

## **OIL ANALYSIS REPORT**

Sample Rating Trend

### NORMAL

#### Area (89639X) Walgreens Machine Id [Walgreens] 136A68027 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a components first oil change.

#### 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.

|  |  |   |  | Jun2023  |  |   |
|--|--|---|--|--|--|---|
| SAMPLE INFORM  | <b>1ATION</b>  | method  | limit/base   | current  | history 1  | history 2   |
| Sample Number  |  | Client Info   |  | PCA0093551   |  |   |
| Sample Date  |  | Client Info   |  | 26 Jun 2023  |  |   |
| Machine Age  | mls  | Client Info   |  | 193468   |  |   |
| Oil Age  | mls  | Client Info   |  | 193468   |  |   |
| Oil Changed  |  | Client Info   |  | Changed  |  |   |
| Sample Status  |  |   |  | NORMAL   |  |   |
| CONTAMINATIO   | ON   | method  | limit/base   | current  | history 1  | history 2   |
| Fuel   |  | WC Method   | >5   | <1.0   |  |   |
| Glycol   |  | WC Method   |  | NEG  |  |   |
| WEAR METALS  | \$   | method  | limit/base   | current  | history 1  | history 2   |
| Iron   | ppm  | ASTM D5185m   | >80  | 22   |  |   |
| Chromium   | ppm  | ASTM D5185m   | >5   | <1   |  |   |
| Nickel   | ppm  | ASTM D5185m   | >2   | <1   |  |   |
| Titanium   | ppm  | ASTM D5185m   |  | 2  |  |   |
| Silver   | ppm  | ASTM D5185m   | >3   | 0  |  |   |
| Aluminum   | ppm  | ASTM D5185m   | >30  | 2  |  |   |
| Lead   | ppm  | ASTM D5185m   | >30  | 0  |  |   |
| Copper   | ppm  | ASTM D5185m   | >150   | 2  |  |   |
| 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   |
| ADDITIVES<br>Boron   | ppm  | method<br>ASTM D5185m   | limit/base   | current<br>3   | history 1  | history 2   |
|  | ppm<br>ppm   |   |  |  |  | history 2<br>   |
| Boron  |  | ASTM D5185m   | 2  | 3  |  |   |
| Boron<br>Barium  | ppm  | ASTM D5185m<br>ASTM D5185m  | 2<br>0<br>50   | 3<br>0   |  |   |
| Boron<br>Barium<br>Molybdenum  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50   | 3<br>0<br>54   |  |   |
| 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  | 3<br>0<br>54<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   | 3<br>0<br>54<br><1<br>808  |  |   |
| 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   | 3<br>0<br>54<br><1<br>808<br>1175  | <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  | 3<br>0<br>54<br><1<br>808<br>1175<br>972   | <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  | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165   | <br><br><br><br>   | <br><br><br>  |
| 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                      | 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  | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935   |  |   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT  | 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>950<br>1050<br>995<br>1180<br>2600   | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current  | <br><br><br><br><br>history 1  | <br><br><br><br><br>history 2                                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<br>Silicon   | 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><b>method</b>   | 2<br>0<br>50<br>950<br>1050<br>995<br>1180<br>2600   | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7   | <br><br><br><br><br>history 1  | <br><br><br><br><br>history 2                                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium   | 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><b>limit/base</b><br>>20  | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7<br><1   | <br><br><br><br><br>history 1  | <br><br><br><br><br>history 2                                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium  | ppm                            | ASTM D5185m<br>ASTM D5185m   | 2<br>0<br>50<br>950<br>1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>20   | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7<br><1<br>3  | <br><br><br><br><br>history 1<br><br>  | <br><br><br><br><br>history 2<br><br>                               |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED   | 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>limit/base</b><br>>20<br><b>limit/base</b>                   | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7<br><1<br>3<br>current                                   | <br><br><br><br><br>history 1<br><br><br>history 1   | <br><br><br><br><br><br>history 2<br><br><br>history 2              |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %   | ppm                            | 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<br>>20<br>>20<br>limit/base<br>>20                   | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7<br><1<br>3<br>current<br>0.6                            | <br><br><br><br><br>history 1<br><br><br>history 1<br>                                       | <br><br><br><br><br>history 2<br><br><br>history 2                  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<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>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>20<br><b>imit/base</b><br>>3<br>>20        | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br><i>current</i><br>7<br><1<br>3<br><i>current</i><br>0.6<br>10.4      | <br><br><br><br><br>history 1<br><br><br>history 1<br><br><br>history 1                      | <br><br><br><br><br>history 2<br><br>history 2<br><br>history 2     |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<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>>20<br><b>imit/base</b><br>>3<br>>20<br>>30 | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7<br><1<br>3<br>current<br>0.6<br>10.4<br>22.2            | <br><br><br><br><br>history 1<br><br>history 1<br><br>history 1<br>                          | <br><br><br><br><br><br>history 2<br><br>history 2<br><br>history 2 |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation<br>CNID DEGRAD<br>Oxidation | 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>2600<br>20<br>20<br>220<br>220<br>220<br>33<br>220<br>330<br>30 | 3<br>0<br>54<br><1<br>808<br>1175<br>972<br>1165<br>2935<br>current<br>7<br><1<br>3<br>current<br>0.6<br>10.4<br>22.2<br>current | <br><br><br><br><br>history 1<br><br><br>history 1<br><br><br>history 1<br><br><br>history 1 | <br><br><br><br><br>history 2<br><br>history 2<br><br>history 2<br> |



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Abnorma

# **OIL ANALYSIS REPORT**

VISUAL



