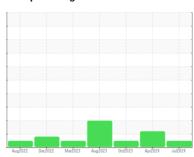


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id
736803

Diesel Engine

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

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 acceptable for the time in service.

| Oil Age mls Client Info 0 0 | (13) | | AUGZUZZ | Dec2022 Mar2023 | AUGZUZS USIZUZS APIZUZ4 | JUIZUZ4 | | |
|---|--|-----------|-------------|-----------------|-------------------------|-------------|-------------|---|
| Sample Date | SAMPLE INFOR | MATION | method | limit/base | current | history1 | history2 | |
| Machine Age Oil Age (Dilent Info 288933 249257 188914 Oil Age (Dil Changed Sample Status Client Info 0 0 0 Sample Status Morandal Normal Not Changd Normal Normal Normal Normal Fuel WC Method >5 <1.0 | Sample Number | | Client Info | | PCA0131506 | PCA0120700 | PCA0110469 | |
| Oil Age mls Client Info Not Changd Not Changd Sample Status Client Info Not Changd N/A Not Changd Sample Status Client Info Not Changd N/A Not Changd CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >5 <1.0 <1.0 <1.0 <1.0 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 64 ▲156 61 Chromium ppm ASTM D5185m >20 2 5 2 Nickel ppm ASTM D5185m >4 0 <1 <1 Lead ppm ASTM D5185m >20 12 36 16 Lead ppm ASTM D5185m >40 0 <1 <1 | Sample Date | | Client Info | | 11 Jul 2024 | 04 Apr 2024 | 27 Oct 2023 | |
| Oil Changed Sample Status Client Info Not Changd NORMAL N/A Not Changd ABNORMAL Not Changd NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 64 ▲ 156 61 Chromium ppm ASTM D5185m >20 2 5 2 Nickel ppm ASTM D5185m >20 2 5 2 Silver ppm ASTM D5185m >20 12 36 16 Lead ppm ASTM D5185m >20 12 36 16 Copper ppm ASTM D5185m >30 7< | Machine Age | mls | Client Info | | 288933 | 249257 | 188914 | |
| Sample Status | Oil Age | mls | Client Info | | 0 | 0 | 0 | |
| Fuel | Oil Changed | | Client Info | | Not Changd | N/A | Not Changd | |
| Fuel | Sample Status | | | | NORMAL | ABNORMAL | NORMAL | |
| Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 64 156 61 Chromium ppm ASTM D5185m >20 2 5 2 Nickel ppm ASTM D5185m >4 0 <1 <1 <1 <1 <1 <1 Sliver ppm ASTM D5185m >40 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 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1< | CONTAMINAT | ION | method | limit/base | current | history1 | history2 | |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 64 ▲ 156 61 Chromium ppm ASTM D5185m >20 2 5 2 Nickel ppm ASTM D5185m >4 0 <1 | Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 | |
| WEAR METALS | Water | | WC Method | >0.2 | NEG | NEG | NEG | |
| Irron | Glycol | | WC Method | | NEG | NEG | NEG | |
| Chromium | WEAR METAL | S | method | limit/base | current | history1 | history2 | |
| Nickel | Iron | ppm | ASTM D5185m | >100 | 64 | <u>156</u> | 61 | |
| Titanium | Chromium | ppm | ASTM D5185m | >20 | 2 | 5 | 2 | |
| Silver | Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | <1 | |
| Aluminum ppm ASTM D5185m >20 12 36 16 Lead ppm ASTM D5185m >40 0 <1 <1 Copper ppm ASTM D5185m >330 7 21 18 Tin ppm ASTM D5185m >15 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molydedenum ppm ASTM D5185m 50 66 75 69 Manganesium ppm ASTM D5185m 50 1066 1025 884 Calcium ppm ASTM D5185m 1050 1243 <th< td=""><td>Titanium</td><td>ppm</td><td>ASTM D5185m</td><td></td><th><1</th><td>0</td><td><1</td></th<> | Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 | |
| Lead | Silver | ppm | ASTM D5185m | >3 | 0 | 0 | <1 | |
| Copper ppm ASTM D5185m >330 7 21 18 Tin ppm ASTM D5185m >15 0 <1 | Aluminum | ppm | ASTM D5185m | >20 | 12 | 36 | 16 | |
| Tin | Lead | ppm | ASTM D5185m | >40 | 0 | <1 | <1 | |
| Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 1 3 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 66 75 69 Manganese ppm ASTM D5185m 0 <1 | Copper | ppm | ASTM D5185m | >330 | 7 | 21 | 18 | |
| Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 1 3 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 66 75 69 Manganese ppm ASTM D5185m 0 <1 | Tin | ppm | ASTM D5185m | >15 | 0 | <1 | <1 | |
| ADDITIVES | Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 | |
| Boron | Cadmium | ppm | ASTM D5185m | | 0 | 0 | <1 | |
| Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 66 75 69 Manganese ppm ASTM D5185m 0 <1 2 1 Magnesium ppm ASTM D5185m 950 1066 1025 884 Calcium ppm ASTM D5185m 1050 1243 1552 1375 Phosphorus ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 1.5 </th <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th> | ADDITIVES | | method | limit/base | current | history1 | history2 | |
| Molybdenum ppm ASTM D5185m 50 66 75 69 Manganese ppm ASTM D5185m 0 <1 2 1 Magnesium ppm ASTM D5185m 950 1066 1025 884 Calcium ppm ASTM D5185m 950 1066 1025 884 Calcium ppm ASTM D5185m 1050 1243 1552 1375 Phosphorus ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 1180 1347 1409 1266 Sulfur ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base | Boron | ppm | ASTM D5185m | 2 | 1 | 3 | 6 | |
| Manganese ppm ASTM D5185m 0 <1 2 1 Magnesium ppm ASTM D5185m 950 1066 1025 884 Calcium ppm ASTM D5185m 1050 1243 1552 1375 Phosphorus ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current <th< td=""><td>Barium</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><th>0</th><td>0</td><td>0</td></th<> | Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 | |
| Magnesium ppm ASTM D5185m 950 1066 1025 884 Calcium ppm ASTM D5185m 1050 1243 1552 1375 Phosphorus ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 1180 1347 1409 1266 Sulfur ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/:1mm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/:1mm *A | Molybdenum | ppm | ASTM D5185m | 50 | 66 | 75 | 69 | |
| Calcium ppm ASTM D5185m 1050 1243 1552 1375 Phosphorus ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 1180 1347 1409 1266 Sulfur ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 <td colsp<="" td=""><td>Manganese</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><th><1</th><td>2</td><td>1</td></td> | <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th><1</th> <td>2</td> <td>1</td> | Manganese | ppm | ASTM D5185m | 0 | <1 | 2 | 1 |
| Phosphorus ppm ASTM D5185m 995 1090 1178 1009 Zinc ppm ASTM D5185m 1180 1347 1409 1266 Sulfur ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method | Magnesium | ppm | ASTM D5185m | 950 | 1066 | 1025 | 884 | |
| Zinc ppm ASTM D5185m 1180 1347 1409 1266 Sulfur ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <td>Calcium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>1050</td> <th>1243</th> <td>1552</td> <td>1375</td> | Calcium | ppm | ASTM D5185m | 1050 | 1243 | 1552 | 1375 | |
| Sulfur ppm ASTM D5185m 2600 2827 2872 2699 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Phosphorus | ppm | ASTM D5185m | 995 | 1090 | 1178 | 1009 | |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Zinc | ppm | ASTM D5185m | 1180 | 1347 | 1409 | 1266 | |
| Silicon ppm ASTM D5185m >25 5 9 6 Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Sulfur | ppm | ASTM D5185m | 2600 | 2827 | 2872 | 2699 | |
| Sodium ppm ASTM D5185m 2 4 0 Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | CONTAMINAN | ITS | method | limit/base | current | history1 | history2 | |
| Potassium ppm ASTM D5185m >20 19 64 38 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Silicon | ppm | ASTM D5185m | >25 | 5 | 9 | 6 | |
| INFRA-RED | Sodium | ppm | ASTM D5185m | | 2 | 4 | 0 | |
| Soot % *ASTM D7844 >3 1.5 1.7 1.2 Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Potassium | ppm | ASTM D5185m | >20 | 19 | 64 | 38 | |
| Nitration Abs/cm *ASTM D7624 >20 13.8 17.2 12.7 Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | INFRA-RED | | method | limit/base | current | history1 | history2 | |
| Sulfation Abs/.1mm *ASTM D7415 >30 26.9 31.0 25.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Soot % | % | *ASTM D7844 | >3 | 1.5 | 1.7 | 1.2 | |
| FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Nitration | Abs/cm | *ASTM D7624 | >20 | 13.8 | 17.2 | 12.7 | |
| Oxidation Abs/.1mm *ASTM D7414 >25 28.0 37.4 26.0 | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 26.9 | 31.0 | 25.5 | |
| | FLUID DEGRA | OATION | method | limit/base | current | history1 | history2 | |
| | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 28.0 | 37.4 | 26.0 | |
| | | | | | | | | |



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number : 06238907 Unique Number : 11127741

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0131506

Received **Tested** Diagnosed

: 17 Jul 2024 : 18 Jul 2024 - Don Baldridge

: 17 Jul 2024

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 #119

39 INDUSTRIAL AVE HASBROUCK HEIGHTS, NJ US 07604

Contact: MIKE LONGETTE mlongette@millertransgroup.com T:

F: (201)528-7053