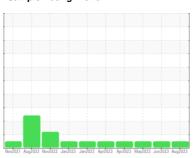


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **424058-20**

Component **Diesel Engine**

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

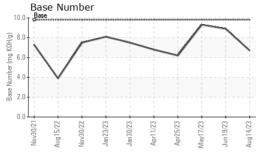
Fluid Condition

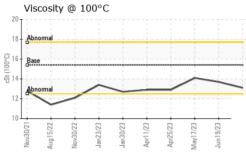
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | ore notice contour cont | 023 Apr2023 Apr2023 May2023 Jun2 | | |
|--|--|--|--|--|--|---|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | GFL0091206 | GFL0081157 | GFL0081147 |
| Sample Date | | Client Info | | 14 Aug 2023 | 19 Jun 2023 | 17 May 2023 |
| Machine Age | hrs | Client Info | | 21067 | 20750 | 20551 |
| Oil Age | hrs | Client Info | | 400 | 200 | 200 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATI | ON | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METALS | 6 | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 6 | 3 | 2 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >40 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 2 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | | limit/base | current 5 | history1 | history2 |
| | ppm | ASTM D5185m | | | | |
| Boron | • • | ASTM D5185m | 0 | 5 | 2 | 1 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 0 0 60 | 5 0 | 2 | 1 |
| Boron Barium Molybdenum | ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | 5 0 59 | 2 0 57 | 1 0 58 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | 5 0 59 <1 | 2 0 57 <1 | 1 0 58 <1 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 | 5 0 59 <1 955 | 2 0 57 <1 999 | 1 0 58 <1 953 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 | 5 0 59 <1 955 1064 | 2 0 57 <1 999 1045 | 1 0 58 <1 953 1031 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 1150 | 5 0 59 <1 955 1064 968 | 2 0 57 <1 999 1045 1090 | 1 0 58 <1 953 1031 1042 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 | 5 0 59 <1 955 1064 968 1217 | 2 0 57 <1 999 1045 1090 1346 | 1 0 58 <1 953 1031 1042 1267 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | 5 0 59 <1 955 1064 968 1217 3431 | 2 0 57 <1 999 1045 1090 1346 4008 | 1 0 58 <1 953 1031 1042 1267 3763 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | 5 0 59 <1 955 1064 968 1217 3431 current | 2 0 57 <1 999 1045 1090 1346 4008 history1 | 1 0 58 <1 953 1031 1042 1267 3763 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | 5 0 59 <1 955 1064 968 1217 3431 current | 2 0 57 <1 999 1045 1090 1346 4008 history1 | 1 0 58 <1 953 1031 1042 1267 3763 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | 5 0 59 <1 955 1064 968 1217 3431 current 7 | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 | 1 0 58 <1 953 1031 1042 1267 3763 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | 5 0 59 <1 955 1064 968 1217 3431 current 7 4 | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 | 1 0 58 <1 953 1031 1042 1267 3763 history2 5 1 |
| 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 | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | 5 0 59 <1 955 1064 968 1217 3431 current 7 4 | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 3 | 1 0 58 <1 953 1031 1042 1267 3763 history2 5 1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % | ppm | ASTM D5185m Method *ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base | 5 0 59 <1 955 1064 968 1217 3431 current 7 4 4 | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 3 history1 0.2 | 1 0 58 <1 953 1031 1042 1267 3763 history2 5 1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm | ASTM D5185m method *ASTM D5185m 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 limit/base | 5 0 59 <1 955 1064 968 1217 3431 current 7 4 4 current 0.4 9.2 | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 3 history1 0.2 7.4 | 1 0 58 <1 953 1031 1042 1267 3763 history2 5 1 <1 history2 0.1 6.3 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm | ASTM D5185m Method *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 | 0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 | 5 0 59 <1 955 1064 968 1217 3431 current 7 4 4 current 0.4 9.2 18.6 | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 3 history1 0.2 7.4 18.3 | 1 0 58 <1 953 1031 1042 1267 3763 history2 5 1 <1 history2 0.1 6.3 17.5 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD | ppm | ASTM D5185m Method ASTM D5185m Method | 0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base | 5 0 59 <1 955 1064 968 1217 3431 current 7 4 4 current 0.4 9.2 18.6 current | 2 0 57 <1 999 1045 1090 1346 4008 history1 6 2 3 history1 0.2 7.4 18.3 | 1 0 58 <1 953 1031 1042 1267 3763 history2 5 1 <1 history2 0.1 6.3 17.5 history2 |



OIL ANALYSIS REPORT

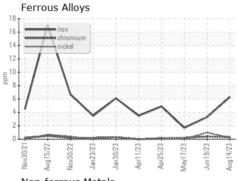




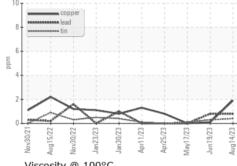
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate |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

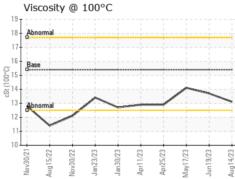
| FLUID PROPE | ERTIES | method | | | | history2 |
|--------------|--------|-----------|------|------|------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.1 | 13.7 | 14.1 |

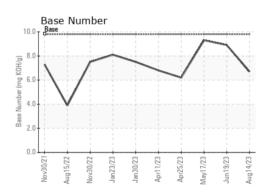
GRAPHS



Non-ferrous Metals











Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10606933 Test Package : FLEET

: GFL0091206 : 05926986

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 17 Aug 2023 Diagnosed : 17 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)