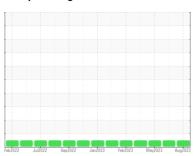


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **420054-297**

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

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

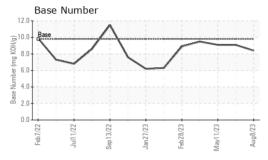
Fluid Condition

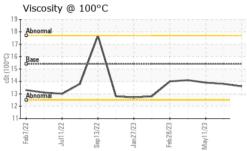
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| GAL) | | Feb 2022 | Jul2022 Sep2022 | Jan2023 Feb2023 May2023 | Aug2023 | |
|---|--|---|--|--|---|---|
| SAMPLE INFOR | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | GFL0087827 | GFL0081188 | GFL0081182 |
| Sample Date | | Client Info | | 08 Aug 2023 | 06 Jun 2023 | 11 May 2023 |
| Machine Age | hrs | Client Info | | 26837 | 26675 | 491173 |
| Oil Age | hrs | Client Info | | 600 | 200 | 600 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >6.0 | <1.0 | <1.0 | <1.0 |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 14 | 10 | 3 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 7 | 4 | <1 |
| Lead | ppm | ASTM D5185m | >40 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 3 | 2 | <1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | • | 0 | 0 |
| Oddiniani | ррпп | AO IIVI DO IOOIII | | 0 | 0 | U |
| ADDITIVES | ррш | method | limit/base | current | history1 | history2 |
| | ppm | method | limit/base | | | |
| ADDITIVES | | method | | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 0 | current 4 | history1 | history2 |
| ADDITIVES Boron Barium | ppm | method ASTM D5185m ASTM D5185m | 0 | current 4 0 | history1 9 0 | history2 7 0 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | current 4 0 60 | history1 9 0 83 | history2 7 0 59 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | current 4 0 60 <1 | history1 9 0 83 <1 | history2 7 0 59 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 | current 4 0 60 <1 890 | history1 9 0 83 <1 1294 | history2 7 0 59 0 953 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 | current 4 0 60 <1 890 1033 | history1 9 0 83 <1 1294 1392 | history2 7 0 59 0 953 1072 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 | current 4 0 60 <1 890 1033 1010 | history1 9 0 83 <1 1294 1392 1358 | history2 7 0 59 0 953 1072 1007 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 | current 4 0 60 <1 890 1033 1010 1178 | history1 9 0 83 <1 1294 1392 1358 1701 | history2 7 0 59 0 953 1072 1007 1238 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | current 4 0 60 <1 890 1033 1010 1178 2893 | history1 9 0 83 <1 1294 1392 1358 1701 4688 | history2 7 0 59 0 953 1072 1007 1238 3446 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | current 4 0 60 <1 890 1033 1010 1178 2893 current | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 <1 | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 3 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 <1 8 | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 3 5 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 2 1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 <1 8 current | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 3 5 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 2 1 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 <1 8 current 0.5 | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 3 5 history1 0.4 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 2 1 history2 0.3 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm | method ASTM D5185m method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145 | 0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 <1 8 current 0.5 7.8 | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 3 5 history1 0.4 6.9 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 2 1 history2 0.3 6.3 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm | method ASTM D5185m method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145 | 0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 | current 4 0 60 <1 890 1033 1010 1178 2893 current 10 <1 8 current 0.5 7.8 18.5 | history1 9 0 83 <1 1294 1392 1358 1701 4688 history1 7 3 5 history1 0.4 6.9 18.9 | history2 7 0 59 0 953 1072 1007 1238 3446 history2 4 2 1 history2 0.3 6.3 18.4 |



OIL ANALYSIS REPORT

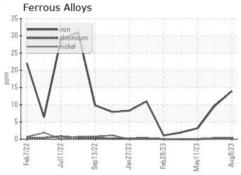


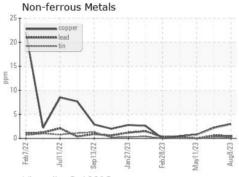


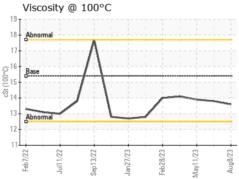
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | 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 | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |

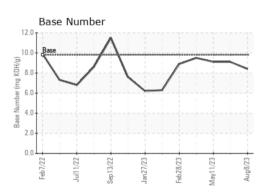
| FLUID PROPI | EKITES | metnoa | ilmit/base | current | nistory i | nistory2 |
|--------------|--------|-----------|------------|---------|-----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.6 | 13.8 | 13.9 |

GRAPHS













Certificate L2367

Laboratory Test Package : FLEET

Sample No. Lab Number Unique Number : 10604636

: GFL0087827 : 05924689

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 15 Aug 2023 Diagnosed : 15 Aug 2023 Diagnostician : Wes Davis

GFL Environmental - 166 - Phenix City

18 Old Brickyard Rd Phenix City, AL US 36869

Contact: DEAN PEACE JR dean.peace@gflenv.com

T: F:

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)