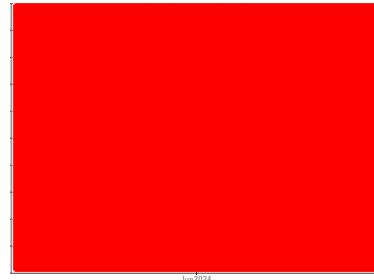


# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id  
**214232**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 10W30 (--- QTS)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check for possible coolant leak. Check for low coolant level. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

### ▲ Wear

Piston and cylinder wear is indicated.

### ▲ Contamination

Sodium and/or potassium levels are high.

### ● Fluid Condition

The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info |             | <b>PCA0130037</b>  | ---      | ---      |
| Sample Date   | Client Info |             | <b>24 Jun 2024</b> | ---      | ---      |
| Machine Age   | mls         | Client Info | <b>0</b>           | ---      | ---      |
| Oil Age       | mls         | Client Info | <b>0</b>           | ---      | ---      |
| Oil Changed   | Client Info |             | <b>N/A</b>         | ---      | ---      |
| Sample Status |             |             | <b>SEVERE</b>      | ---      | ---      |

## CONTAMINATION

|       | method    | limit/base | current        | history1 | history2 |
|-------|-----------|------------|----------------|----------|----------|
| Fuel  | WC Method | >5         | <b>&lt;1.0</b> | ---      | ---      |
| Water | WC Method | >0.2       | <b>NEG</b>     | ---      | ---      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >100 | <b>▲ 200</b> | ---      | ---      |
| Chromium | ppm    | ASTM D5185m >20  | <b>7</b>     | ---      | ---      |
| Nickel   | ppm    | ASTM D5185m >4   | <b>2</b>     | ---      | ---      |
| Titanium | ppm    | ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Silver   | ppm    | ASTM D5185m >3   | <b>&lt;1</b> | ---      | ---      |
| Aluminum | ppm    | ASTM D5185m >20  | <b>▲ 67</b>  | ---      | ---      |
| Lead     | ppm    | ASTM D5185m >40  | <b>&lt;1</b> | ---      | ---      |
| Copper   | ppm    | ASTM D5185m >330 | <b>23</b>    | ---      | ---      |
| Tin      | ppm    | ASTM D5185m >15  | <b>4</b>     | ---      | ---      |
| Vanadium | ppm    | ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Cadmium  | ppm    | ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 2    | <b>10</b>    | ---      | ---      |
| Barium     | ppm    | ASTM D5185m 0    | <b>&lt;1</b> | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185m 50   | <b>74</b>    | ---      | ---      |
| Manganese  | ppm    | ASTM D5185m 0    | <b>4</b>     | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185m 950  | <b>1140</b>  | ---      | ---      |
| Calcium    | ppm    | ASTM D5185m 1050 | <b>1555</b>  | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185m 995  | <b>1253</b>  | ---      | ---      |
| Zinc       | ppm    | ASTM D5185m 1180 | <b>1535</b>  | ---      | ---      |
| Sulfur     | ppm    | ASTM D5185m 2600 | <b>2922</b>  | ---      | ---      |

## CONTAMINANTS

|           | method | limit/base      | current      | history1 | history2 |
|-----------|--------|-----------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>13</b>    | ---      | ---      |
| Sodium    | ppm    | ASTM D5185m     | <b>11</b>    | ---      | ---      |
| Potassium | ppm    | ASTM D5185m >20 | <b>▲ 108</b> | ---      | ---      |
| Glycol    | %      | *ASTM D2982     | <b>NEG</b>   | ---      | ---      |

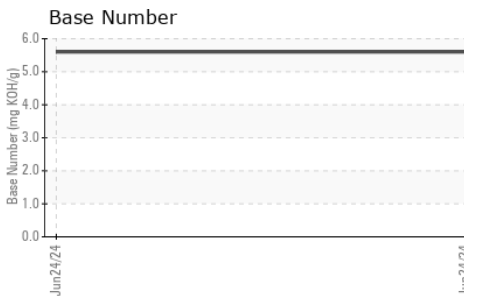
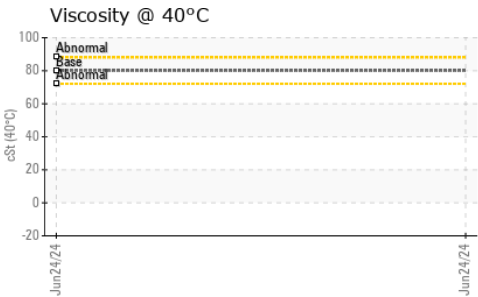
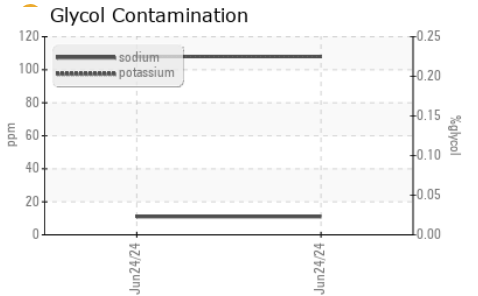
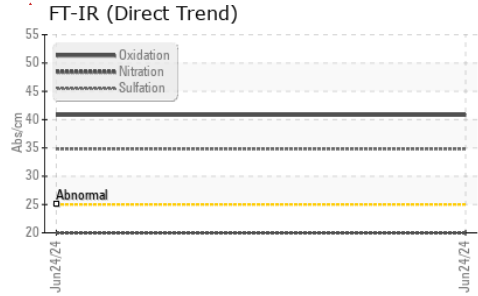
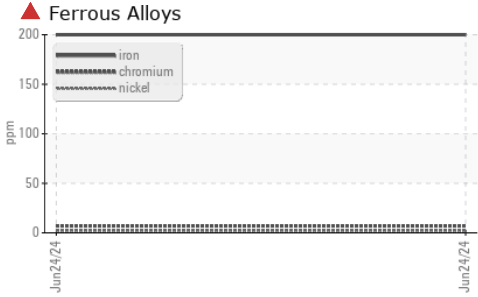
## INFRA-RED

|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >3  | <b>1.3</b>  | ---      | ---      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>20.0</b> | ---      | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>34.8</b> | ---      | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>40.8</b> | ---      | ---      |
| Base Number (BN) | mg KOH/g | ASTM D2896      | <b>5.6</b>  | ---      | ---      |

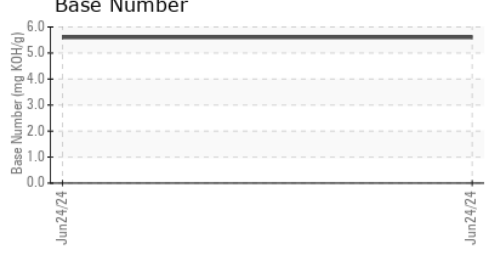
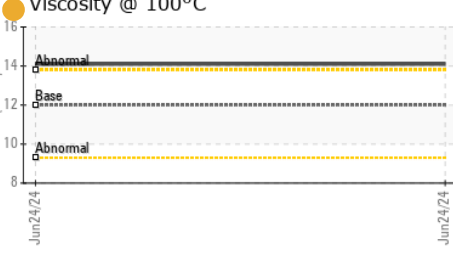
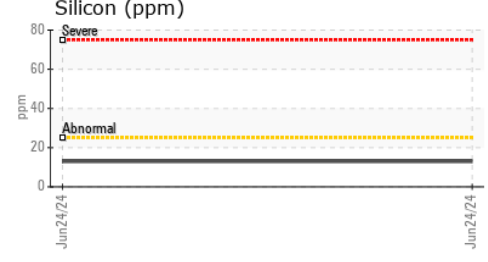
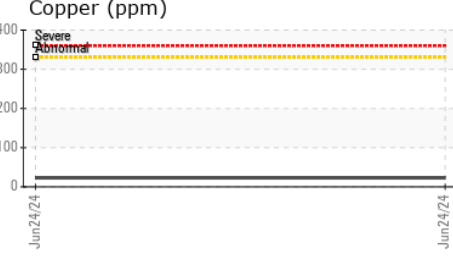
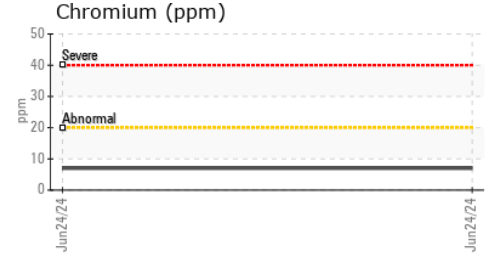
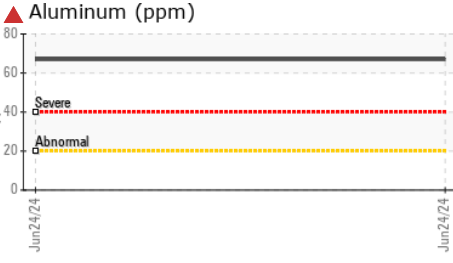
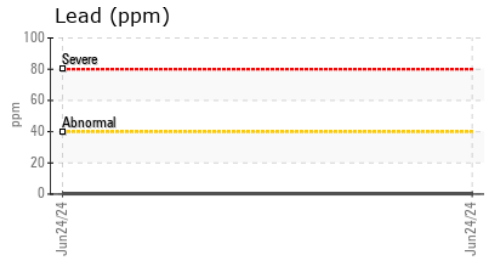
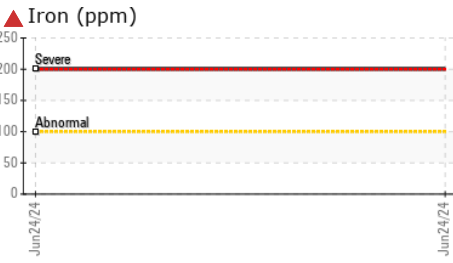
# OIL ANALYSIS REPORT



| PARAMETER        | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      |
| Debris           | scalar | *Visual    | NONE    | NONE     | ---      |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      |
| Emulsified Water | scalar | *Visual    | >0.2    | NEG      | ---      |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| PARAMETER    | method | limit/base | current | history1 | history2 |
|--------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt    | ASTM D445  | 12.00   | 14.1     | ---      |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0130037 **Received** : 02 Jul 2024  
**Lab Number** : 06226000 **Tested** : 05 Jul 2024  
**Unique Number** : 11109493 **Diagnosed** : 05 Jul 2024 - Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KV40, TBN )

**MILLER TRUCK LEASING #114**  
 63 REPAUPO STATION ROAD  
 LOGAN TOWNSHIP, NJ  
 US 08085  
 Contact: ED DAVIS  
 edavis@millertransgroup.com  
 T: (856)214-3521  
 F: (856)214-3663

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)