



OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id

921062

Component

Hydraulic System

Fluid

PETRO CANADA HYDREX MV 46 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info | GFL0122829 | --- | --- |
| Sample Date | Client Info | 13 Jun 2024 | --- | --- |
| Machine Age | hrs | Client Info | 8748 | --- |
| Oil Age | hrs | Client Info | 7751 | --- |
| Oil Changed | Client Info | Not Chngd | --- | --- |
| Sample Status | | ABNORMAL | --- | --- |

CONTAMINATION

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

WEAR METALS

| method | limit/base | current | history1 | history2 | |
|----------|------------|-------------|----------|--------------|-----|
| Iron | ppm | ASTM D5185m | >20 | 21 | --- |
| Chromium | ppm | ASTM D5185m | >10 | <1 | --- |
| Nickel | ppm | ASTM D5185m | >10 | 0 | --- |
| Titanium | ppm | ASTM D5185m | | <1 | --- |
| Silver | ppm | ASTM D5185m | | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >10 | <1 | --- |
| Lead | ppm | ASTM D5185m | >10 | 0 | --- |
| Copper | ppm | ASTM D5185m | >75 | 2 | --- |
| Tin | ppm | ASTM D5185m | >10 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- |
| Cadmium | ppm | ASTM D5185m | | <1 | --- |

ADDITIVES

| method | limit/base | current | history1 | history2 | |
|------------|------------|-------------|----------|--------------|-----|
| Boron | ppm | ASTM D5185m | 0 | 0 | --- |
| Barium | ppm | ASTM D5185m | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | 1 | --- |
| Manganese | ppm | ASTM D5185m | 1 | <1 | --- |
| Magnesium | ppm | ASTM D5185m | 0 | 10 | --- |
| Calcium | ppm | ASTM D5185m | 50 | 149 | --- |
| Phosphorus | ppm | ASTM D5185m | 330 | 368 | --- |
| Zinc | ppm | ASTM D5185m | 430 | 448 | --- |
| Sulfur | ppm | ASTM D5185m | 760 | 1132 | --- |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|-------------|----------|----------|-----|
| Silicon | ppm | ASTM D5185m | >20 | 4 | --- |
| Sodium | ppm | ASTM D5185m | | 4 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | --- |

FLUID CLEANLINESS

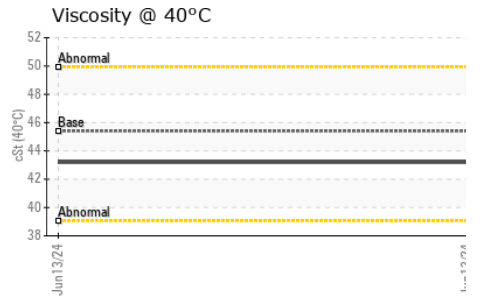
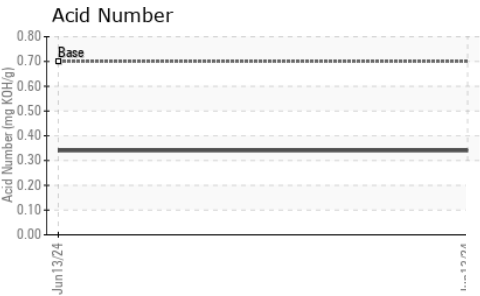
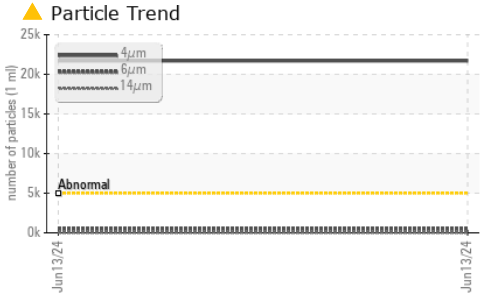
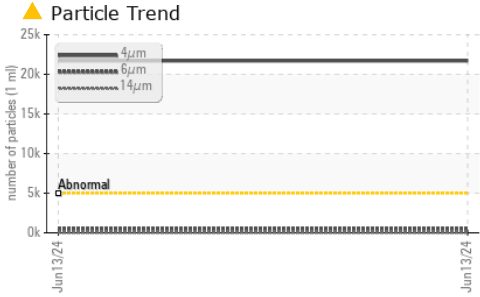
| method | limit/base | current | history1 | history2 |
|-----------------|--------------|-----------|-------------------|----------|
| Particles >4µm | ASTM D7647 | >5000 | ▲ 21702 | --- |
| Particles >6µm | ASTM D7647 | >1300 | 479 | --- |
| Particles >14µm | ASTM D7647 | >160 | 14 | --- |
| Particles >21µm | ASTM D7647 | >40 | 5 | --- |
| Particles >38µm | ASTM D7647 | >10 | 1 | --- |
| Particles >71µm | ASTM D7647 | >3 | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | ▲ 22/16/11 | --- |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|------------|----------|-------------|-----|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.70 | 0.34 | --- |



OIL ANALYSIS REPORT



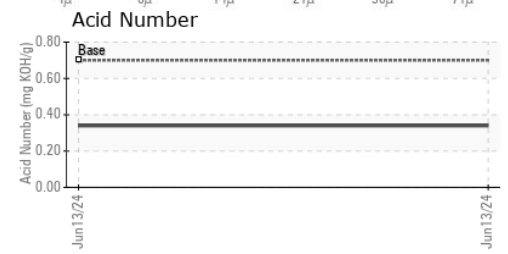
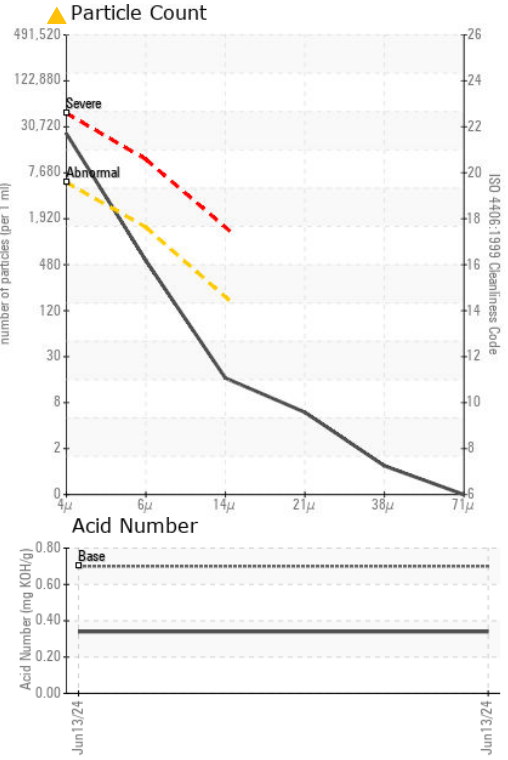
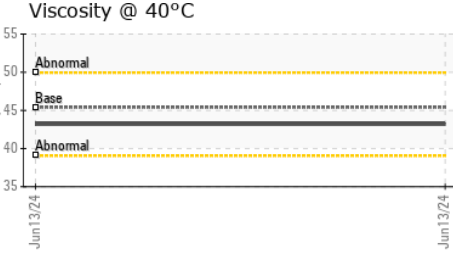
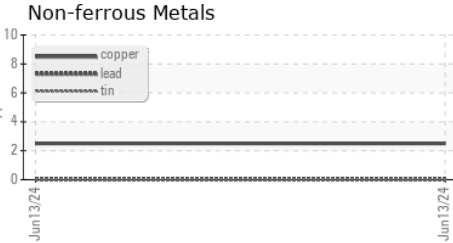
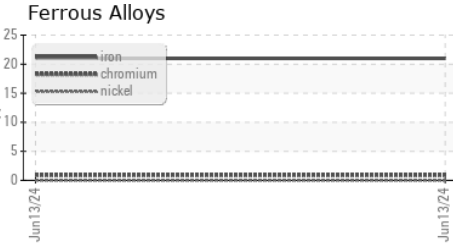
| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- | --- |
| Silt | scalar | *Visual | NONE | NONE | --- | --- |
| Debris | scalar | *Visual | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- | --- |
| Odor | scalar | *Visual | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | --- | --- |
| Free Water | scalar | *Visual | | NEG | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|-------------|----------|-----|
| Visc @ 40°C | cSt | ASTM D445 | 45.4 | 43.2 | --- | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

| | | | | | |
|--------|--|--|--|----------|----------|
| Color | | | | no image | no image |
| Bottom | | | | no image | no image |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122829 **Received** : 25 Jun 2024
Lab Number : **06220357** **Tested** : 26 Jun 2024
Unique Number : 11098554 **Diagnosed** : 27 Jun 2024 - Doug Bogart
Test Package : FLEET (Additional Tests : PrtCount)

GFL Environmental - 837 - Harrison TS
 22820 S State Route 291
 Harrisonville, MO
 US 64701
 Contact: JEREMY BROWN
 jeremyb@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)