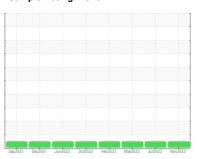


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **211772**Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

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

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

Fluid Condition

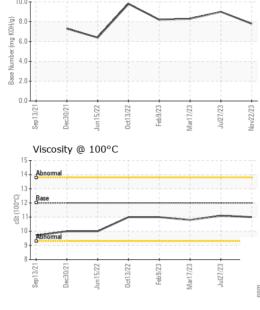
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Sep 2021 Dec2021 Jun2022 Oct0222 Feb 2023 Med 2023 Med 2023 New 2023 | | | | | | | | | |
|--|----------|----------------------------|------------|-------------|-------------|-------------|--|--|--|
| SAMPLE INFORI | MATION | method | limit/base | current | history1 | history2 | | | |
| Sample Number | | Client Info | | PCA0113396 | PCA0103030 | PCA0094238 | | | |
| Sample Date | | Client Info | | 22 Nov 2023 | 27 Jul 2023 | 17 Mar 2023 | | | |
| Machine Age | | | | 60633 | 0 | 42683 | | | |
| Oil Age | mls | Client Info | | 0 | 0 | 0 | | | |
| Oil Changed | | Client Info | | N/A | N/A | Changed | | | |
| 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 | 34 | 21 | 35 | | | |
| Chromium | ppm | ASTM D5185m | >20 | 2 | 2 | 2 | | | |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 | | | |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 | | | |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 | | | |
| Aluminum | ppm | ASTM D5185m | >20 | 15 | 9 | 15 | | | |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 | | | |
| Copper | ppm | ASTM D5185m | >330 | 3 | 3 | 7 | | | |
| Tin Vanadium | ppm | ASTM D5185m ASTM D5185m | >15 | 0 | <1 <1 | 2 | | | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 | | | |
| ADDITIVES | ppm | | limit/base | | | _ | | | |
| | | method | 2 | current | history1 | history2 | | | |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 0 | 6 0 | 8 | 15 0 | | | |
| Molybdenum | ppm | ASTM D5185m | 50 | 65 | 66 | 64 | | | |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 1 | | | |
| Magnesium | ppm | ASTM D5185m | 950 | 919 | 973 | 938 | | | |
| Calcium | ppm | ASTM D5185m | 1050 | 1099 | 1163 | 1207 | | | |
| Phosphorus | ppm | ASTM D5185m | 995 | 1054 | 1044 | 945 | | | |
| Zinc | ppm | ASTM D5185m | 1180 | 1282 | 1284 | 1259 | | | |
| Sulfur | ppm | ASTM D5185m | 2600 | 3139 | 3766 | 3156 | | | |
| CONTAMINAN | TS | method | limit/base | current | history1 | history2 | | | |
| Silicon | ppm | ASTM D5185m | >25 | 6 | 4 | 5 | | | |
| Sodium | ppm | ASTM D5185m | | 1 | 2 | 2 | | | |
| Potassium | ppm | ASTM D5185m | >20 | 16 | 8 | 17 | | | |
| INFRA-RED | | method | limit/base | current | history1 | history2 | | | |
| Soot % | % | *ASTM D7844 | >3 | 0.5 | 0.3 | 0.5 | | | |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.5 | 7.4 | 9.3 | | | |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.3 | 18.4 | 19.3 | | | |
| FLUID DEGRA | OATION | method | limit/base | current | history1 | history2 | | | |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.9 | 14.3 | 15.8 | | | |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 7.8 | 9.0 | 8.3 | | | |



Base Number

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 FROF | LULIES | method | | | HISTOLAL | HISTOLYZ |
|--------------|--------|-----------|-------|------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | 11.0 | 11.1 | 10.8 |

| | GR | APH | IS | | | | | | | | | | | | | | |
|------------------------|----------------|------------|----------|------------|-----------|------------|------------|----------|--|----------------|-----------|----------|----------|-------------|------------|------------|----------|
| 250 | Iron (ppm) | | | | | | | | 100 | Lead (ppm) | | | | | | | |
| 200 | Severe | | | | | | | | 80 | Seve | re | | | | | | |
| 돌 ¹⁵⁰ | | | | | | | | | md 40 | | | | | | | | |
| | Abno | mal | | | | | | | 40 | Abno | ormal | | | | | | |
| 50 | | | | _ | | | | _ | 20 | | | | | | | | |
| | Sep13/21. | Dec:30/21- | Jun15/22 | Oct13/22 | Feb 9/23 | Mar17/23 - | Jul27/23 | Nov22/23 | | Sep13/21. | Dec30/21- | Jun15/22 | 0ct13/22 | Feb 9/23 | Mar17/23 | Jul27/23 | Nov22/23 |
| | Aluminum (ppm) | | | | | | | | | Chromium (ppm) | | | | | | | |
| 50 40 | Savara | | | | | 7 | | | 50 40 | Seve | re | | | 1 | 7 | | |
| | Ī | | | | | | | | 20 | | | | | | | | |
| 된 30 20 | Abno | rmal | | | | | | | E 20 | Abno | ormal | | | | | | |
| 10 | - | - | | _ | | | _ | | 10 | | | | | | | | |
| U | Sep13/21 | Dec30/21- | Jun15/22 | Oct13/22 | Feb9/23 | Mar17/23 - | Jul27/23 | Nov22/23 | U | Sep13/21 | Dec30/21- | Jun15/22 | 0ct13/22 | Feb 9/23 | Mar17/23 + | Jul27/23 | Nov22/23 |
| | | | | Oct | 굔 | Mar | Ju | Nov. | | | | | Oct | 교 | Mar | in . | Nov |
| 400 | | per (¡ | ppm) | | | | | | 80 | Silio | con (p | pm) | | | | | ,- |
| 300 | Severe | mal | | | | | | | 60 | | | | | | | | |
| E 200 | - | | | | | | | | 튭40 | | | | | | | | |
| 100 | 1 | | | | | | | | 20 | Abno | ormal | | | | | | |
| 0 | <u></u> | + | 2+ | 2 | 3 | | m | 3 | 0 | - | - | 2+- | 7 | 3 | 3 | | 3 |
| | Sep13/21 | Dec30/21 | Jun15/22 | Oct13/22 | Feb 9/23 | Mar17/23 | Jul27/23 | Nov22/23 | | Sep13/21 | Dec30/21 | Jun15/22 | 0ct13/22 | Feb9/23 | Mar17/23 | Jul27/23 | Nov22/23 |
| | | | @ 100 | | | | | _ | | | e Nun | | | | | | |
| 16 | 1 | | | | | | | | 10.0 (B/H _Q) 8.0 | | | | / | _ | | _ | |
| .14 0.0 | Abno | mal | | | | | | | Base Number (mg KOH/g) 0.0 0.9 0.0 0.8 | | _ | / | | | | | |
| (0-001) St (100-01) | Base | | | | | | _ | _ | 4.0 | - | | | | | | | |
| 10 | Abno | mal | | | | | | | Base 2.0 | | | | | | | | |
| 8 | Sep13/21 | Dec30/21- | 5/25 | Oct13/22 - | Feb9/23 - | Mar17/23 + | Jul27/23 - | Nov22/23 | 0.0 | Sep13/21 | Dec30/21- | 5/22 | 0ct13/22 | Feb9/23 | Mar17/23 + | Jul27/23 + | Nov22/23 |
| | Sep1 | Dec3 | Jun15/22 | Octl | Feb | Marl | Julz | Nov2 | | Sep1 | Dec3 | Jun15/22 | Octl | Feb | Marl | JulZ | Nov2 |



Laboratory Sample No.

Lab Number

Unique Number : 10789270

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0113396 Received : 06034041 Diagnosed

: 13 Dec 2023 : 14 Dec 2023 Diagnostician : Wes Davis

Test Package : MOB 1 (Additional Tests: TBN) 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)

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