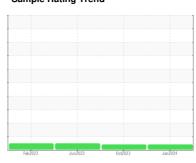


# **OIL ANALYSIS REPORT**

Sample Rating Trend



VISCOSITY



Machine Id **633227** 

Component **Diesel Engine** 

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

## DIAGNOSIS

## ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

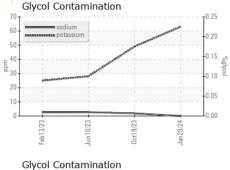
### ▲ Fluid Condition

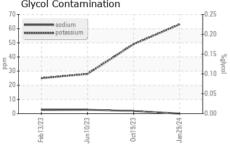
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

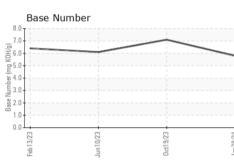
|                  |            | Feb 202     | 3 Jun2023  | Oct2023 Ja  | m2024       |             |
|------------------|------------|-------------|------------|-------------|-------------|-------------|
| SAMPLE INFORM    | MATION     | method      | limit/base | current     | history1    | history2    |
| Sample Number    |            | Client Info |            | PCA0117057  | PCA0110422  | PCA0095938  |
| Sample Date      |            | Client Info |            | 29 Jan 2024 | 19 Oct 2023 | 10 Jun 2023 |
| Machine Age      | mls        | Client Info |            | 26888       | 20818       | 10615       |
| Oil Age          | mls        | Client Info |            | 0           | 0           | 0           |
| Oil Changed      |            | Client Info |            | N/A         | Not Changd  | Changed     |
| Sample Status    |            |             |            | ATTENTION   | ATTENTION   | NORMAL      |
| CONTAMINATI      | ION        | method      | limit/base | current     | history1    | history2    |
| Fuel             |            | WC Method   | >5         | <1.0        | <1.0        | <1.0        |
| Water            |            | WC Method   | >0.2       | NEG         | NEG         | NEG         |
| Glycol           |            | WC Method   |            | NEG         | NEG         | NEG         |
| WEAR METALS      | S          | method      | limit/base | current     | history1    | history2    |
| Iron             | ppm        | ASTM D5185m | >100       | 30          | 16          | 22          |
| Chromium         | ppm        | ASTM D5185m | >20        | <1          | <1          | <1          |
| Nickel           | ppm        | ASTM D5185m | >4         | <1          | 0           | 0           |
| Titanium         | ppm        | ASTM D5185m |            | 2           | 1           | 0           |
| Silver           | ppm        | ASTM D5185m | >3         | <1          | <1          | <1          |
| Aluminum         | ppm        | ASTM D5185m | >20        | 20          | 18          | 10          |
| Lead             | ppm        | ASTM D5185m | >40        | <1          | 0           | 0           |
| Copper           | ppm        | ASTM D5185m | >330       | 7           | 5           | 13          |
| Tin              | ppm        | ASTM D5185m | >15        | 2           | <1          | 2           |
| Vanadium         | ppm        | ASTM D5185m |            | 0           | 0           | <1          |
| Cadmium          | ppm        | ASTM D5185m |            | <1          | 0           | 0           |
| ADDITIVES        |            | method      | limit/base | current     | history1    | history2    |
| Boron            | ppm        | ASTM D5185m | 2          | 18          | 24          | 41          |
| Barium           | ppm        | ASTM D5185m | 0          | 0           | 0           | 0           |
| Molybdenum       | ppm        | ASTM D5185m | 50         | 46          | 42          | 13          |
| Manganese        | ppm        | ASTM D5185m | 0          | 1           | 1           | 3           |
| Magnesium        | ppm        | ASTM D5185m | 950        | 629         | 599         | 770         |
| Calcium          | ppm        | ASTM D5185m | 1050       | 1387        | 1456        | 1383        |
| Phosphorus       | ppm        | ASTM D5185m | 995        | 866         | 1039        | 769         |
| Zinc             | ppm        | ASTM D5185m | 1180       | 1233        | 1180        | 929         |
| Sulfur           | ppm        | ASTM D5185m | 2600       | 2728        | 2898        | 3777        |
| CONTAMINAN       | TS         | method      | limit/base | current     | history1    | history2    |
| Silicon          | ppm        | ASTM D5185m | >25        | 11          | 8           | 16          |
| Sodium           | ppm        | ASTM D5185m |            | 0           | 2           | 3           |
| Potassium        | ppm        | ASTM D5185m | >20        | 63          | 49          | 28          |
| INFRA-RED        |            | method      | limit/base | current     | history1    | history2    |
| Soot %           | %          | *ASTM D7844 | >3         | 0.4         | 0.3         | 0.2         |
| Nitration        | Abs/cm     | *ASTM D7624 | >20        | 11.3        | 10.7        | 9.5         |
| Sulfation        | Abs/.1mm   | *ASTM D7415 |            | 24.2        | 21.5        | 21.4        |
| FLUID DEGRAD     | OATION     | method      | limit/base | current     | history1    | history2    |
| Oxidation        | Abs/.1mm   | *ASTM D7414 | >25        | 21.4        | 18.9        | 17.6        |
| Base Number (BN) | mg KOH/g   | ASTM D2896  |            | 5.8         | 7.1         | 6.1         |
| 2400 Hambor (BN) | ing Roning |             |            | 0.0         | 7.1         | 0.1         |



# **OIL ANALYSIS REPORT**







| VISUAL                  |        | method  |       |       |       | history2 |
|-------------------------|--------|---------|-------|-------|-------|----------|
| White Metal             | scalar | *Visual | NONE  | NONE  | NONE  | NONE     |
| Yellow Metal            | scalar | *Visual | NONE  | NONE  | NONE  | NONE     |
| Precipitate             | scalar | *Visual | NONE  | NONE  | NONE  | NONE     |
| Silt                    | scalar | *Visual | NONE  | NONE  | NONE  | NONE     |
| Debris                  | scalar | *Visual | NONE  | NONE  | NONE  | NONE     |
| Sand/Dirt               | scalar | *Visual | NONE  | NONE  | NONE  | NONE     |
| Appearance              | scalar | *Visual | NORML | NORML | NORML | NORML    |
| Odor                    | scalar | *Visual | NORML | NORML | NORML | NORML    |
| <b>Emulsified Water</b> | scalar | *Visual | >0.2  | NEG   | NEG   | NEG      |
| Free Water              | scalar | *Visual |       | NEG   | NEG   | NEG      |
| ELLUB BBOBE             | DTIES  |         |       |       |       |          |
| FLUID PROPE             | RHES   | method  |       |       |       | history2 |

| Visc @ 100°C             | cSt | ASTM D445  | 12.00      | <b>13.9</b>                | <b>1</b> 3.9 | 11.3       |            |
|--------------------------|-----|------------|------------|----------------------------|--------------|------------|------------|
| GRAPHS                   |     |            |            |                            |              |            |            |
| Iron (ppm)               |     |            |            | Lead (ppr                  | n)           |            |            |
| Severe                   |     |            |            | Severe                     |              |            |            |
| E 150                    |     |            |            | E 60                       |              |            |            |
| 150<br>100 - Abnormal    |     |            |            | Abnormal                   |              |            |            |
| 50                       |     |            |            | 20                         |              |            |            |
| Feb13/23 +               |     | Oct19/23 - | Jan29/24   | o<br>Feb13/23 <del>1</del> | Jun 10/23 -  | Oct19/23 - | Jan29/24   |
|                          |     | Octl       | Jan2       | _                          |              | Octl       | Jan2       |
| Aluminum (ppm)           |     |            |            | Chromiun                   | n (ppm)      |            |            |
| 40 - Severe              |     |            |            | 40 - Severe                |              | !          |            |
| abnormal                 |     |            |            | 20 Abnormal                |              |            |            |
| 1                        |     |            |            | 1                          |              |            |            |
| 10                       |     |            |            | 0                          |              |            |            |
| Feb13/23 -               |     | 0ct19/23 - | Jan29/24 · | Feb13/23 -                 | Jun10/23 ·   | Oct19/23 - | Jan29/24 - |
|                          |     | 00         | Jan        | _                          |              | 00         | Jan        |
| Copper (ppm)  400 Severe |     |            |            | Silicon (p <sub>l</sub>    | om)          |            |            |
| 300                      |     |            |            | 60                         |              |            |            |
| E 200                    |     |            |            | E 40                       |              |            |            |
| 100                      |     |            |            | Abnormal<br>20             |              |            |            |
| 0                        |     |            |            | 0                          |              |            |            |





Laboratory Sample No.

Lab Number : 06078895 Unique Number: 10860986

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0117057 Received **Tested** 

Viscosity @ 100°C

Diagnosed Test Package : MOB 1 ( Additional Tests: TBN )

: 02 Feb 2024 : 05 Feb 2024

: 06 Feb 2024 - Jonathan Hester

Base Number

Contact: MIKE LONGETTE mlongette@millertransgroup.com T:

**MILLER TRUCK LEASING #119** 

HASBROUCK HEIGHTS, NJ

39 INDUSTRIAL AVE

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)

F: (201)528-7053

US 07604