



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



Machine Id
429032-402478
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0046852 | GFL0046841 | GFL0037287 |
| Sample Date | | Client Info | | 08 Dec 2022 | 31 Mar 2022 | 02 Dec 2021 |
| Machine Age | hrs | Client Info | | 10825 | 9719 | 8928 |
| Oil Age | hrs | Client Info | | 1106 | 791 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >120 | 12 | 6 | 8 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | 4 | 4 |
| Lead | ppm | ASTM D5185m | >40 | 2 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 5 | 2 | 36 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

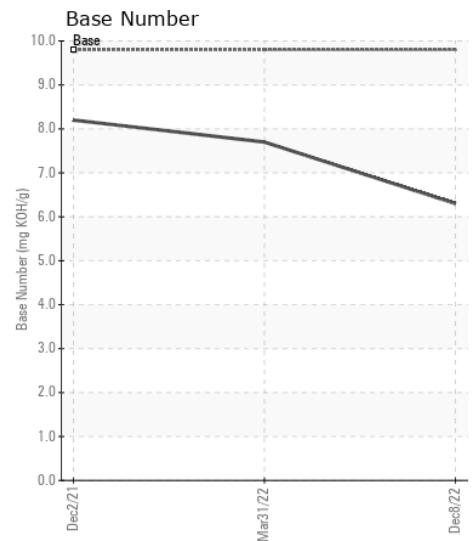
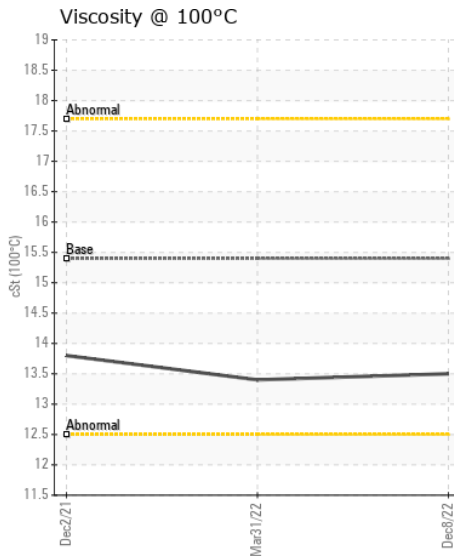
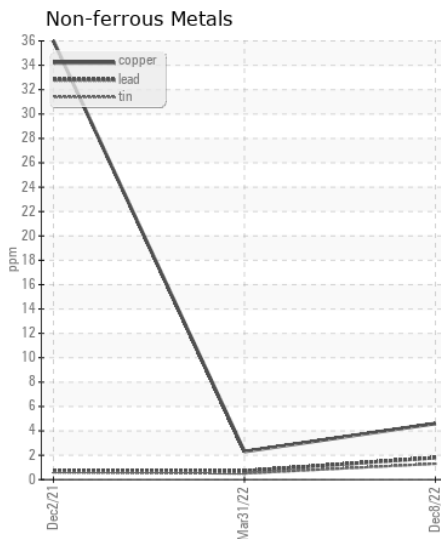
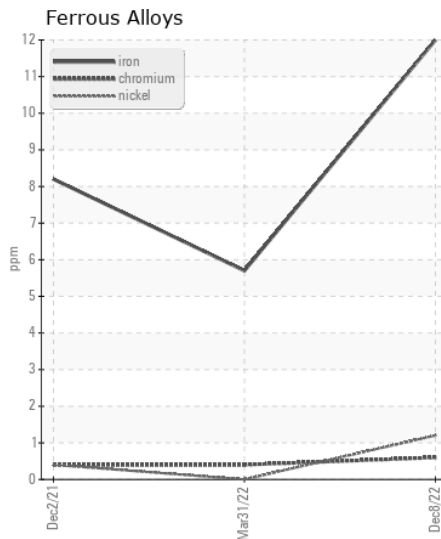
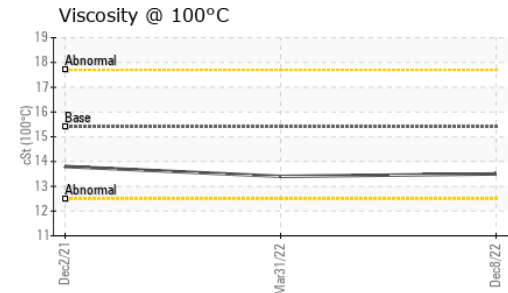
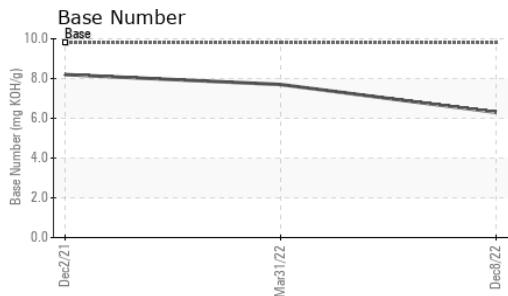
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 5 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 6 | 5 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >4 | 0.4 | 0.3 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.3 | 8.3 | 6.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.8 | 20.2 | 19.3 |
| 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 | | 8 | 6 | <1 |
| Boron | ppm | ASTM D5185m | 0 | 4 | 4 | 7 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 64 | 59 | 60 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 1008 | 942 | 888 |
| Calcium | ppm | ASTM D5185m | 1070 | 1146 | 1049 | 1173 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 995 | 1032 | 1066 |
| Zinc | ppm | ASTM D5185m | 1270 | 1288 | 1217 | 1127 |
| Sulfur | ppm | ASTM D5185m | 2060 | 2798 | 2600 | 2604 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.0 | 15.9 | 14.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 6.3 | 7.7 | 8.2 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.5 | 13.4 | 13.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0046852 **Received** : 20 Dec 2022
Lab Number : 05722370 **Diagnosed** : 21 Dec 2022
Unique Number : 10266951 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117
 Contact: Brad Koenig
 bkoenig@gflenv.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)

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F: