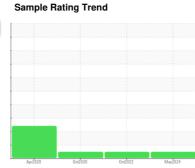


OIL ANALYSIS REPORT



NORMAL



Machine Id **196499**

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- QTS

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

There is no indication of any contamination in the oil.

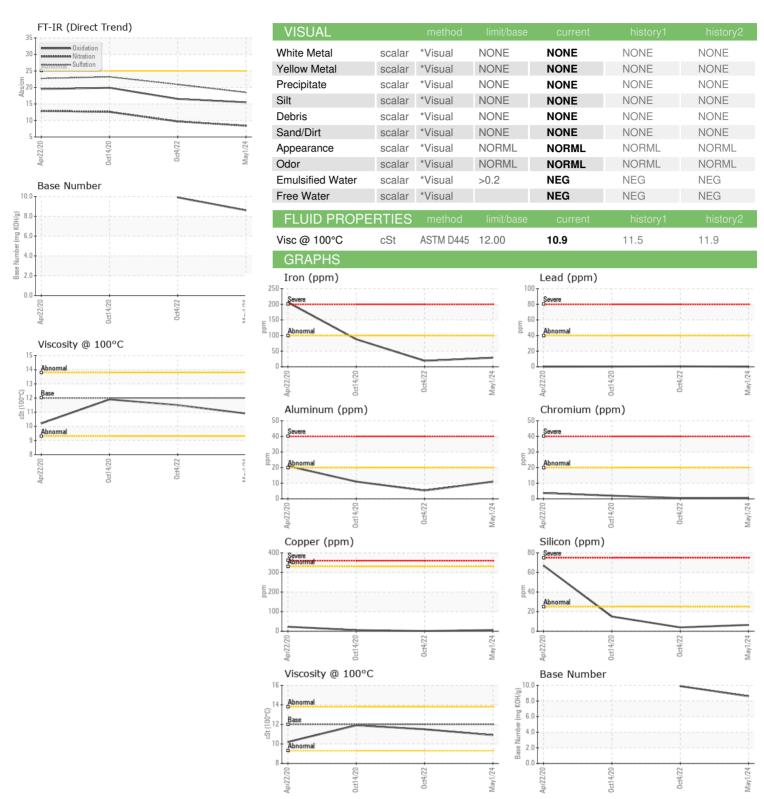
Fluid Condition

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

| SAMPLE INFORMATION method limit/base current history1 | | sy ² 024 | Oct2022 M | 0 0ct2020 | AprŽ02 | | QTS) |
|---|-------------|---------------------|-------------|------------|-------------|----------|-------------------------|
| Sample Date | history2 | history1 | current | limit/base | method | MATION | SAMPLE INFORM |
| Machine Age mls Client Info 0 3500 | PCA0031258 | PCA0077049 | PCA0123996 | | Client Info | | Sample Number |
| Machine Age mls Client Info 154434 115294 Oil Age mls Client Info 0 3500 Oil Changed Client Info 0 3500 Sample Status Client Info Changed Changed CONTAMINATION method limit/base current history1 Fuel WC Method >5 <1.0 | 14 Oct 2020 | 04 Oct 2022 | 01 May 2024 | | Client Info | | Sample Date |
| Oil Changed Sample Status Client Info Sample Status Changed NORMAL NORMAL Changed NORMAL NORMAL Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL NORMAL | 33063 | 115294 | - | | Client Info | mls | · |
| CONTAMINATION method limit/base current history1 Fuel WC Method >5 <1.0 | 0 | 3500 | 0 | | Client Info | mls | |
| CONTAMINATION method limit/base current history1 Fuel WC Method >5 <1.0 | Changed | Changed | Changed | | Client Info | | Oil Changed |
| Fuel WC Method >5 <1.0 <1.0 Water WC Method >0.2 NEG NEG Glycol WC Method NEG NEG WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >100 29 19 Chromium ppm ASTM D5185m >20 <1 | NORMAL | | _ | | | | - |
| Water WC Method >0.2 NEG NEG Glycol WC Method Imit/base current history1 WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >100 29 19 Chromium ppm ASTM D5185m >20 <1 <1 Nickel ppm ASTM D5185m >3 0 0 Silver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >20 11 5 Lead ppm ASTM D5185m >33 0 0 <1 Copper ppm ASTM D5185m >20 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | history2 | history1 | current | limit/base | method | ION | CONTAMINATI |
| Glycol WC Method Imit/base current history1 WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >100 29 19 Chromium ppm ASTM D5185m >20 <1 | <1.0 | <1.0 | <1.0 | >5 | WC Method | | Fuel |
| WEAR METALS method limit/base current history1 Iron ppm ASTM D5185m >100 29 19 Chromium ppm ASTM D5185m >20 <1 | NEG | NEG | NEG | >0.2 | WC Method | | Water |
| Iron | NEG | NEG | NEG | | WC Method | | Glycol |
| Chromium ppm ASTM D5185m >20 <1 <1 Nickel ppm ASTM D5185m >4 0 <1 | history2 | history1 | current | limit/base | method | S | WEAR METALS |
| Nickel ppm ASTM D5185m >4 0 <1 Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >20 11 5 Lead ppm ASTM D5185m >40 0 <1 | 88 | 19 | 29 | >100 | ASTM D5185m | ppm | Iron |
| Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >20 11 5 Lead ppm ASTM D5185m >40 0 <1 | 2 | <1 | <1 | >20 | ASTM D5185m | ppm | Chromium |
| Silver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >20 11 5 Lead ppm ASTM D5185m >40 0 <1 | <1 | <1 | 0 | >4 | ASTM D5185m | ppm | Nickel |
| Aluminum ppm ASTM D5185m >20 11 5 Lead ppm ASTM D5185m >40 0 <1 | <1 | 0 | 0 | | ASTM D5185m | ppm | Titanium |
| Lead ppm ASTM D5185m >40 0 <1 Copper ppm ASTM D5185m >330 6 1 Tin ppm ASTM D5185m Antimony ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 0 0 Manganesium ppm ASTM D5185m 950 957 858 | <1 | 0 | 0 | >3 | ASTM D5185m | ppm | Silver |
| Copper ppm ASTM D5185m >330 6 1 Tin ppm ASTM D5185m >15 1 <1 | 11 | 5 | 11 | >20 | ASTM D5185m | ppm | Aluminum |
| Tin ppm ASTM D5185m >15 1 <1 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 64 75 Manganese ppm ASTM D5185m 950 957 858 8 Calcium ppm ASTM D5185m 950 957 858 8 Calcium ppm ASTM D5185m 995 1069 977 129 Zinc ppm ASTM D5185m 995 1069 977 1231 1231 3231 3285 CONTAMINANTS m | <1 | <1 | 0 | >40 | ASTM D5185m | ppm | Lead |
| Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 2 5 19 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 | 6 | 1 | 6 | >330 | ASTM D5185m | ppm | Copper |
| Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 2 5 19 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 | <1 | <1 | 1 | >15 | ASTM D5185m | ppm | Tin |
| Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 2 5 19 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 | 0 | | | | ASTM D5185m | ppm | Antimony |
| ADDITIVES method limit/base current history1 Boron ppm ASTM D5185m 2 5 19 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 Magnesium ppm ASTM D5185m 950 957 858 Calcium ppm ASTM D5185m 1050 1139 1229 Phosphorus ppm ASTM D5185m 995 1069 977 Zinc ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 | 0 | 0 | 0 | | ASTM D5185m | ppm | Vanadium |
| Boron ppm ASTM D5185m 2 5 19 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 | 0 | 0 | 0 | | ASTM D5185m | ppm | Cadmium |
| Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 | history2 | history1 | current | limit/base | method | | ADDITIVES |
| Molybdenum ppm ASTM D5185m 50 64 75 Manganese ppm ASTM D5185m 0 2 <1 Magnesium ppm ASTM D5185m 950 957 858 Calcium ppm ASTM D5185m 1050 1139 1229 Phosphorus ppm ASTM D5185m 995 1069 977 Zinc ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 <td>6</td> <td>19</td> <th>5</th> <td>2</td> <td>ASTM D5185m</td> <td>ppm</td> <td>Boron</td> | 6 | 19 | 5 | 2 | ASTM D5185m | ppm | Boron |
| Manganese ppm ASTM D5185m 0 2 <1 Magnesium ppm ASTM D5185m 950 957 858 Calcium ppm ASTM D5185m 1050 1139 1229 Phosphorus ppm ASTM D5185m 995 1069 977 Zinc ppm ASTM D5185m 1180 1273 1231 Sulfur ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 0 | 0 | 0 | 0 | ASTM D5185m | ppm | Barium |
| Magnesium ppm ASTM D5185m 950 957 858 Calcium ppm ASTM D5185m 1050 1139 1229 Phosphorus ppm ASTM D5185m 1069 977 Zinc ppm ASTM D5185m 1180 1273 1231 Sulfur ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 66 | 75 | 64 | 50 | ASTM D5185m | ppm | Molybdenum |
| Calcium ppm ASTM D5185m 1050 1139 1229 Phosphorus ppm ASTM D5185m 995 1069 977 Zinc ppm ASTM D5185m 1180 1273 1231 Sulfur ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 1 | <1 | 2 | 0 | ASTM D5185m | ppm | Manganese |
| Phosphorus ppm ASTM D5185m 995 1069 977 Zinc ppm ASTM D5185m 1180 1273 1231 Sulfur ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 877 | 858 | 957 | 950 | ASTM D5185m | ppm | Magnesium |
| Zinc ppm ASTM D5185m 1180 1273 1231 Sulfur ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 1263 | 1229 | 1139 | 1050 | ASTM D5185m | ppm | Calcium |
| Sulfur ppm ASTM D5185m 2600 3503 3285 CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 1035 | 977 | 1069 | 995 | ASTM D5185m | ppm | Phosphorus |
| CONTAMINANTS method limit/base current history1 Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 1224 | 1231 | 1273 | 1180 | ASTM D5185m | ppm | Zinc |
| Silicon ppm ASTM D5185m >25 6 4 Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 2557 | 3285 | 3503 | 2600 | ASTM D5185m | ppm | Sulfur |
| Sodium ppm ASTM D5185m 2 1 Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | history2 | history1 | current | limit/base | method | TS | CONTAMINAN [*] |
| Potassium ppm ASTM D5185m >20 14 4 INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 15 | 4 | 6 | >25 | ASTM D5185m | ppm | Silicon |
| INFRA-RED method limit/base current history1 Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 3 | 1 | 2 | | ASTM D5185m | ppm | Sodium |
| Soot % % *ASTM D7844 >3 0.4 0.7 Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 18 | 4 | 14 | >20 | ASTM D5185m | ppm | Potassium |
| Nitration Abs/cm *ASTM D7624 >20 8.4 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | history2 | history1 | current | limit/base | method | | INFRA-RED |
| Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.9 | 1.1 | 0.7 | 0.4 | >3 | *ASTM D7844 | % | Soot % |
| | 12.6 | 9.7 | 8.4 | >20 | *ASTM D7624 | Abs/cm | Nitration |
| FLUID DEGRADATION method limit/base current history1 | 23.2 | 20.9 | 18.5 | >30 | *ASTM D7415 | Abs/.1mm | Sulfation |
| | history2 | history1 | current | limit/base | method | DATION | FLUID DEGRAD |
| Oxidation | 19.9 | 16.5 | 15.5 | >25 | *ASTM D7414 | Abs/.1mm | Oxidation |
| Base Number (BN) mg KOH/g ASTM D2896 8.6 9.9 | | 9.9 | 8.6 | | ASTM D2896 | mg KOH/g | Base Number (BN) |



OIL ANALYSIS REPORT







Certificate 12367

Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0123996 Lab Number : 06191603 Unique Number : 11048355

Received : 24 May 2024 **Tested** Diagnosed

: 29 May 2024

: 29 May 2024 - Wes Davis Test Package : MOB 1 (Additional Tests: TBN)

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

MILLER TRUCK LEASING #121

107 HOW LANE NEW BRUNSWICK, NJ US 08901

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