

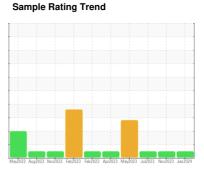
OIL ANALYSIS REPORT



(62A1N7N) MONTGOMERY **MACK 428088**

Component
Diesel Engine

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





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

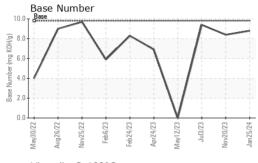
Fluid Condition

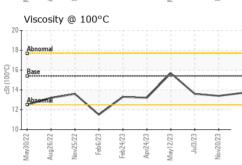
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|---|--|--|---|--|---|---|
| Sample Number | | Client Info | | GFL0081858 | GFL0092360 | GFL0078420 |
| Sample Date | | Client Info | | 25 Jan 2024 | 20 Nov 2023 | 03 Jul 2023 |
| Machine Age | mls | Client Info | | 243989 | 11050 | 10791 |
| Oil Age | mls | Client Info | | 233325 | 386 | 147 |
| Oil Changed | | Client Info | | N/A | N/A | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATI | ION | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | 7 0.12 | NEG | NEG | NEG |
| WEAR METALS | S | method | limit/base | current | history1 | history2 |
| | | | | | | |
| Iron | ppm | ASTM D5185m | >120 | 4 | 11 | 6 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 4 | 2 |
| Lead | ppm | ASTM D5185m | >40 | <1 | <1 | <1 |
| Copper | ppm | | >330 | 1 | 5 | 4 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium ADDITIVES | ppm | ASTM D5185m method | limit/base | o current | 0 history1 | 0 history2 |
| | ppm | | limit/base | | | |
| ADDITIVES | | method | 0 | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 0 | current | history1 21 | history2 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 60 | current 10 0 | history1 21 0 | history2 43 0 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | current 10 0 58 | history1 21 0 65 | history2 43 0 64 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | current 10 0 58 <1 | history1 21 0 65 | history2 43 0 64 <1 |
| 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 10 0 58 <1 942 | history1 21 0 65 0 1020 | history2 43 0 64 <1 957 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 | current 10 0 58 <1 942 1021 | history1 21 0 65 0 1020 1250 | history2 43 0 64 <1 957 1153 |
| 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 | current 10 0 58 <1 942 1021 1062 | history1 21 0 65 0 1020 1250 1164 | history2 43 0 64 <1 957 1153 1051 |
| 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 1270 | current 10 0 58 <1 942 1021 1062 1266 | history1 21 0 65 0 1020 1250 1164 1447 | history2 43 0 64 <1 957 1153 1051 1255 |
| 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 10 0 58 <1 942 1021 1062 1266 3289 | history1 21 0 65 0 1020 1250 1164 1447 3695 | history2 43 0 64 <1 957 1153 1051 1255 3906 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | current 10 0 58 <1 942 1021 1062 1266 3289 current | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | current 10 0 58 <1 942 1021 1062 1266 3289 current | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base | current 10 0 58 <1 942 1021 1062 1266 3289 current 4 1 | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 7 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium | 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 10 0 58 <1 942 1021 1062 1266 3289 current 4 1 3 | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 7 2 8 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 2 8 |
| 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 method | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | current 10 0 58 <1 942 1021 1062 1266 3289 current 4 1 3 | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 7 2 8 history1 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 2 8 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 | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | current 10 0 58 <1 942 1021 1062 1266 3289 current 4 1 3 current 0.2 | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 7 2 8 history1 0.4 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 2 8 history2 0.2 |
| 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 | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base | current 10 0 58 <1 942 1021 1062 1266 3289 current 4 1 3 current 0.2 6.1 | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 7 2 8 history1 0.4 7.4 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 2 8 history2 0.2 6.0 |
| 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 D7844 *ASTM D7624 *ASTM D7415 | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 | current 10 0 58 <1 942 1021 1062 1266 3289 current 4 1 3 current 0.2 6.1 17.7 | history1 21 0 65 0 1020 1250 1164 1447 3695 history1 7 2 8 history1 0.4 7.4 18.6 | history2 43 0 64 <1 957 1153 1051 1255 3906 history2 5 2 8 history2 0.2 6.0 18.4 |



OIL ANALYSIS REPORT

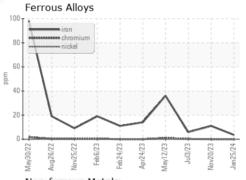


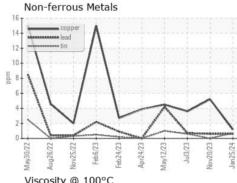


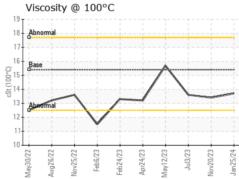
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate |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

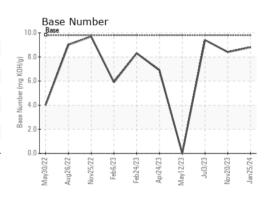
| FLUID PROPE | RHES | metnoa | ilmit/base | current | nistory i | nistory2 |
|--------------|------|-----------|------------|---------|-----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.7 | 13.4 | 13.6 |

GRAPHS











Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10861071 Test Package : FLEET

: GFL0081858 : 06078980

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 02 Feb 2024 Recieved Diagnosed

: 05 Feb 2024 Diagnostician : Wes Davis

GFL Environmental - 955 - Montgomery

1121 Wilbanks St Montgomery, AL US 36108

Contact: LISA REEVES

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)

T:

F: