

OIL ANALYSIS REPORT

(WXQ193) Nachine Id ISUZU 10880

Diesel Engine

PETRO CANADA DURON SHP 15W40 (4 GAL)

32016 Sep2019 Apr2020 Oct2020 Apr2021 Feb2022 Aug2023 Mar2024

Sample Rating Trend



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.

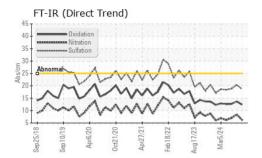
Fluid Condition

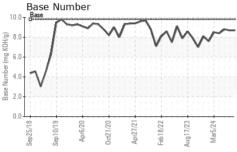
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

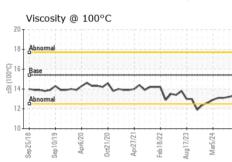
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|---|--|--|---|--|---|--|
| Sample Number | | Client Info | | GFL0116832 | GFL0116824 | GFL0116810 |
| Sample Date | | Client Info | | 10 Jul 2024 | 07 Jun 2024 | 09 May 2024 |
| Machine Age | hrs | Client Info | | 17582 | 17230 | 17056 |
| Oil Age | hrs | Client Info | | 7947 | 7595 | 7421 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <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 | >100 | 9 | 13 | 9 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 0 | <1 | 3 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Cadmium | nnm | ASTM D5185m | | • | 0 | 0 |
| Caumum | ppm | ASTIVI DOTOSITI | | 0 | 0 | U |
| ADDITIVES | ррш | method | limit/base | current | history1 | history2 |
| | ppm | | limit/base | | | |
| ADDITIVES | | method | 0 | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 0 | current 5 | history1 | history2 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 60 | current 5 0 | history1 5 0 | history2 9 0 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | current 5 0 59 | history1 5 0 62 | history2 9 0 57 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | current 5 0 59 0 | history1 5 0 62 <1 | history2 9 0 57 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | method ASTM D5185m | 0 0 60 0 1010 | current 5 0 59 0 879 | history1 5 0 62 <1 886 | history2 9 0 57 1 844 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | 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 5 0 59 0 879 1144 | history1 5 0 62 <1 886 1208 | history2 9 0 57 1 844 1099 |
| 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 5 0 59 0 879 1144 1007 | history1 5 0 62 <1 886 1208 1048 | history2 9 0 57 1 844 1099 989 |
| 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 5 0 59 0 879 1144 1007 1165 | history1 5 0 62 <1 886 1208 1048 1266 | history2 9 0 57 1 844 1099 989 1163 |
| 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 5 0 59 0 879 1144 1007 1165 3406 | history1 5 0 62 <1 886 1208 1048 1266 3460 | history2 9 0 57 1 844 1099 989 1163 3248 |
| 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 5 0 59 0 879 1144 1007 1165 3406 current | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 | history2 9 0 57 1 844 1099 989 1163 3248 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 5 0 59 0 879 1144 1007 1165 3406 current | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 | history2 9 0 57 1 844 1099 989 1163 3248 history2 |
| 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 Iimit/base | current 5 0 59 0 879 1144 1007 1165 3406 current 4 | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 3 2 | history2 9 0 57 1 844 1099 989 1163 3248 history2 3 |
| 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 5 0 59 0 879 1144 1007 1165 3406 current 4 2 0 | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 3 2 <1 | history2 9 0 57 1 844 1099 989 1163 3248 history2 3 2 0 |
| 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 5 0 59 0 879 1144 1007 1165 3406 current 4 2 0 current | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 3 2 <1 | history2 9 0 57 1 844 1099 989 1163 3248 history2 3 2 0 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 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base | current 5 0 59 0 879 1144 1007 1165 3406 current 4 2 0 current 0.9 | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 3 2 <1 history1 1.7 | history2 9 0 57 1 844 1099 989 1163 3248 history2 3 2 0 history2 1.3 |
| 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 D7844 *ASTM D7624 *ASTM D76145 | 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base | current 5 0 59 0 879 1144 1007 1165 3406 current 4 2 0 current 0.9 6.3 | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 3 2 <1 history1 1.7 8.4 | history2 9 0 57 1 844 1099 989 1163 3248 history2 3 2 0 history2 1.3 7.0 |
| 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 D5185m *ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145 | 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 | current 5 0 59 0 879 1144 1007 1165 3406 current 4 2 0 current 0.9 6.3 18.7 | history1 5 0 62 <1 886 1208 1048 1266 3460 history1 3 2 <1 history1 1.7 8.4 20.4 | history2 9 0 57 1 844 1099 989 1163 3248 history2 3 2 0 history2 1.3 7.0 18.8 |



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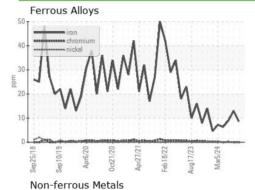


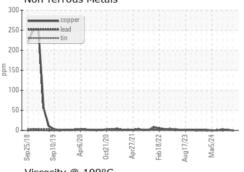


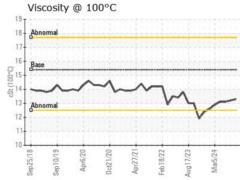
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate |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

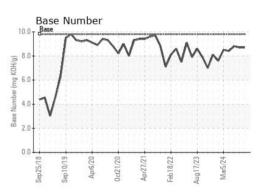
| FLUID PROPI | ERHES | method | | | | history2 |
|--------------|-------|-----------|------|------|------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.3 | 13.2 | 13.1 |

GRAPHS













Certificate 12367

Laboratory Sample No.

Lab Number : 06235491 Unique Number : 11124325 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0116832

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

Received **Tested** Diagnosed

: 15 Jul 2024 : 15 Jul 2024

: 15 Jul 2024 - Wes Davis

6905 Roosevelt Hwy Fairburn, GA US 30213

GFL Environmental - 009 - Fairburn

Contact: Eric Jones erjones@gflenv.com T: (678)630-9927

* - 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)