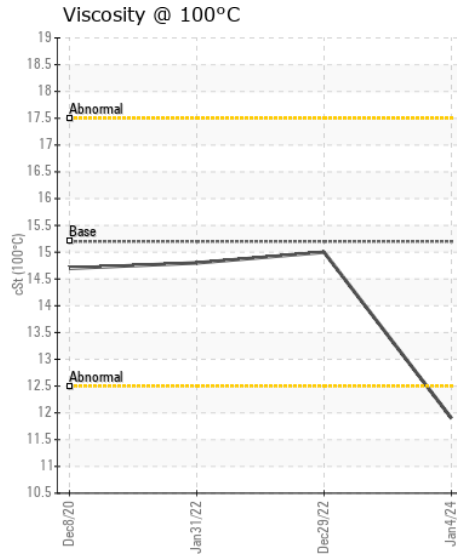
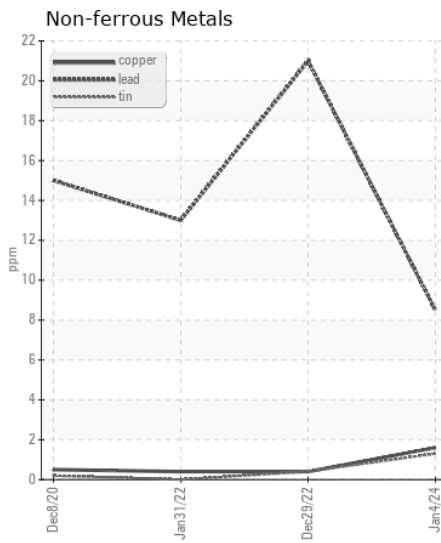
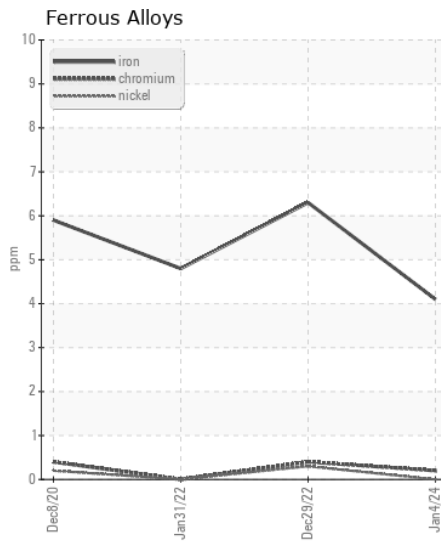
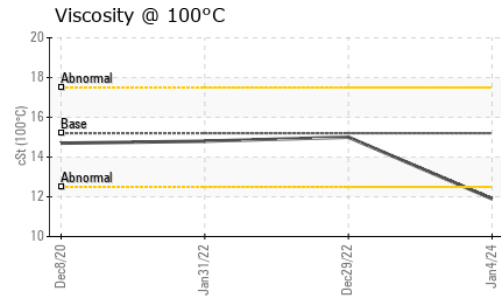
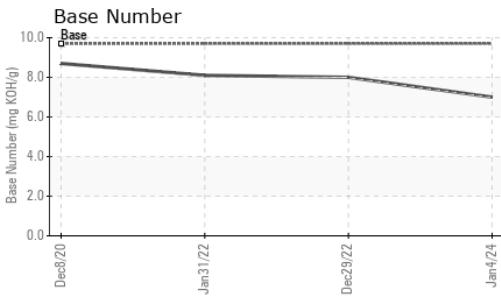
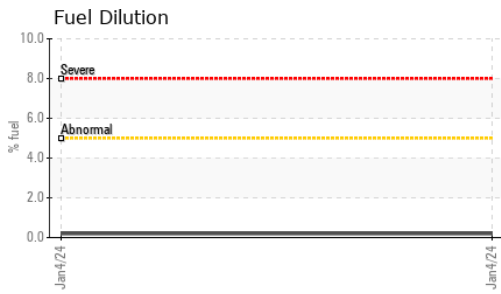
Fuel content negligible. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 2 | <1 |
| Fuel | % | ASTM D3524 | >5 | 0.2 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | 0.1 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.9 | 6.6 | 10.1 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 16.7 | 20.2 | 23.6 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 3 | 1 | 2 |
| Boron | ppm | ASTM D5185m | | 108 | 309 | 365 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 45 | 72 | 79 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | | 82 | 344 | 362 |
| Calcium | ppm | ASTM D5185m | | 1821 | 1736 | 1715 |
| Phosphorus | ppm | ASTM D5185m | 1116 | 846 | 1041 | 1074 |
| Zinc | ppm | ASTM D5185m | 1250 | 1097 | 1386 | 1226 |
| Sulfur | ppm | ASTM D5185m | | 3420 | 4258 | 3282 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 12.1 | 15.7 | 19.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.7 | 7.0 | 8.0 | 8.1 |
| Visc @ 100°C | cSt | ASTM D445 | 15.2 | 11.9 | 15.0 | 14.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0191298 **Received** : 16 Jan 2024
Lab Number : 06061874 **Diagnosed** : 18 Jan 2024
Unique Number : 10833256 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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