

# **OIL ANALYSIS REPORT**



Machine Id

# 742168

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

## DIAGNOSIS

#### A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### 📥 Wear

Cylinder, crank, or cam shaft wear is indicated.

#### Contamination

Elevated aluminum (AI) 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.

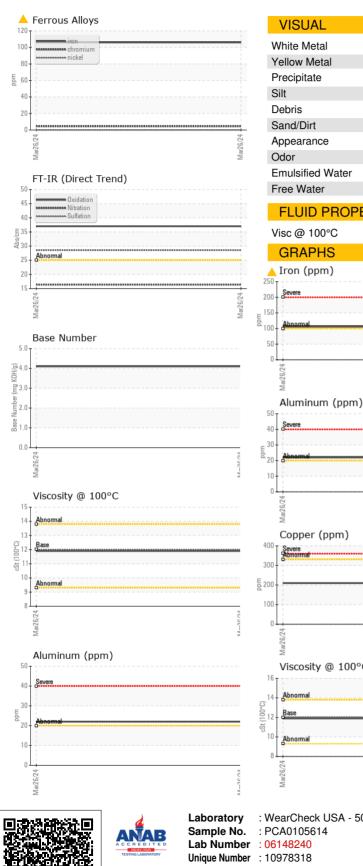
## Fluid Condition

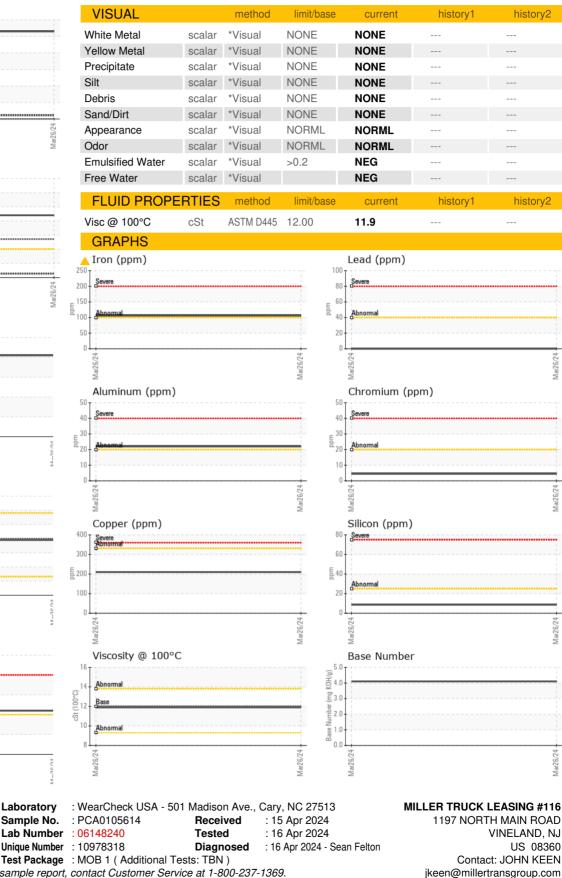
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| SAMPLE INFORM  | /ATION   | method  | limit/base   | current   | history1   | history2   |
|--|--|---|--|---|--|--|
| Sample Number  |  | Client Info   |  | PCA0105614  |  |  |
| Sample Date  |  | Client Info   |  | 26 Mar 2024   |  |  |
| Machine Age  | mls  | Client Info   |  | 75213   |  |  |
| Oil Age  | mls  | Client Info   |  | 0   |  |  |
| Oil Changed  |  | Client Info   |  | N/A   |  |  |
| Sample Status  |  |   |  | ABNORMAL  |  |  |
| CONTAMINATI  | ON   | method  | limit/base   | current   | history1   | history2   |
| Fuel   |  | WC Method   | >5   | <1.0  |  |  |
| Water  |  | WC Method   | >0.2   | NEG   |  |  |
| Glycol   |  | WC Method   |  | NEG   |  |  |
| WEAR METALS  | 5  | method  | limit/base   | current   | history1   | history2   |
| ron  | ppm  | ASTM D5185m   | >100   | <b>1</b> 06   |  |  |
| Chromium   | ppm  | ASTM D5185m   | >20  | 4   |  |  |
| Nickel   | ppm  | ASTM D5185m   | >4   | 0   |  |  |
| Titanium   | ppm  | ASTM D5185m   |  | <1  |  |  |
| Silver   | ppm  | ASTM D5185m   | >3   | 0   |  |  |
| Aluminum   | ppm  | ASTM D5185m   | >20  | 22  |  |  |
| Lead   | ppm  | ASTM D5185m   | >40  | 0   |  |  |
| Copper   | ppm  | ASTM D5185m   | >330   | 210   |  |  |
| Tin  | ppm  | ASTM D5185m   | >15  | 2   |  |  |
| Vanadium   | ppm  | ASTM D5185m   |  | 0   |  |  |
| Cadmium  | ppm  | ASTM D5185m   |  | 0   |  |  |
| ADDITIVES  |  | method  | limit/base   | current   | history1   | history2   |
| Boron  | ppm  | ASTM D5185m   | 2  | 20  |  |  |
| Barium   | ppm  | ASTM D5185m   | 0  | 0   |  |  |
| Molybdenum   | ppm  | ASTM D5185m   | 50   | 45  |  |  |
| Vanganese  | ppm  | ASTM D5185m   | 0  | 3   |  |  |
| Vagnesium  |  |   |  |   |  |  |
|  | ppm  | ASTM D5185m   | 950  | 513   |  |  |
| -  | ppm<br>ppm   |   | 950<br>1050  | 513<br>1800   |  |  |
| Calcium  | ppm  | ASTM D5185m   |  |   |  |  |
| Calcium<br>Phosphorus  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1050   | 1800  |  |  |
| Calcium<br>Phosphorus<br>Zinc  | ppm  | ASTM D5185m<br>ASTM D5185m  | 1050<br>995  | 1800<br>780   |  |  |
| Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1050<br>995<br>1180  | 1800<br>780<br>938  |  |  |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN  | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1050<br>995<br>1180<br>2600<br>limit/base  | 1800<br>780<br>938<br>1932  |  | <br><br>   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>TS   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>method   | 1050<br>995<br>1180<br>2600<br>limit/base  | 1800<br>780<br>938<br>1932<br>current   | <br><br><br>history1                                 | <br><br><br>history2   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN <sup>T</sup><br>Silicon<br>Sodium  | ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1050<br>995<br>1180<br>2600<br>limit/base<br>>25   | 1800<br>780<br>938<br>1932<br>current<br>9  | <br><br><br>history1                                 | <br><br><br>history2<br>   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN <sup>T</sup><br>Silicon<br>Sodium  | ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1050<br>995<br>1180<br>2600<br>limit/base<br>>25   | 1800<br>780<br>938<br>1932<br>current<br>9<br>5   | <br><br><br>history1<br>                             | <br><br><br>history2<br>   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED                                     | ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 1050<br>995<br>1180<br>2600<br>limit/base<br>>25<br>>20  | 1800<br>780<br>938<br>1932<br>current<br>9<br>5<br>50                                   | <br><br>history1<br>                                 | <br><br><br>history2<br><br>   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN <sup>T</sup><br>Silicon<br>Sodium<br>Potassium                                     | ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 1050<br>995<br>1180<br>2600<br>limit/base<br>>25<br>>20<br>limit/base  | 1800<br>780<br>938<br>1932<br>current<br>9<br>5<br>50<br>current                        | <br><br>history1<br><br><br>history1                 | <br><br>history2<br><br><br>history2   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration              | ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                               | 1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>25<br>>20<br><b>limit/base</b><br>>3<br>>20                             | 1800<br>780<br>938<br>1932<br>current<br>9<br>5<br>50<br>50<br>current<br>1.5           | <br><br>history1<br><br><br>history1                 | <br><br>history2<br><br><br>history2   |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration              | ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>%<br>Abs/cm<br>Abs/.1mm | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>*ASTM D7844                | 1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>25<br>>20<br><b>limit/base</b><br>>3<br>>20                             | 1800<br>780<br>938<br>1932<br>current<br>9<br>5<br>50<br>current<br>1.5<br>16.4         | <br><br>history1<br><br><br>history1<br><br>history1 | <ul> <li></li> <li></li> <li>history2</li> <li></li> <li></li> <li>history2</li> <li></li> <li>history2</li> <li></li> </ul> |
| Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation | ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>%<br>Abs/cm<br>Abs/.1mm | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>*ASTM D7844<br>*ASTM D7844<br>*ASTM D7845 | 1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>25<br>>20<br><b>limit/base</b><br>>3<br>>20<br>>30<br><b>limit/base</b> | 1800<br>780<br>938<br>1932<br>current<br>9<br>5<br>50<br>current<br>1.5<br>16.4<br>28.5 | <br>history1<br><br>history1<br><br>history1         | <br><br>history2<br><br><br>history2<br><br>history2   |



# **OIL ANALYSIS REPORT**





- 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) F: (856)696-5629

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