



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

Machine Id
929086-205277
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Check for low coolant level. We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0122992 | GFL0123028 | GFL0119393 |
| Sample Date | | Client Info | | 10 Jun 2024 | 29 May 2024 | 02 May 2024 |
| Machine Age | hrs | Client Info | | 12637 | 14183 | 53855 |
| Oil Age | hrs | Client Info | | 0 | 53855 | 174 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ATTENTION | ATTENTION | ATTENTION |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 21 | 19 | 17 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | <1 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 2 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 3 | 4 | 5 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

Sodium and/or potassium levels are high. Test for glycol is negative.

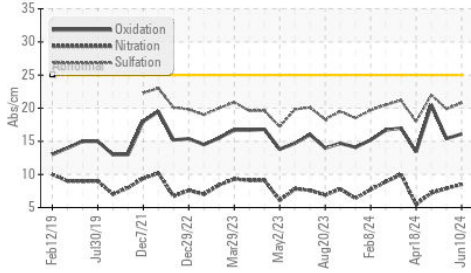
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 11 | 4 | 9 |
| Potassium | ppm | ASTM D5185m | >20 | 11 | 9 | 10 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | *ASTM D2982 | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.5 | 7.9 | 7.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.8 | 19.9 | 22.0 |
| 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

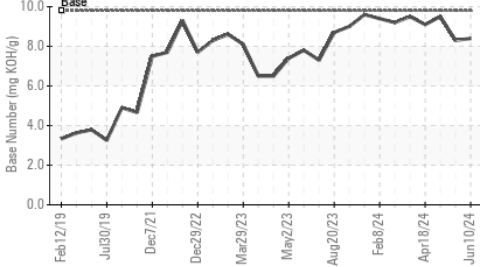
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 265 | 241 | 198 |
| Boron | ppm | ASTM D5185m | 0 | 9 | 2 | 6 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 67 | 66 | 64 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 1010 | 982 | 998 | 964 |
| Calcium | ppm | ASTM D5185m | 1070 | 1079 | 1099 | 1077 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1076 | 1061 | 1190 |
| Zinc | ppm | ASTM D5185m | 1270 | 1284 | 1269 | 1258 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3605 | 3588 | 3665 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.1 | 15.4 | 20.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 8.4 | 8.3 | 9.5 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.9 | 13.9 | 14.1 |

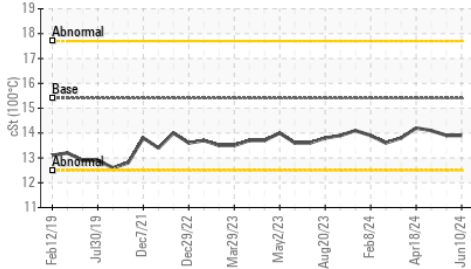
FT-IR (Direct Trend)



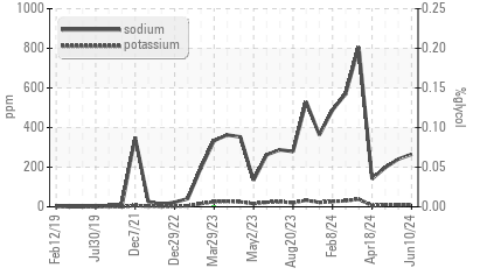
Base Number



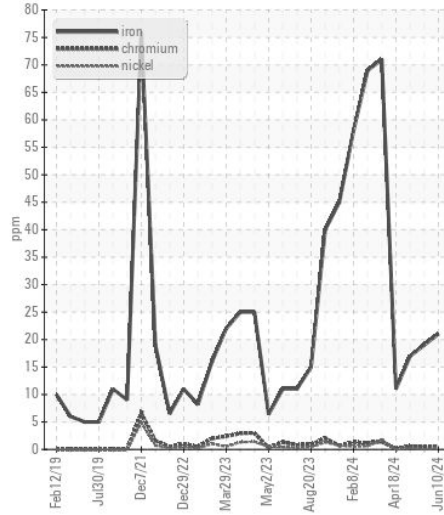
Viscosity @ 100°C



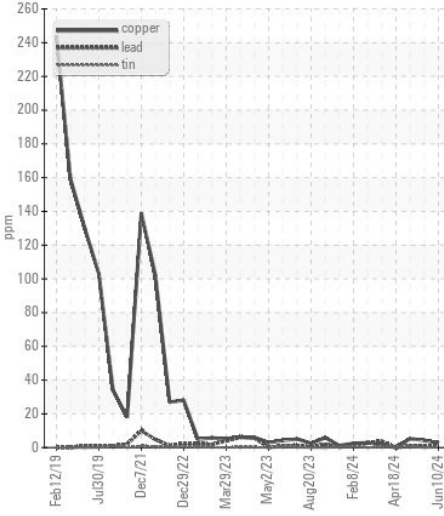
Glycol Contamination



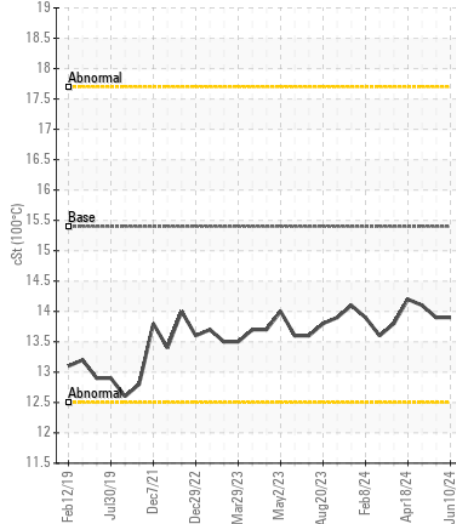
Ferrous Alloys



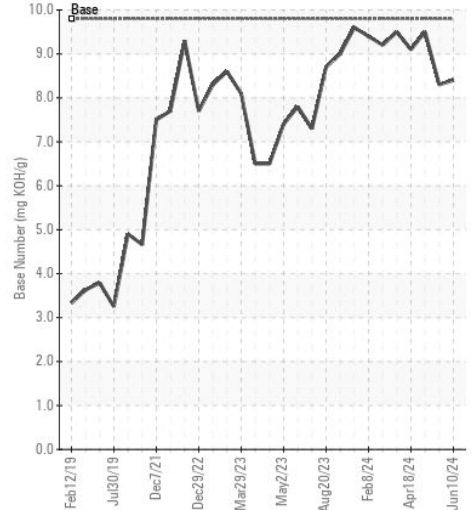
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122992 **Received** : 17 Jun 2024
Lab Number : 06212796 **Tested** : 19 Jun 2024
Unique Number : 11085660 **Diagnosed** : 19 Jun 2024 - Angela Borella
Test Package : FLEET (Additional Tests: Glycol)

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: