

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 228294

Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (----

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

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

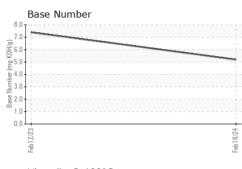
Fluid Condition

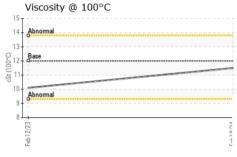
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

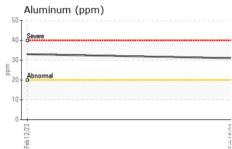
| TS) | | | Feb2023 | Feb2024 | | |
|---------------|----------------|-------------|------------|-------------|-------------|----------|
| SAMPLE INFORM | / ATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | PCA0110664 | PCA0083843 | |
| Sample Date | | Client Info | | 18 Feb 2024 | 12 Feb 2023 | |
| Machine Age | mls | Client Info | | 78020 | 34690 | |
| Dil Age | mls | Client Info | | 43330 | 34690 | |
| Oil Changed | | Client Info | | Changed | Changed | |
| Sample Status | | | | NORMAL | NORMAL | |
| CONTAMINATI | ON | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | |
| Nater | | WC Method | >0.2 | NEG | NEG | |
| Glycol | | WC Method | | NEG | NEG | |
| WEAR METALS | S | method | limit/base | current | history1 | history2 |
| ron | ppm | ASTM D5185m | >100 | 51 | 46 | |
| Chromium | ppm | ASTM D5185m | >20 | 4 | 3 | |
| Nickel | ppm | ASTM D5185m | >4 | 1 | 1 | |
| Titanium | ppm | ASTM D5185m | | 15 | 5 | |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | |
| Aluminum | ppm | ASTM D5185m | >20 | 31 | 33 | |
| _ead | ppm | ASTM D5185m | >40 | <1 | 3 | |
| Copper | ppm | ASTM D5185m | >330 | 113 | 316 | |
| Гin | ppm | ASTM D5185m | >15 | 4 | 5 | |
| /anadium | ppm | ASTM D5185m | | 0 | <1 | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 2 | 5 | 24 | |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | |
| Volybdenum | ppm | ASTM D5185m | 50 | 52 | 40 | |
| Vanganese | ppm | ASTM D5185m | 0 | 2 | 4 | |
| Magnesium | ppm | ASTM D5185m | 950 | 913 | 503 | |
| Calcium | ppm | ASTM D5185m | 1050 | 1485 | 1681 | |
| Phosphorus | ppm | ASTM D5185m | 995 | 1028 | 701 | |
| Zinc | ppm | ASTM D5185m | 1180 | 1327 | 942 | |
| Sulfur | ppm | ASTM D5185m | 2600 | 2479 | 1938 | |
| CONTAMINAN | TS | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >25 | 5 | 8 | |
| Sodium | ppm | ASTM D5185m | | 3 | 6 | |
| Potassium | ppm | ASTM D5185m | >20 | 62 | 72 | |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | *ASTM D7844 | >3 | 0.7 | 0.5 | |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 12.1 | 11.0 | |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.7 | 23.1 | |
| FLUID DEGRAD | ATION | method | limit/base | current | history1 | history2 |
| | | | | | | |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 24.0 | 25.0 | |



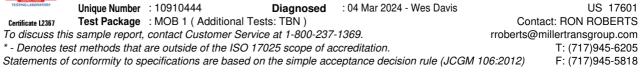
OIL ANALYSIS REPORT







| VISUAL | | method | limit/base | current | history1 | history2 |
|--|-----------------------------------|---------------------------|--|---------------|----------|--|
| White Metal | scalar | *Visual | NONE | NONE | NONE | |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | |
| Silt | scalar | *Visual | NONE | NONE | NONE | |
| Debris | scalar | *Visual | NONE | NONE | NONE | |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | |
| Appearance | scalar | *Visual | NORML | NORML | NORML | |
| Odor | scalar | *Visual | NORML | NORML | NORML | |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | |
| Free Water | scalar | *Visual | | NEG | NEG | |
| FLUID PROPER | RTIES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | 11.5 | 10.1 | |
| GRAPHS | | | | | | |
| Iron (ppm) | | | | Lead (ppm) | | |
| 250 Severe | | | 100 | Severe | | |
| 200 | | | 08 | | | |
| a 150 - Abnormal | | | 60 Ed 40 | Abnormal | | |
| 50 - | | | 20 | Ţ | | |
| 0 | | | 0 | | | |
| Feb12/23 | | | Feb18/24 | Feb12/23 | | Feb18/24 |
| Feb | | | Feb | Feb | | Feb |
| Aluminum (ppm) | | | 50 | Chromium (p | pm) | |
| 50 40 - Severe | | | 50 | Severe | | |
| | | | | Ī | | |
| and a second sec | | | | Abnormal | | |
| 10 | | | 10 | | | |
| 0 | | | 0 | 1 | | |
| Feb 12/23 | | | Feb 18/24 | Feb12/23 | | Feb18/24 |
| — | | | Feb | — | | 율 |
| Copper (ppm) | | | 80 | Silicon (ppm) | | |
| Abnonnal | | | 80 | Severe | | |
| 300 | | | 60 | | | |
| 틆 200- | | | 튭 40 | Abnormal | | |
| 100- | | | 20 | | | |
| | | | | | | |
| Feb 12/23 | | | Feb 18/24 | Feb 12/23 | | Feb18/24 |
| | | | <u>a</u> | | | Fei |
| Viscosity @ 100°C | | | 8.0 | Base Number | | |
| 14 - Abnormal | | | (D/HOX) Buy Jack 4.0 Nump 22.0 | | | |
| D Base | | | B K | | | |
| Base 12 - Base | | | ња 4.0 | 1 | | |
| 10 Abnormal | | | ² 2.0 | | | |
| 8 | | | → 0.0 | L. | | |
| Feb 12/23 | | | Feb 18/24 | Feb 12/23 | | Feb18/24 |
| يت ت | | | Ш. | Ľ. | | μ. Π |
| : WearCheck USA - 501 : PCA0110664 : 06106947 : 10910444 | Madiso Recei Teste Diagn | ved : 04 d : 04 | , NC 27513 Mar 2024 Mar 2024 Mar 2024 - W | | | LEASING #123 LLER AVENUE NCASTER, PA US 17601 |



Laboratory Sample No. Lab Number

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