

## **OIL ANALYSIS REPORT**







Machine Id 694873 Component

Diesel Engine

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

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

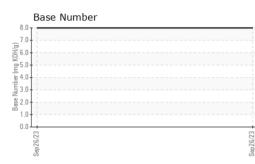
#### Fluid Condition

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

| SAMPLE INFOR  | MATION  | method  | limit/base   | current   | history1   | history2   |
|---|---|---|--|---|--|--|
| Sample Number   |   | Client Info   |  | PCA0106285  |  |  |
| Sample Date   |   | Client Info   |  | 26 Sep 2023   |  |  |
| Machine Age   | mls   | Client Info   |  | 212956  |  |  |
| Oil Age   | mls   | Client Info   |  | 0   |  |  |
| Oil Changed   |   | Client Info   |  | Changed   |  |  |
| Sample Status   |   |   |  | NORMAL  |  |  |
| CONTAMINAT  | ION   | method  | limit/base   | current   | history1   | history2   |
| Fuel  |   | WC Method   | >5   | <1.0  |  |  |
| Glycol  |   | WC Method   | 20   | NEG   |  |  |
| -   |   |   |  |   |  |  |
| WEAR METAL  | S   | method  | limit/base   | current   | history1   | history2   |
| Iron  | ppm   | ASTM D5185m   | >100   | 12  |  |  |
| Chromium  | ppm   | ASTM D5185m   | >20  | <1  |  |  |
| Nickel  | ppm   | ASTM D5185m   | >4   | <1  |  |  |
| Titanium  | ppm   | ASTM D5185m   |  | <1  |  |  |
| Silver  | ppm   | ASTM D5185m   | >3   | <1  |  |  |
| Aluminum  | ppm   | ASTM D5185m   | >20  | 5   |  |  |
| Lead  | ppm   | ASTM D5185m   | >40  | <1  |  |  |
| Copper  | ppm   | ASTM D5185m   | >330   | 2   |  |  |
| Tin   | ppm   | ASTM D5185m   | >15  | <1  |  |  |
| Vanadium  | ppm   | ASTM D5185m   |  | <1  |  |  |
| Cadmium   | ppm   | ASTM D5185m   |  | 0   |  |  |
|   |   |   |  |   |  |  |
| ADDITIVES   |   | method  |  |   |  | history2   |
| ADDITIVES<br>Boron  | ppm   | method<br>ASTM D5185m   | limit/base   | current<br>5  | history1   | history2   |
|   | ppm<br>ppm  | ASTM D5185m   |  |   |  |  |
| Boron   |   | ASTM D5185m   | 2  | 5   |  |  |
| Boron<br>Barium   | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50   | 5<br>0  |  |  |
| Boron<br>Barium<br>Molybdenum   | ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50   | 5<br>0<br>66  |  |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50<br>0  | 5<br>0<br>66<br><1  |  |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50<br>0<br>950   | 5<br>0<br>66<br><1<br>1026  |  |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | 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  | 2<br>0<br>50<br>0<br>950<br>1050   | 5<br>0<br>66<br><1<br>1026<br>1166  | <br><br><br>   | <br><br>   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | 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  | 2<br>0<br>50<br>0<br>950<br>1050<br>995  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181  | <br><br><br>   |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>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   | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466  |  |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>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  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613  |  |  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br>current<br>6  | <br><br><br><br><br>history1   | <br><br><br><br>history2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN  | ppm<br>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<br>2600<br>limit/base  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br>current   | <br><br><br><br>history1   | <br><br><br><br>history2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                      | ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>25  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><u>current</u><br>6<br>0<br>1   | <br><br><br><br>history1<br><br>   | <br><br><br><br><br>history2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                      | ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>25<br>>20<br>limit/base   | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><u>current</u><br>6<br>0<br>1<br>1  | <br><br><br><br><br>history1<br><br><br>history1                                 | <br><br><br><br><br>history2<br><br><br>history2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %                           | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm        | ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>25<br>>20<br>limit/base<br>>3   | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><i>current</i><br>6<br>0<br>1<br><i>current</i><br>0.2                                  | <br><br><br><br><br>history1<br><br><br>history1<br><br>history1                 | <br><br><br><br><br>history2<br><br>history2<br><br>history2                             |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>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>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m                              | 2<br>0<br>50<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>25<br>.20<br>limit/base<br>>3<br>>20                                      | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><i>current</i><br>6<br>0<br>1<br><i>current</i><br>0.2<br>7.5                           | <br><br><br><br><br><br>history1<br><br><br>history1<br><br>                     | <br><br><br><br><br>history2<br><br><br>history2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>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>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm              | ASTM D5185m<br>ASTM D5185m               | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>25<br><b>imit/base</b><br>>20<br><b>imit/base</b><br>>3<br>>20 | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><b>current</b><br>6<br>0<br>1<br><b>current</b><br>0.2<br>7.5<br>17.4                   | <br><br><br><br><br>history1<br><br>history1<br><br>history1                     | <br><br><br><br><br>history2<br><br>history2<br><br>history2                             |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>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>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm              | ASTM D5185m<br>ASTM D5185m               | 2<br>0<br>50<br>950<br>1050<br>995<br>1180<br>2600<br>limit/base<br>>25<br>.20<br>limit/base<br>>3<br>>20                                      | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><i>current</i><br>6<br>0<br>1<br><i>current</i><br>0.2<br>7.5                           | <br><br><br><br><br><br>history1<br><br><br>history1<br><br>                     | <br><br><br><br><br>history2<br><br><br>history2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>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>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm              | ASTM D5185m<br>ASTM D5185m               | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>25<br><b>imit/base</b><br>>20<br><b>imit/base</b><br>>3<br>>20 | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><b>current</b><br>6<br>0<br>1<br><b>current</b><br>0.2<br>7.5<br>17.4                   | <br><br><br><br><br>history1<br><br>history1<br><br>history1                     | <br><br><br><br><br>history2<br><br>history2<br><br>history2                             |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>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>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm              | ASTM D5185m<br>ASTM D7844<br>*ASTM D7844<br>*ASTM D7844 | 2<br>0<br>50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>imit/base<br>>25<br>  | 5<br>0<br>66<br><1<br>1026<br>1166<br>1181<br>1466<br>3613<br><i>current</i><br>6<br>0<br>1<br><i>current</i><br>0.2<br>7.5<br>17.4<br><i>current</i> | <br><br><br><br><br>history1<br><br><br>history1<br><br>history1<br><br>history1 | <br><br><br><br>history2<br><br>history2<br><br>history2<br><br>history2<br><br>history2 |

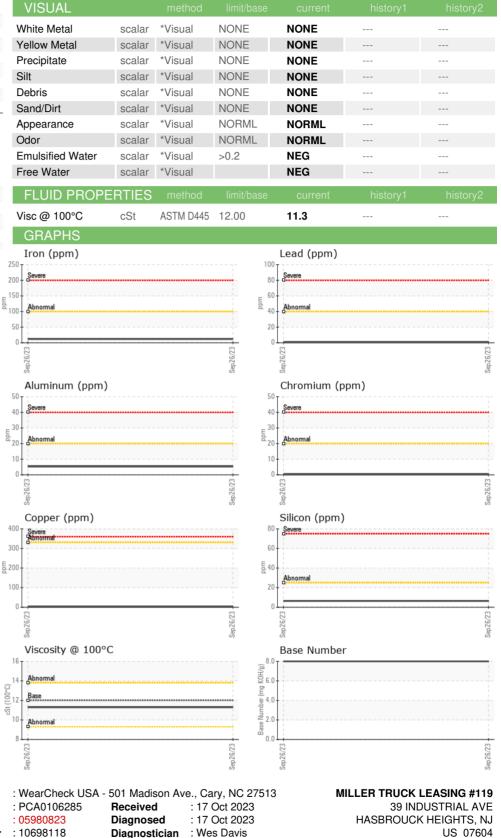


# **OIL ANALYSIS REPORT**









Unique Number Test Package : MOB 1 (Additional Tests: TBN) Contact: MIKE LONGETTE Certificate L2367 mlongette@millertransgroup.com 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)

Laboratory

Sample No.

Lab Number

F: (201)528-7053

Т: