

# **OIL ANALYSIS REPORT**



# FREIGHTLINER 184

Component

Diesel Engine

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

### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

### **Fluid Condition**

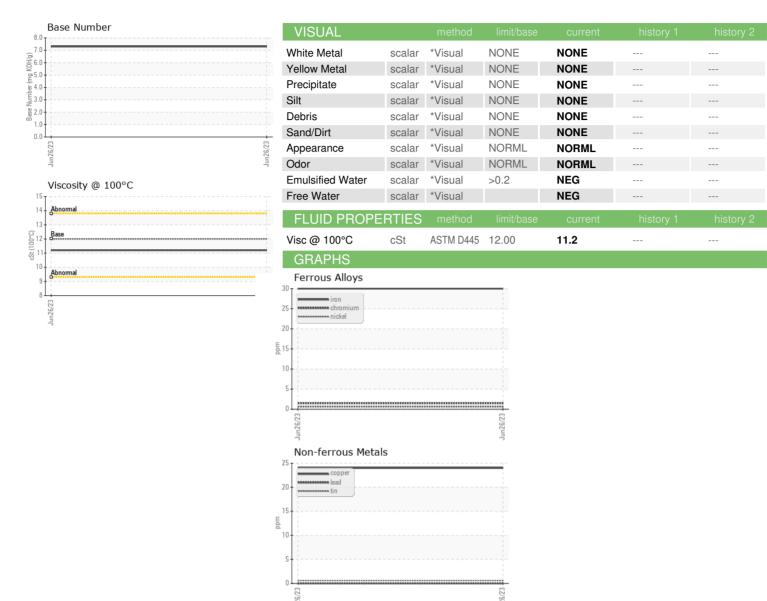
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Sampl | e Rating Trend | N | NORMAL      |            |
|-------|----------------|---|-------------|------------|
|       |                |   |             |            |
|       |                |   |             |            |
|       |                |   |             |            |
|       |                |   |             | <b>Y</b> / |
|       |                |   |             | V          |
|       |                |   |             |            |
|       | Jun 202        | 3 | <del></del> |            |
| thod  | limit/base     |   | history 1   |            |

| SAMPLE INFORI   | MATION   | method   | limit/base  | current  | history 1                     | history 2                     |
|---|--|--|---|--|-------------------------------|-------------------------------|
| Sample Number   |  | Client Info  |   | PCA0100621   |                               |                               |
| Sample Date   |  | Client Info  |   | 26 Jun 2023  |                               |                               |
| Machine Age   | mls  | Client Info  |   | 130577   |                               |                               |
| Oil Age   | mls  | Client Info  |   | 27700  |                               |                               |
| Oil Changed   |  | Client Info  |   | Changed  |                               |                               |
| Sample Status   |  |  |   | NORMAL   |                               |                               |
| CONTAMINAT  | ION  | method   | limit/base  | current  | history 1                     | history 2                     |
| Fuel  |  | WC Method  | >5  | <1.0   |                               |                               |
| Glycol  |  | WC Method  |   | NEG  |                               |                               |
| WEAR METAL  | C  | method   | limit/base  | Olive ont  | history 1                     | history 2                     |
|   |  |  |   | current  | history 1                     |                               |
| Iron  | ppm  | ASTM D5185m  | >80   | 30   |                               |                               |
| Chromium  | ppm  | ASTM D5185m  | >5  | 2  |                               |                               |
| Nickel  | ppm  | ASTM D5185m  | >2  | <1   |                               |                               |
| Titanium<br>Silver  | ppm  | ASTM D5185m  | . 0   | 0  |                               |                               |
|   | ppm  | ASTM D5185m  | >3  | 0  |                               |                               |
| Aluminum  | ppm  | ASTM D5185m  | >30   | 7  |                               |                               |
| Lead  | ppm  | ASTM D5185m  | >30   | 0  |                               |                               |
| Copper  | ppm  | ASTM D5185m  | >150  | 24   |                               |                               |
| Tin   | ppm  | ASTM D5185m  | >5  | <1   |                               |                               |
| Vanadium  | ppm  | ASTM D5185m  |   | 0  |                               |                               |
| Cadmium   | ppm  | ASTM D5185m  |   | 0  |                               |                               |
|   |  |  |   |  |                               |                               |
| ADDITIVES   |  | method   | limit/base  | current  | history 1                     | history 2                     |
| Boron   | ppm  | ASTM D5185m  | 2   | 0  | history 1                     | history 2                     |
| Boron<br>Barium   | ppm<br>ppm   |  |   | 0<br>0   | •                             |                               |
| Boron   |  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50  | 0<br>0<br>65   |                               |                               |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50<br>0   | 0<br>0<br>65<br><1   |                               |                               |
| Boron Barium Molybdenum Manganese Magnesium   | ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50<br>0<br>950  | 0<br>0<br>65<br><1<br>936  |                               |                               |
| Boron Barium Molybdenum Manganese Magnesium Calcium   | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50<br>0<br>950<br>1050  | 0<br>0<br>65<br><1<br>936<br>1134  |                               |                               |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus  | 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  | 2<br>0<br>50<br>0<br>950<br>1050<br>995   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016  |                               |                               |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc   | ppm<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<br>ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016  |                               |                               |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  | ppm<br>ppm<br>ppm<br>ppm<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  | 2<br>0<br>50<br>0<br>950<br>1050<br>995   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016  |                               | <br><br><br>                  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc   | ppm<br>ppm<br>ppm<br>ppm<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<br>ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016  |                               | <br><br><br>                  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  | ppm<br>ppm<br>ppm<br>ppm<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<br>ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397  |                               |                               |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397  | <br><br><br><br><br>history 1 | <br><br><br><br><br>history 2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current   | <br><br><br><br><br>history 1 | history 2                     |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium  | ppm                            | ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base   | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current<br>5  | history 1                     | history 2                     |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium                                      | ppm                            | ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>20  | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current<br>5<br>0                                       | history 1                     | history 2                     |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED                            | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>20<br>limit/base<br>>3                      | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current<br>5<br>0<br>14                                 | history 1 history 1           | history 2 history 2           |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %                     | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method  *ASTM D5185m  *ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  *ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>20<br>limit/base<br>>3                      | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current<br>5<br>0<br>14                                 | history 1 history 1           | history 2 history 2           |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration           | ppm                            | ASTM D5185m  Method  *ASTM D5185m ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>20<br>>20<br>limit/base                     | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current<br>5<br>0<br>14<br>current<br>1                 | history 1 history 1           | history 2 history 2           |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm                            | ASTM D5185m  Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>20<br>>20<br>limit/base<br>>3<br>>20<br>>30 | 0<br>0<br>65<br><1<br>936<br>1134<br>1016<br>1240<br>2397<br>current<br>5<br>0<br>14<br>current<br>1<br>10.3<br>22.6 | history 1 history 1           | history 2 history 2           |



## **OIL ANALYSIS REPORT**







Certificate L2367

Laboratory Sample No. Lab Number Unique Number Test Package : FLEET

: PCA0100621 : 05889875 : 10545685

cSt (100°C)

Viscosity @ 100°C

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed Diagnostician

: 05 Jul 2023 : 05 Jul 2023 : Wes Davis

Base Number

7.0

4.0

1.0 0.0

> A Truck Repair 9349 China Grove Church Road Pineville, NC US 28134

Contact: Vlad Melnichuk shop@migway.com T: (980)255-3200

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)