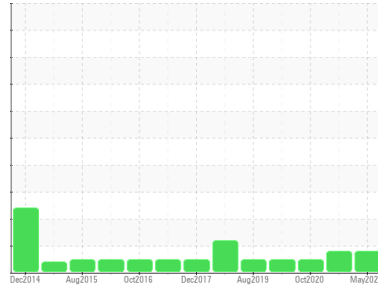


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
VOLVO TRACTOR 7990 (S/N EN173849)
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

Valve wear is indicated.

Contamination

There is no indication of any contamination in the oil.

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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-----------------|--------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | PCA0120177 | PCA0067951 | PCA0026637 |
| Sample Date | Client Info | | | 28 May 2024 | 27 Apr 2022 | 12 Oct 2020 |
| Machine Age | mls Client Info | | | 482163 | 420617 | 397711 |
| Oil Age | mls Client Info | | | 23000 | 24000 | 24000 |
| Oil Changed | Client Info | | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | ABNORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel | WC Method | >6.0 | | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.2 | | NEG | NEG | NEG |
| Glycol | WC Method | | | NEG | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----------------|--------|------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m | >100 | | 88 | 61 | 36 |
| Chromium | ppm ASTM D5185m | >20 | | 2 | 1 | <1 |
| Nickel | ppm ASTM D5185m | >2 | | ▲ 13 | ▲ 10 | <1 |
| Titanium | ppm ASTM D5185m | | | <1 | <1 | <1 |
| Silver | ppm ASTM D5185m | >2 | | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185m | >25 | | 24 | 12 | 8 |
| Lead | ppm ASTM D5185m | >40 | | 6 | 4 | 5 |
| Copper | ppm ASTM D5185m | >330 | | 8 | 10 | 8 |
| Tin | ppm ASTM D5185m | >15 | | 2 | 2 | 0 |
| Antimony | ppm ASTM D5185m | | | --- | --- | 0 |
| Vanadium | ppm ASTM D5185m | | | 0 | 0 | 0 |
| Cadmium | ppm ASTM D5185m | | | 0 | 0 | 0 |

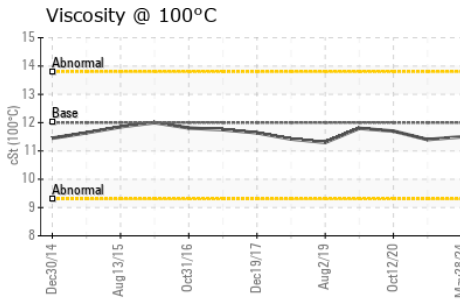
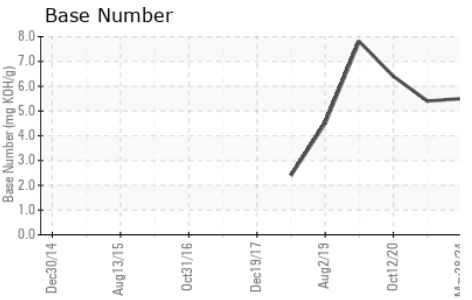
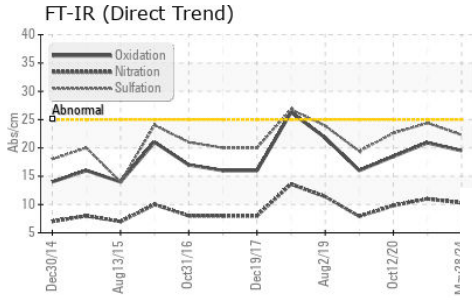
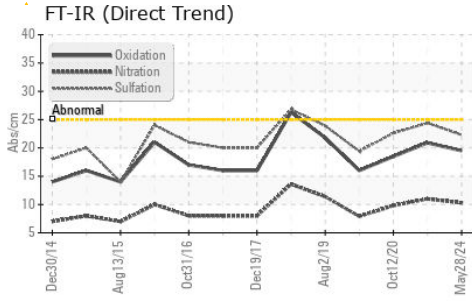
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----------------|--------|------------|-------------|----------|----------|
| Boron | ppm ASTM D5185m | 2 | | 0 | 2 | 1 |
| Barium | ppm ASTM D5185m | 0 | | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m | 50 | | 61 | 59 | 64 |
| Manganese | ppm ASTM D5185m | 0 | | 1 | 1 | <1 |
| Magnesium | ppm ASTM D5185m | 950 | | 965 | 894 | 1172 |
| Calcium | ppm ASTM D5185m | 1050 | | 1242 | 1078 | 1254 |
| Phosphorus | ppm ASTM D5185m | 995 | | 1032 | 975 | 1106 |
| Zinc | ppm ASTM D5185m | 1180 | | 1243 | 1215 | 1290 |
| Sulfur | ppm ASTM D5185m | 2600 | | 2514 | 1843 | 2329 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----------------|--------|------------|-----------|----------|----------|
| Silicon | ppm ASTM D5185m | >25 | | 17 | 13 | 10 |
| Sodium | ppm ASTM D5185m | | | 17 | 7 | 5 |
| Potassium | ppm ASTM D5185m | >20 | | 15 | 5 | 4 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------------------|--------|------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 | >3 | | 0.7 | 0.6 | 0.4 |
| Nitration | Abs/cm *ASTM D7624 | >20 | | 10.3 | 11.0 | 9.8 |
| Sulfation | Abs/.1mm *ASTM D7415 | >30 | | 22.3 | 24.4 | 22.6 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------------------|--------|------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 | >25 | | 19.5 | 20.9 | 18.5 |
| Base Number (BN) | mg KOH/g ASTM D2896 | | | 5.5 | 5.4 | 6.4 |

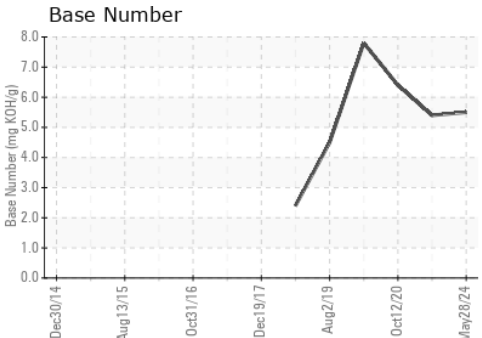
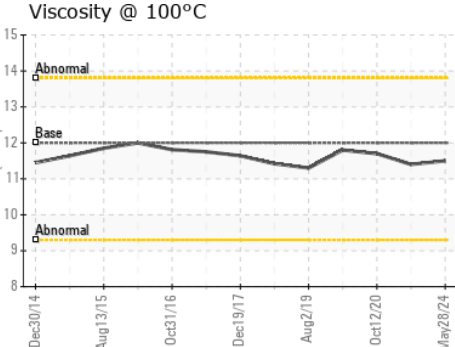
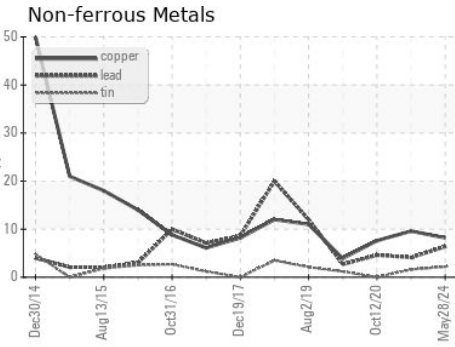
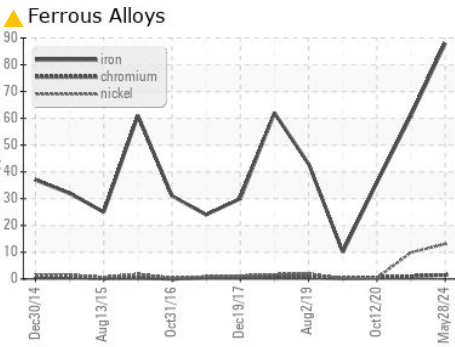
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|----------|----------|------|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | 11.5 | 11.4 | 11.7 |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0120177
Lab Number : 06198857
Unique Number : 11060980
Test Package : FLEET

Received : 04 Jun 2024
Tested : 05 Jun 2024
Diagnosed : 06 Jun 2024 - Don Baldrige

PERDUE FARMS - Lewiston
 210 GRIFFINS QUARTER RD
 LEWISTON, NC
 US 27849
 Contact: NELSON WALLACE
 nelson.wallace2@perdue.com

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)