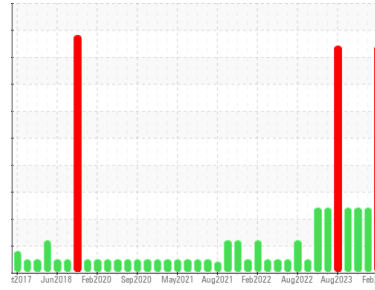




PROBLEM SUMMARY

Sample Rating Trend



GLYCOL



Area (YA134232)

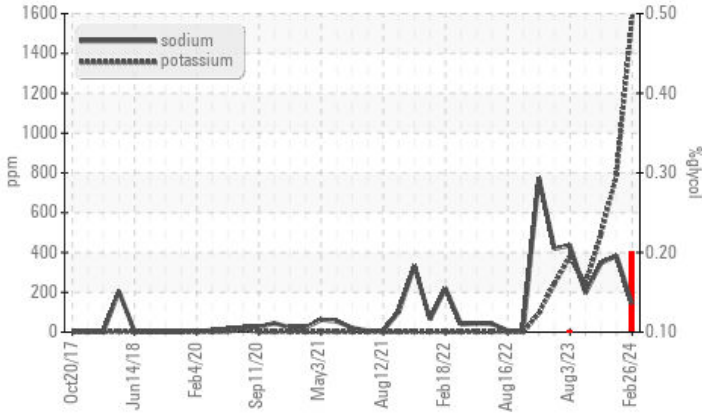
Machine Id 2667C

Component Natural Gas Engine

Fluid PETRO CANADA DURON GEO LD 15W40 (12 GAL)

COMPONENT CONDITION SUMMARY

Glycol Contamination



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

| Sample Status | | | SEVERE | ABNORMAL | ABNORMAL |
|---------------|-----|-----------------|--------|----------|----------|
| Sodium | ppm | ASTM D5185m | ▲ 143 | ▲ 383 | ▲ 347 |
| Potassium | ppm | ASTM D5185m >20 | ▲ 1578 | ▲ 787 | ▲ 491 |
| Glycol | % | *ASTM D2982 | ● 0.20 | --- | --- |

Customer Id: GFL017
Sample No.: GFL0112923
Lab Number: 06100022
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---------------------|--------|------|---------|---|
| Change Fluid | --- | --- | ? | We recommend that you drain the oil and perform a filter service on this component if not already done. |
| Change Filter | --- | --- | ? | We recommend that you drain the oil and perform a filter service on this component if not already done. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Glycol Access | --- | --- | ? | We advise that you check for the source of the coolant leak. |

HISTORICAL DIAGNOSIS

04 Dec 2023 Diag: Jonathan Hester

COOLANT



We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

[view report](#)



13 Sep 2023 Diag: Jonathan Hester

COOLANT



We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

[view report](#)



08 Aug 2023 Diag: Jonathan Hester

COOLANT



We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

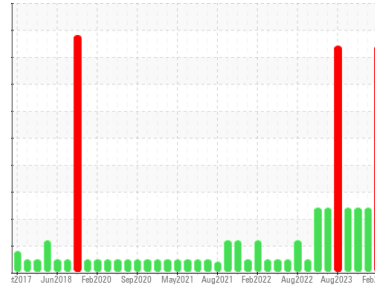
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
(YA134232)

Machine Id
2667C

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (12 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | GFL0112923 | GFL0098121 | GFL0079612 |
| Sample Date | Client Info | 26 Feb 2024 | 04 Dec 2023 | 13 Sep 2023 |
| Machine Age | hrs | 6792 | 6792 | 6792 |
| Oil Age | hrs | 581 | 556 | 295 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | SEVERE | ABNORMAL | ABNORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|----------------|------------|----------|----------|
| Water | WC Method >0.1 | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|---------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >50 | 9 | 10 | 13 |
| Chromium | ppm ASTM D5185m >4 | <1 | <1 | <1 |
| Nickel | ppm ASTM D5185m >2 | 0 | <1 | 0 |
| Titanium | ppm ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm ASTM D5185m >3 | 0 | <1 | 0 |
| Aluminum | ppm ASTM D5185m >9 | 2 | 2 | <1 |
| Lead | ppm ASTM D5185m >30 | <1 | 1 | <1 |
| Copper | ppm ASTM D5185m >35 | <1 | 0 | <1 |
| Tin | ppm ASTM D5185m >4 | 0 | <1 | <1 |
| Vanadium | ppm ASTM D5185m | 0 | 0 | <1 |
| Cadmium | ppm ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|----------------------|-------------|----------|----------|
| Boron | ppm ASTM D5185m 50 | 16 | 11 | 18 |
| Barium | ppm ASTM D5185m 5 | 8 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m 50 | 50 | 62 | 62 |
| Manganese | ppm ASTM D5185m 0 | 0 | <1 | <1 |
| Magnesium | ppm ASTM D5185m 560 | 500 | 523 | 636 |
| Calcium | ppm ASTM D5185m 1510 | 1325 | 1515 | 1720 |
| Phosphorus | ppm ASTM D5185m 780 | 774 | 636 | 816 |
| Zinc | ppm ASTM D5185m 870 | 838 | 987 | 993 |
| Sulfur | ppm ASTM D5185m 2040 | 2494 | 2699 | 3160 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|-----------------------|---------------|----------|----------|
| Silicon | ppm ASTM D5185m >+100 | 39 | 15 | 18 |
| Sodium | ppm ASTM D5185m | ▲ 143 | ▲ 383 | ▲ 347 |
| Potassium | ppm ASTM D5185m >20 | ▲ 1578 | ▲ 787 | ▲ 491 |
| Glycol | % *ASTM D2982 | ● 0.20 | --- | --- |

INFRA-RED

| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 | 0 | 0 | 0 |
| Nitration | Abs/cm *ASTM D7624 >20 | 8.6 | 11.3 | 9.3 |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | 20.9 | 23.1 | 21.5 |

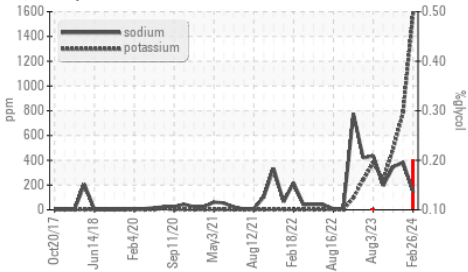
FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 >25 | 16.4 | 18.3 | 17.0 |
| Base Number (BN) | mg KOH/g ASTM D2896 10.2 | 10.0 | 6.3 | 8.1 |

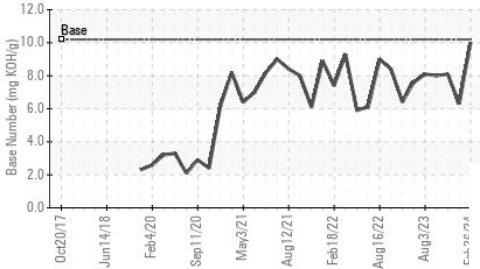


OIL ANALYSIS REPORT

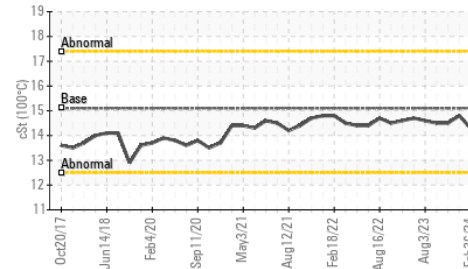
Glycol Contamination



Base Number



Viscosity @ 100°C

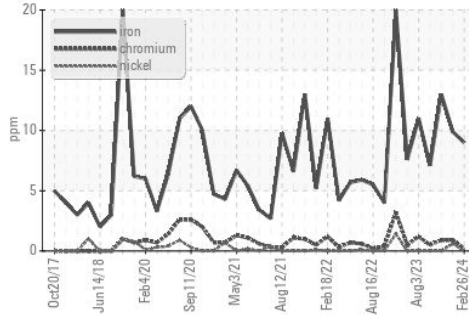


| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

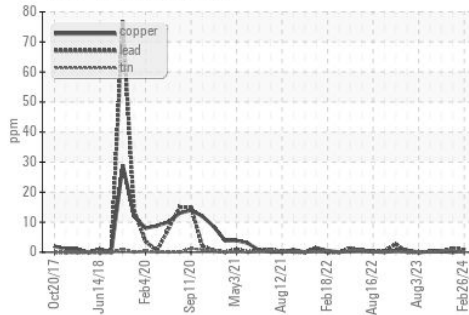
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | 14.3 | 14.8 |

GRAPHS

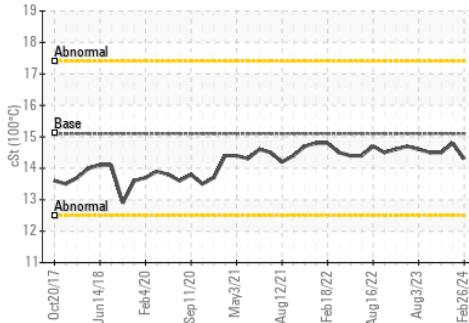
Ferrous Alloys



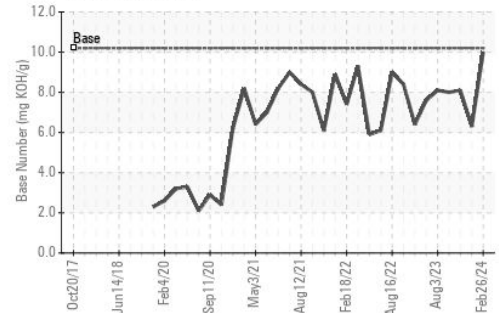
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0112923 **Received** : 26 Feb 2024
Lab Number : 06100022 **Tested** : 27 Feb 2024
Unique Number : 10898252 **Diagnosed** : 28 Feb 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 017 - Durham
 148 Stone Park Court
 Durham, NC
 US 27703
 Contact:

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)

bill.waring@wearcheck.com

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