



PROBLEM SUMMARY

Sample Rating Trend

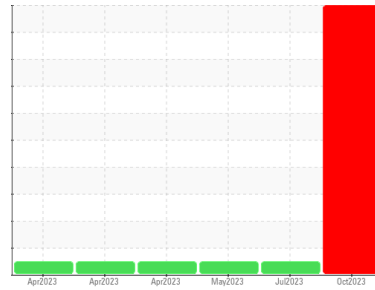
GLYCOL



Area
TALLASSEE
Machine Id
925026-152580

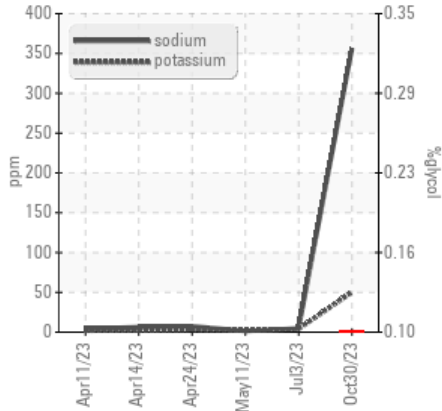


Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

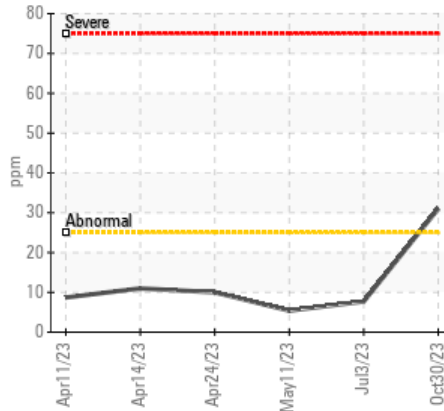


COMPONENT CONDITION SUMMARY

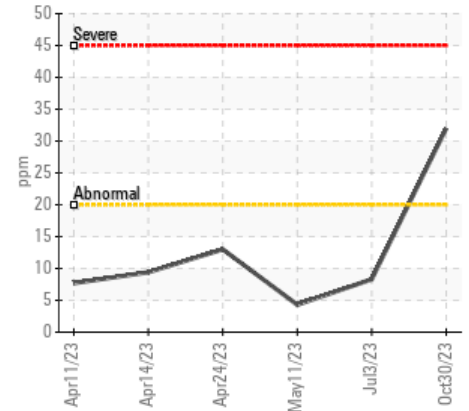
Glycol Contamination



Silicon (ppm)



Aluminum (ppm)



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check for the source of the coolant leak. 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 | NORMAL | NORMAL |
|-------------------------------|--------|--------|--------|
| Aluminum ppm ASTM D5185m >20 | ▲ 32 | 8 | 4 |
| Silicon ppm ASTM D5185m >25 | ▲ 31 | 8 | 5 |
| Sodium ppm ASTM D5185m | ▲ 356 | 5 | 1 |
| Potassium ppm ASTM D5185m >20 | ▲ 50 | 4 | 2 |
| Glycol % *ASTM D2982 | ● 0.10 | NEG | NEG |

Customer Id: GFL172
Sample No.: GFL0079704
Lab Number: 05998360
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldrige +1
don.b505@comcast.net

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 Dirt Access | --- | --- | ? | We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. |
| Check Glycol Access | --- | --- | ? | We advise that you check for the source of the coolant leak. |

HISTORICAL DIAGNOSIS

03 Jul 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



11 May 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



24 Apr 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report





OIL ANALYSIS REPORT

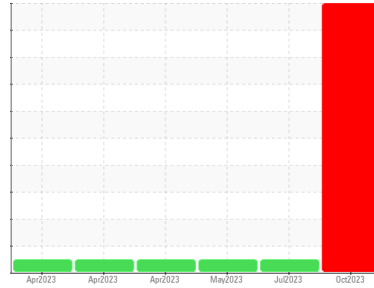
Sample Rating Trend

GLYCOL



Area
TALLASSEE
Machine Id
925026-152580

Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check for the source of the coolant leak. 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. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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 | GFL0079704 | GFL0078405 | GFL0072677 |
| Sample Date | Client Info | 30 Oct 2023 | 03 Jul 2023 | 11 May 2023 |
| Machine Age | mls | 461538 | 18160 | 17852 |
| Oil Age | mls | 0 | 18160 | 17852 |
| Oil Changed | Client Info | N/A | Not Changd | Not Changd |
| Sample Status | | SEVERE | NORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|----------------|----------------|----------|----------|
| Fuel | WC Method >3.0 | <1.0 | <1.0 | <1.0 |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >120 | 72 | 17 | 7 |
| Chromium | ppm ASTM D5185m >20 | 2 | <1 | <1 |
| Nickel | ppm ASTM D5185m >5 | 2 | <1 | <1 |
| Titanium | ppm ASTM D5185m >2 | <1 | 0 | 0 |
| Silver | ppm ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185m >20 | 32 | 8 | 4 |
| Lead | ppm ASTM D5185m >40 | 5 | <1 | <1 |
| Copper | ppm ASTM D5185m >330 | 3 | 3 | 0 |
| Tin | ppm ASTM D5185m >15 | 2 | 1 | <1 |
| Vanadium | ppm ASTM D5185m | <1 | 0 | <1 |
| Cadmium | ppm ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|----------------------|-------------|----------|----------|
| Boron | ppm ASTM D5185m 0 | 12 | 14 | 35 |
| Barium | ppm ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m 60 | 64 | 64 | 62 |
| Manganese | ppm ASTM D5185m 0 | 1 | 1 | <1 |
| Magnesium | ppm ASTM D5185m 1010 | 878 | 936 | 918 |
| Calcium | ppm ASTM D5185m 1070 | 1083 | 1174 | 1169 |
| Phosphorus | ppm ASTM D5185m 1150 | 924 | 993 | 1020 |
| Zinc | ppm ASTM D5185m 1270 | 1218 | 1227 | 1270 |
| Sulfur | ppm ASTM D5185m 2060 | 2764 | 3511 | 3865 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|-------------|----------|----------|
| Silicon | ppm ASTM D5185m >25 | 31 | 8 | 5 |
| Sodium | ppm ASTM D5185m | 356 | 5 | 1 |
| Potassium | ppm ASTM D5185m >20 | 50 | 4 | 2 |
| Glycol | % *ASTM D2982 | 0.10 | NEG | NEG |

INFRA-RED

| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 >4 | 1.4 | 0.5 | 0.2 |
| Nitration | Abs/cm *ASTM D7624 >20 | 12.8 | 9.1 | 6.4 |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | 26.7 | 21.2 | 19.2 |

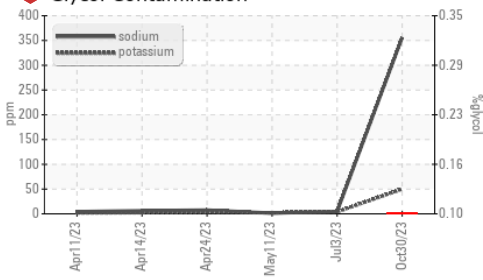
FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 >25 | 21.2 | 16.8 | 14.5 |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8 | 5.8 | 7.4 | 8.7 |

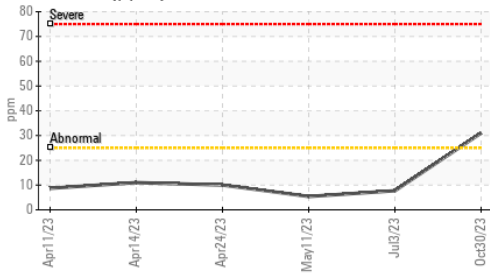


OIL ANALYSIS REPORT

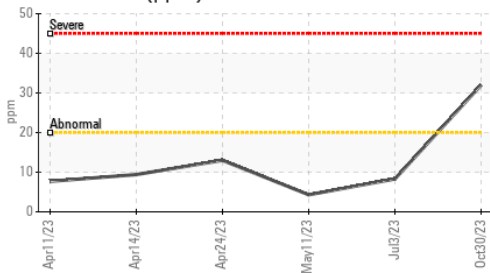
Glycol Contamination



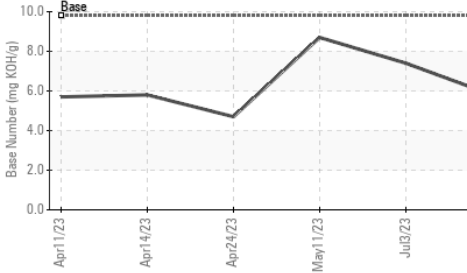
Silicon (ppm)



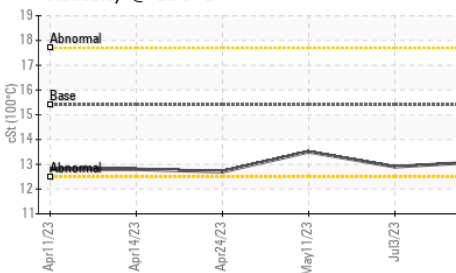
Aluminum (ppm)



Base Number



Viscosity @ 100°C

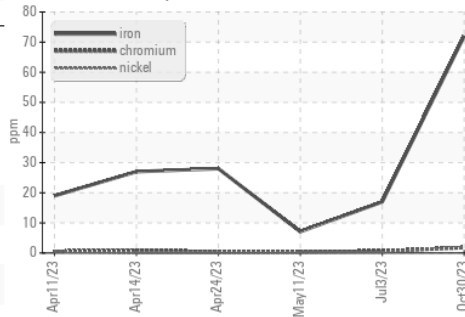


| PARAMETER | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 |

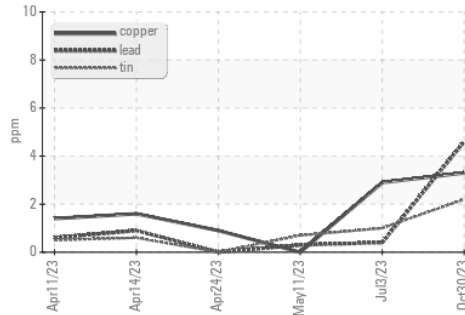
| PARAMETER | method | limit/base | current | history1 | history2 |
|--------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.1 | 12.9 |

GRAPHS

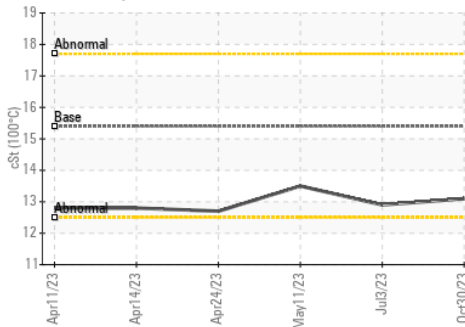
Ferrous Alloys



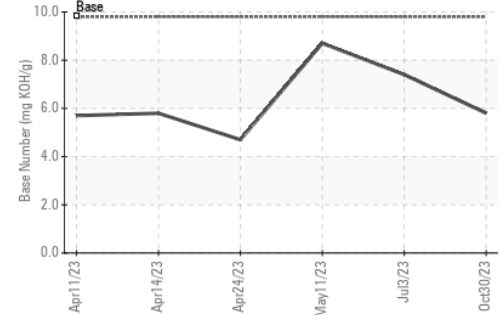
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0079704 **Received** : 03 Nov 2023
Lab Number : 05998360 **Diagnosed** : 07 Nov 2023
Unique Number : 10726720 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee
 Multiple Sites
 Montgomery, AL
 US 36108
 Contact: RICHARD HATFIELD
 rhatfield@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: