

OIL ANALYSIS REPORT

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Sample Rating Trend

NORMAL



338230

Component **Diesel Engine**

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

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. No other contaminants were detected in the oil.

Fluid Condition

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

| SAMPLE INFORMATION method limit/base current history2 history2 Sample Number Client Info 27 Nov 2023 | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|-------------|------------|-------------|----------|----------|
| Continue | AL) | | | | Nov2023 | | |
| Cample Date Client Info 18907 | SAMPLE INFOR | RMATION | method | limit/base | current | history1 | history2 |
| Machine Age mls | Sample Number | | Client Info | | PCA0097365 | | |
| Dil Changed | Sample Date | | Client Info | | 27 Nov 2023 | | |
| Client Info NORMAL Changed NORMAL CONTAMINATION method limit/base current history1 history2 Mater WC Method >0.2 NEG Chromium ppm ASTM D5185m >20 2 Chromium ppm ASTM D5185m >20 29 Chromium ppm ASTM D5185m >20 29 Chromium ppm ASTM D5185m >20 29 Chromium ppm ASTM D5185m >20 29 | Machine Age | mls | Client Info | | 18907 | | |
| CONTAMINATION method militibase current history1 history2 | Dil Age | mls | Client Info | | 18907 | | |
| CONTAMINATION | Oil Changed | | Client Info | | Changed | | |
| Vicinity Vicinity | Sample Status | | | | NORMAL | | |
| Wester Wc Method Wc Method Wc Method Wc Method NEG Wc Method Wc Method NEG Wc Method Wc Method Neg Wc Method W | CONTAMINAT | ΓΙΟΝ | method | limit/base | current | history1 | history2 |
| WEAR METALS | -uel | | WC Method | >5 | <1.0 | | |
| WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >100 92 Chromium ppm ASTM D5185m >20 2 Vickel ppm ASTM D5185m >4 <1 | Vater | | WC Method | >0.2 | NEG | | |
| Chromium | Glycol | | WC Method | | NEG | | |
| ASTM D5185m | WEAR METAL | _S | method | limit/base | current | history1 | history2 |
| Silver | ron | ppm | ASTM D5185m | >100 | 92 | | |
| ASTM D5185m Compared to the part of th | Chromium | ppm | ASTM D5185m | >20 | 2 | | |
| Silver | Nickel | ppm | ASTM D5185m | >4 | <1 | | |
| Astronometric Astronometri | - itanium | ppm | ASTM D5185m | | <1 | | |
| Accepted | Silver | ppm | ASTM D5185m | >3 | 0 | | |
| Description | Aluminum | ppm | ASTM D5185m | >20 | 29 | | |
| Sin | .ead | ppm | ASTM D5185m | >40 | <1 | | |
| Anadium | Copper | ppm | ASTM D5185m | >330 | 30 | | |
| ADDITIVES | īn | ppm | ASTM D5185m | >15 | 4 | | |
| ADDITIVES | /anadium | ppm | ASTM D5185m | | 0 | | |
| Soron ppm ASTM D5185m 2 27 | Cadmium | ppm | ASTM D5185m | | 0 | | |
| Sarium | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185m 50 46 Manganese ppm ASTM D5185m 0 11 Magnesium ppm ASTM D5185m 950 625 Calcium ppm ASTM D5185m 1050 1777 Phosphorus ppm ASTM D5185m 180 1008 Zinc ppm ASTM D5185m 2600 2684 Contamination ppm ASTM D5185m 2600 2684 Contassium ppm ASTM D5185m >25 10 Potassium ppm ASTM D5185m >25 10 Potassium ppm ASTM D5185m >20 60 Potassium ppm ASTM D5185m >20 60 Soot % *ASTM D7844 | Boron | ppm | ASTM D5185m | 2 | 27 | | |
| Manganese ppm ASTM D5185m 0 11 Magnesium ppm ASTM D5185m 950 625 Calcium ppm ASTM D5185m 1050 17777 Phosphorus ppm ASTM D5185m 995 895 Zinc ppm ASTM D5185m 2600 2684 Sulfur ppm ASTM D5185m 2600 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Godium ppm ASTM D5185m >20 60 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 | Barium | ppm | ASTM D5185m | 0 | <1 | | |
| Magnesium ppm ASTM D5185m 950 625 Calcium ppm ASTM D5185m 1050 17777 Phosphorus ppm ASTM D5185m 995 895 Zinc ppm ASTM D5185m 1180 1008 Sulfur ppm ASTM D5185m 2600 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m >20 60 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Sulfation Abs/.1mm *ASTM D7415 </td <td>Nolybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>50</td> <td>46</td> <td></td> <td></td> | Nolybdenum | ppm | ASTM D5185m | 50 | 46 | | |
| Calcium ppm ASTM D5185m 1 050 1777 Phosphorus ppm ASTM D5185m 995 895 Pinc ppm ASTM D5185m 1180 1008 Sulfur ppm ASTM D5185m 2600 2684 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 10 Solium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION *ASTM D7414 >25 < | Manganese | ppm | ASTM D5185m | 0 | 11 | | |
| Phosphorus ppm ASTM D5185m 995 895 Finc ppm ASTM D5185m 1180 1008 Sulfur ppm ASTM D5185m 2600 2684 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 10 Solium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <t< td=""><td>/lagnesium</td><td>ppm</td><td>ASTM D5185m</td><td>950</td><td>625</td><td></td><td></td></t<> | /lagnesium | ppm | ASTM D5185m | 950 | 625 | | |
| CONTAMINANTS method limit/base current history1 history2 | Calcium | ppm | ASTM D5185m | 1050 | 1777 | | |
| Sulfur ppm ASTM D5185m 2600 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Bodium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >3 0.4 Sulfation Abs/cm *ASTM D7624 >20 9.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.6 | Phosphorus | ppm | ASTM D5185m | 995 | 895 | | |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Sulfration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.6 | Zinc | ppm | ASTM D5185m | 1180 | 1008 | | |
| Solicon ppm ASTM D5185m >25 10 | Sulfur | ppm | ASTM D5185m | 2600 | 2684 | | |
| Sodium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Sultration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.6 | CONTAMINAN | NTS | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 60 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Vitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.6 | Silicon | ppm | ASTM D5185m | >25 | 10 | | |
| INFRA-RED | Sodium | ppm | ASTM D5185m | | 6 | | |
| Goot % % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 9.7 Gulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.6 | Potassium | ppm | ASTM D5185m | >20 | 60 | | |
| Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 21.6 | INFRA-RED | | method | limit/base | current | history1 | history2 |
| Sulfation Abs/.1mm *ASTM D7415 >30 22.6 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 21.6 | Soot % | % | *ASTM D7844 | >3 | 0.4 | | |
| FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 21.6 | Nitration | Abs/cm | *ASTM D7624 | >20 | 9.7 | | |
| Dxidation | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.6 | | |
| | FLUID DEGRA | DATION | method | limit/base | current | history1 | history2 |
| | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 21.6 | | |
| | Base Number (BN) | mg KOH/g | ASTM D2896 | | 9.1 | | |



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: 06047594 : 10808202

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0097365 Recieved Diagnosed

: 29 Dec 2023 : 02 Jan 2024

Diagnostician : Don Baldridge 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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