

## **OIL ANALYSIS REPORT**



Machine Id 624559 Component Diesel Engine

Fluid 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.

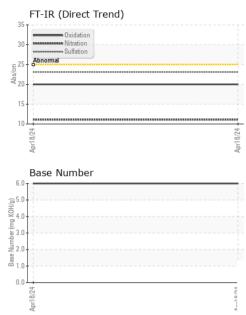
#### Fluid Condition

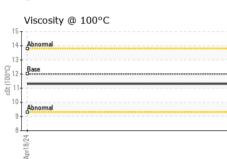
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| ×10)             |          |             |            | P\$P\$602.1 |          |          |
|------------------|----------|-------------|------------|-------------|----------|----------|
| SAMPLE INFOR     | MATION   | method      | limit/base | current     | history1 | history2 |
| Sample Number    |          | Client Info |            | PCA0121023  |          |          |
| Sample Date      |          | Client Info |            | 18 Apr 2024 |          |          |
| Machine Age      | mls      | Client Info |            | 0           |          |          |
| 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        |          |          |
| Water            |          | WC Method   | >0.2       | NEG         |          |          |
| Glycol           |          | WC Method   |            | NEG         |          |          |
| WEAR METAL       | S        | method      | limit/base | current     | history1 | history2 |
| Iron             | ppm      | ASTM D5185m | >100       | 68          |          |          |
| Chromium         | ppm      | ASTM D5185m | >20        | 2           |          |          |
| Nickel           | ppm      | ASTM D5185m | >4         | <1          |          |          |
| Titanium         | ppm      | ASTM D5185m |            | 0           |          |          |
| Silver           | ppm      | ASTM D5185m | >3         | 0           |          |          |
| Aluminum         | ppm      | ASTM D5185m | >20        | 12          |          |          |
| Lead             | ppm      | ASTM D5185m | >40        | <1          |          |          |
| Copper           | ppm      | ASTM D5185m | >330       | 36          |          |          |
| Tin              | ppm      | ASTM D5185m | >15        | <1          |          |          |
| Vanadium         | ppm      | ASTM D5185m |            | 0           |          |          |
| Cadmium          | ppm      | ASTM D5185m |            | 0           |          |          |
| ADDITIVES        |          | method      | limit/base | current     | history1 | history2 |
| Boron            | ppm      | ASTM D5185m | 2          | 4           |          |          |
| Barium           | ppm      | ASTM D5185m | 0          | 0           |          |          |
| Molybdenum       | ppm      | ASTM D5185m | 50         | 65          |          |          |
| Manganese        | ppm      | ASTM D5185m | 0          | 1           |          |          |
| Magnesium        | ppm      | ASTM D5185m | 950        | 888         |          |          |
| Calcium          | ppm      | ASTM D5185m | 1050       | 1186        |          |          |
| Phosphorus       | ppm      | ASTM D5185m | 995        | 973         |          |          |
| Zinc             | ppm      | ASTM D5185m | 1180       | 1164        |          |          |
| Sulfur           | ppm      | ASTM D5185m | 2600       | 2388        |          |          |
| CONTAMINAN       | ITS      | method      | limit/base | current     | history1 | history2 |
| Silicon          | ppm      | ASTM D5185m | >25        | 6           |          |          |
| Sodium           | ppm      | ASTM D5185m |            | 3           |          |          |
| Potassium        | ppm      | ASTM D5185m | >20        | 25          |          |          |
| INFRA-RED        |          | method      | limit/base | current     | history1 | history2 |
| Soot %           | %        | *ASTM D7844 | >3         | 1.4         |          |          |
| Nitration        | Abs/cm   | *ASTM D7624 | >20        | 11.1        |          |          |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30        | 23.1        |          |          |
| FLUID DEGRA      | DATION   | method      | limit/base | current     | history1 | history2 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25        | 20.0        |          |          |
| Base Number (BN) | mg KOH/g | ASTM D2896  |            | 6.0         |          |          |
|                  |          |             |            |             |          |          |

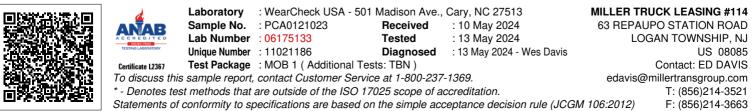


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| VISUAL            |        | method    | limit/base                                 | current       | history1 | history2               |
|-------------------|--------|-----------|--|---------------|----------|------------------------|
| White Metal       | 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           |          |                        |
| FLUID PROPER      | RTIES  | method    | limit/base                                 | current       | history1 | history2               |
| Visc @ 100°C      | cSt    | ASTM D445 | 12.00                                      | 11.3          |          |                        |
| GRAPHS            |        |           |  |               |          |                        |
| Iron (ppm)        |        |           | 100  | Lead (ppm)    |          |                        |
| 250 Severe        |        |           | 100  | Severe        |          |                        |
| 200 + -           |        |           | 80   | +             |          |                        |
| 00 - Abnormal     |        |           | 60<br>80                                   | Abnormal      |          |                        |
|                   |        |           | 40   | + 0           |          | ********************** |
| 50-               |        |           | 20   |               |          |                        |
| 0 <sup>44</sup>   |        |           | 0  | 724           |          | 40                     |
| Apr18/24          |        |           | Apr18/24                                   | Apr18/24      |          | Anri 8/24              |
| Aluminum (ppm)    |        |           |  | Chromium (p   | nm)      |                        |
| <sup>50</sup> T   |        |           | 50   |               |          |                        |
| 40 Severe         |        |           | 40   | Severe        |          |                        |
| 30-               |        |           | = <sup>30</sup>                            |               |          |                        |
| 20 Abnormal       |        |           | E 20                                       | Abnormal      |          |                        |
| 10-               |        |           | 10   |               |          |                        |
|                   |        |           |  | 4             |          |                        |
| Apr18/24          |        |           | Apr18/24                                   | Apr18/24      |          | And 8/24               |
|                   |        |           | Ap   |               |          | 4                      |
| Copper (ppm)      |        |           | 80   | Silicon (ppm) |          |                        |
| Abnormal          |        |           |  | G             |          |                        |
| 300               |        |           | 60   |               |          |                        |
| 200               |        |           | 튭.40                                       | -             |          |                        |
| 00-               |        |           | 20   | Abnormal      |          |                        |
|                   |        |           | 0  |               |          |                        |
| 8/24              |        |           |  | 8/24          |          | 2018                   |
| Apr18/24          |        |           | Apr18/24                                   | Apr18/24      |          | And 8/24               |
| Viscosity @ 100°C |        |           |  | Base Number   |          |                        |
| 16                |        |           | (B) 6.0<br>E 5.0                           |               |          |                        |
| 14 - Abnormal     |        |           | 9<br>문 <sup>4.0</sup>                      |               |          |                        |
| 12 Base           |        |           | j 3.0                                      |               |          |                        |
| 10 - Abnormal     |        |           | (0)HOX<br>HOX<br>but 3.0<br>war 2.0<br>888 | •             |          |                        |
| 0                 |        |           | 20.0 × 1.0                                 |               |          |                        |
|                   |        |           |  | 4             |          |                        |
| 8/24              |        |           | 8/2  | 22            |          | 6                      |
| ∞<br>Apr18/24     |        |           | Apr18/24                                   | Apr18/24      |          | Anr18/24               |



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Page 2 of 2