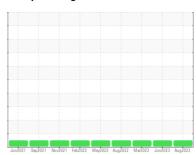


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **944022**

Component

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

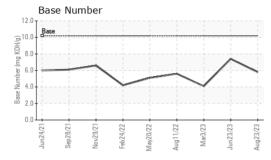
Fluid Condition

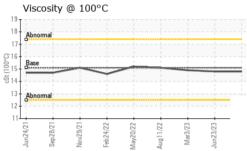
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| Sample Date Client Info 23 Aug 2023 23 Jun 2023 03 Mar 2023 | LTR) | | Jun2021 Se | 02021 Nov2021 Feb2022 | May2022 Aug2022 Mar2023 Jun20 | 23 Aug ² 023 | |
|---|------------------|----------|-------------|-----------------------|-------------------------------|-------------------------|-------------|
| Sample Date Client Info 23 Aug 2023 23 Jun 2023 03 Mar 2023 | SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Machine Age hrs Client Info 21820 21725 21054 Oil Age hrs Client Info 95 671 1481 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 9 4 17 Chromium ppm ASTM D5185m >2 <1 | Sample Number | | Client Info | | GFL0085373 | GFL0085393 | GFL0063844 |
| Oil Age | Sample Date | | Client Info | | 23 Aug 2023 | 23 Jun 2023 | 03 Mar 2023 |
| Client Info Changed Changed NORMAL NORMAL NORMAL | Machine Age | hrs | Client Info | | 21820 | 21725 | 21054 |
| NORMAL NORMAL NORMAL NORMAL | Oil Age | hrs | Client Info | | 95 | 671 | 1481 |
| WEAR METALS | Oil Changed | | Client Info | | Changed | Changed | Changed |
| Irron | Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Chromium ppm ASTM D5185m >4 <1 0 2 Nickel ppm ASTM D5185m >2 <1 | WEAR METALS | S | method | limit/base | current | history1 | history2 |
| Nickel | | ppm | ASTM D5185m | >50 | 9 | 4 | |
| Titanium | Chromium | ppm | ASTM D5185m | >4 | | 0 | 2 |
| Silver | Nickel | ppm | | >2 | | 0 | |
| Aluminum ppm ASTM D5185m >9 5 0 12 Lead ppm ASTM D5185m >30 3 0 16 Copper ppm ASTM D5185m >35 <1 | Titanium | ppm | ASTM D5185m | | | 0 | |
| Lead | Silver | ppm | | | | | |
| Copper ppm ASTM D5185m >35 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | Aluminum | ppm | ASTM D5185m | >9 | | 0 | |
| Tin | Lead | ppm | | | 3 | | |
| Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 8 25 6 Barium ppm ASTM D5185m 50 0 0 0 Molybdenum ppm ASTM D5185m 50 45 52 57 Manganese ppm ASTM D5185m 50 45 52 57 Manganesium ppm ASTM D5185m 50 506 530 620 Calcium ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 1510 1404 1522 1676 Phosphorus ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 <td>Copper</td> <td>ppm</td> <td></td> <td>>35</td> <th></th> <td></td> <td></td> | Copper | ppm | | >35 | | | |
| Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 8 25 6 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 45 52 57 Manganese ppm ASTM D5185m 50 45 52 57 Manganesium ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 1510 1404 1522 1676 Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 <td></td> <td>ppm</td> <td></td> <td>>4</td> <th></th> <td></td> <td></td> | | ppm | | >4 | | | |
| ADDITIVES | Vanadium | ppm | ASTM D5185m | | <1 | | |
| Boron ppm ASTM D5185m 50 8 25 6 6 | Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 45 52 57 Manganese ppm ASTM D5185m 50 45 52 57 Manganese ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 1510 1404 1522 1676 Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 780 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m <td>ADDITIVES</td> <td></td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td> | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185m 50 45 52 57 Manganese ppm ASTM D5185m 0 <1 <1 1 Magnesium ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 560 506 530 620 Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7824 >20 9. | Boron | ppm | ASTM D5185m | | | | |
| Manganese ppm ASTM D5185m 0 <1 <1 1 Magnesium ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 1510 1404 1522 1676 Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 9.4 8.0 11.8 Nitration Abs/cmm *ASTM D74 | | ppm | ASTM D5185m | | - | | |
| Magnesium ppm ASTM D5185m 560 506 530 620 Calcium ppm ASTM D5185m 1510 1404 1522 1676 Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 </td <td>Molybdenum</td> <td>ppm</td> <td></td> <td></td> <th></th> <td></td> <td></td> | Molybdenum | ppm | | | | | |
| Calcium ppm ASTM D5185m 1510 1404 1522 1676 Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM | • | ppm | | | | | |
| Phosphorus ppm ASTM D5185m 780 656 774 804 Zinc ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Solium ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/ | | | | | | | |
| Zinc ppm ASTM D5185m 870 865 947 1069 Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m 6 <1 | | ppm | | | | | |
| Sulfur ppm ASTM D5185m 2040 2502 2591 2750 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m 6 <1 10 Potassium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | | | | | | | |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m 6 <1 | | ppm | | | | | |
| Silicon ppm ASTM D5185m >+100 3 2 5 Sodium ppm ASTM D5185m 6 <1 10 Potassium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | | • • | ASTM D5185m | | 2502 | 2591 | |
| Sodium ppm ASTM D5185m 6 <1 10 Potassium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | CONTAMINAN | TS | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 10 2 16 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | Silicon | ppm | ASTM D5185m | >+100 | | 2 | |
| INFRA-RED | Sodium | ppm | ASTM D5185m | | 6 | | |
| Soot % % *ASTM D7844 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | Potassium | ppm | ASTM D5185m | >20 | 10 | 2 | 16 |
| Nitration Abs/cm *ASTM D7624 >20 9.4 8.0 11.8 Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | INFRA-RED | | method | limit/base | current | history1 | history2 |
| Sulfation Abs/.1mm *ASTM D7415 >30 20.2 19.5 25.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | Soot % | % | | | 0 | 0.1 | 0.1 |
| FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | Nitration | Abs/cm | *ASTM D7624 | >20 | 9.4 | 8.0 | 11.8 |
| Oxidation Abs/.1mm *ASTM D7414 >25 16.8 17.4 20.6 | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.2 | 19.5 | 25.0 |
| | FLUID DEGRAD | ATION | method | limit/base | current | history1 | history2 |
| Base Number (BN) mg KOH/g ASTM D2896 10.2 5.8 7.4 4.1 | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.8 | 17.4 | 20.6 |
| | Base Number (BN) | mg KOH/g | ASTM D2896 | 10.2 | 5.8 | 7.4 | 4.1 |



OIL ANALYSIS REPORT

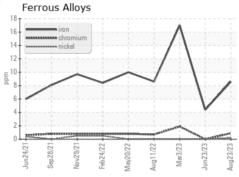


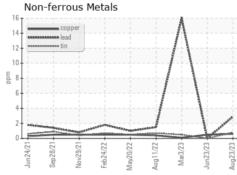


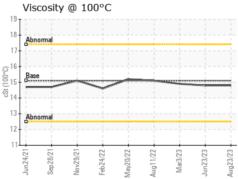
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate |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

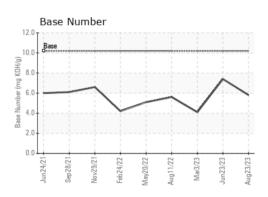
| FLUID PROPE | KIIES | method | | | history1 | history2 |
|--------------|-------|-----------|------|------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | 14.8 | 14.8 | 14.9 |

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10622199 Test Package : FLEET

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: GFL0085373 : 05936928

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 29 Aug 2023

Diagnosed : 29 Aug 2023 Diagnostician : Sean Felton

GFL Environmental - 882 - Gainesville

5002 SW 41st Blvd Gainesville, FL US 32608

Contact: ROBERT CLARK

robert.clark@gflenv.com T:

* - 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)

F: