

OIL ANALYSIS REPORT

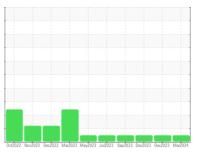
Sample Rating Trend





(GAC713) 913034 Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (11 GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

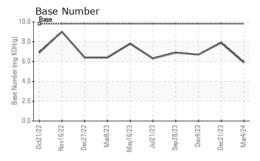
Fluid Condition

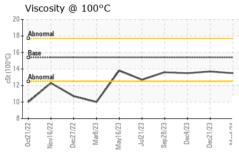
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORI | MATION | method | limit/base | current | history1 | history2 |
|--|--|--|---|--|--|---|
| Sample Number | | Client Info | | GFL0103397 | GFL0103408 | GFL0092455 |
| Sample Date | | Client Info | | 04 Mar 2024 | 21 Dec 2023 | 04 Dec 2023 |
| Machine Age | hrs | Client Info | | 2383 | 1818 | 1668 |
| Oil Age | hrs | Client Info | | 553 | 0 | 546 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINAT | 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 | | NEG | NEG | NEG |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >120 | 9 | 3 | 8 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | <1 | 1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 2 | <1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base | current | history1 | history2 5 |
| | ppm | ASTM D5185m | | | | |
| Boron | | ASTM D5185m | 0 | 8 | 9 | 5 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 0 0 60 | 8 0 | 9 | 5 |
| Boron Barium Molybdenum | ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | 8 0 64 | 9 0 63 | 5 0 63 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | 8 0 64 <1 | 9 0 63 0 | 5 0 63 0 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 | 8 0 64 <1 876 | 9 0 63 0 886 | 5 0 63 0 948 |
| 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 | 8 0 64 <1 876 987 | 9 0 63 0 886 1045 | 5 0 63 0 948 1072 |
| 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 | 8 0 64 <1 876 987 902 | 9 0 63 0 886 1045 857 | 5 0 63 0 948 1072 988 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | 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 | 8 0 64 <1 876 987 902 1134 | 9 0 63 0 886 1045 857 1151 | 5 0 63 0 948 1072 988 1221 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | 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 ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | 8 0 64 <1 876 987 902 1134 2462 | 9 0 63 0 886 1045 857 1151 2998 | 5 0 63 0 948 1072 988 1221 2802 |
| 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 | 8 0 64 <1 876 987 902 1134 2462 current | 9 0 63 0 886 1045 857 1151 2998 | 5 0 63 0 948 1072 988 1221 2802 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 | 8 0 64 <1 876 987 902 1134 2462 current | 9 0 63 0 886 1045 857 1151 2998 history1 | 5 0 63 0 948 1072 988 1221 2802 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base | 8 0 64 <1 876 987 902 1134 2462 current 3 3 | 9 0 63 0 886 1045 857 1151 2998 history1 2 | 5 0 63 0 948 1072 988 1221 2802 history2 4 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 | 8 0 64 <1 876 987 902 1134 2462 current 3 3 | 9 0 63 0 886 1045 857 1151 2998 history1 2 <1 | 5 0 63 0 948 1072 988 1221 2802 history2 4 4 |
| 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 | 8 0 64 <1 876 987 902 1134 2462 current 3 3 <1 | 9 0 63 0 886 1045 857 1151 2998 history1 2 <1 2 | 5 0 63 0 948 1072 988 1221 2802 history2 4 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 | 8 0 64 <1 876 987 902 1134 2462 current 3 3 <1 current 0.5 | 9 0 63 0 886 1045 857 1151 2998 history1 2 <1 2 history1 0.2 | 5 0 63 0 948 1072 988 1221 2802 history2 4 0 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145 | 0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base | 8 0 64 <1 876 987 902 1134 2462 current 3 3 <1 current 0.5 9.3 | 9 0 63 0 886 1045 857 1151 2998 history1 2 <1 2 history1 0.2 6.1 | 5 0 63 0 948 1072 988 1221 2802 history2 4 4 0 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145 | 0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 | 8 0 64 <1 876 987 902 1134 2462 current 3 3 <1 current 0.5 9.3 20.0 | 9 0 63 0 886 1045 857 1151 2998 history1 2 <1 2 history1 0.2 6.1 17.7 | 5 0 63 0 948 1072 988 1221 2802 history2 4 0 history2 0.4 8.7 19.8 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE | ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7624 *ASTM D7624 *ASTM D7415 Method | 0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base | 8 0 64 <1 876 987 902 1134 2462 current 3 3 <1 current 0.5 9.3 20.0 current | 9 0 63 0 886 1045 857 1151 2998 history1 2 <1 2 history1 0.2 6.1 17.7 history1 | 5 0 63 0 948 1072 988 1221 2802 history2 4 4 0 history2 |



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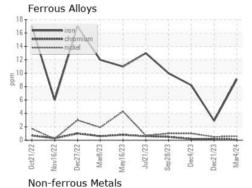


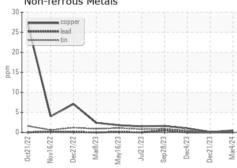


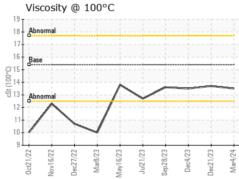
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate |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

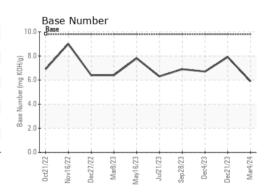
| FLUID PROPE | ERTIES | method | | | | history2 |
|--------------|--------|-----------|------|------|------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.5 | 13.7 | 13.5 |

GRAPHS











Laboratory Sample No.

Lab Number : 06112069 Unique Number: 10915566 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0103397 Received : 07 Mar 2024 **Tested** : 08 Mar 2024

Diagnosed : 08 Mar 2024 - Wes Davis

GFL Environmental - 095 - Atlanta West 2699 Cochran Industrial Blvd

Douglasville, GA US 30127-1332

Contact: Darrell Welch darrell.welch@gflenv.com T: (800)207-6618

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)