



# OIL ANALYSIS REPORT

|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>NORMAL</b>   |
| CONTAMINATION   | <b>MARGINAL</b> |
| FLUID CONDITION | <b>ABNORMAL</b> |

Machine Id  
**1370**  
Component  
**Rear Diesel Engine**  
Fluid  
**PETRO CANADA DURON HP 15W40 (--- GAL)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0932507</b>   | WC0887394   | WC0864984   |
| Sample Date    |     | Client Info |           | <b>03 May 2024</b> | 19 Dec 2023 | 16 Oct 2023 |
| Machine Age    | hrs | Client Info |           | <b>35777</b>       | 34865       | 34408       |
| Oil Age        | hrs | Client Info |           | <b>508</b>         | 500         | 0           |
| Filter Age     | hrs | Client Info |           | <b>508</b>         | 500         | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

## WEAR

All component wear rates are normal.

|          |     |               |      |           |    |    |
|----------|-----|---------------|------|-----------|----|----|
| Iron     | ppm | ASTM D5185(m) | >100 | <b>25</b> | 16 | 21 |
| Chromium | ppm | ASTM D5185(m) | >20  | <b>1</b>  | <1 | <1 |
| Nickel   | ppm | ASTM D5185(m) | >4   | <b>0</b>  | 0  | 0  |
| Titanium | ppm | ASTM D5185(m) |      | <b>0</b>  | 0  | 0  |
| Silver   | ppm | ASTM D5185(m) | >3   | <b>0</b>  | 0  | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20  | <b>2</b>  | 2  | <1 |
| Lead     | ppm | ASTM D5185(m) | >40  | <b>0</b>  | <1 | <1 |
| Copper   | ppm | ASTM D5185(m) | >330 | <b>2</b>  | 1  | 1  |
| Tin      | ppm | ASTM D5185(m) | >15  | <b>0</b>  | 0  | 0  |
| Vanadium | ppm | ASTM D5185(m) |      | <b>0</b>  | 0  | 0  |

## CONTAMINATION

Light fuel dilution occurring.

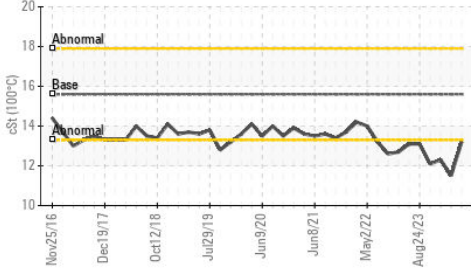
|                  |          |               |      |              |       |       |
|------------------|----------|---------------|------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185(m) | >25  | <b>3</b>     | 2     | 3     |
| Potassium        | ppm      | ASTM D5185(m) | >20  | <b>&lt;1</b> | 0     | 0     |
| Fuel             | %        | ASTM D7593*   | >5   | <b>▲ 2</b>   | ▲ 6.5 | ▲ 3.4 |
| Water            |          | WC Method     | >0.2 | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method     |      | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | ASTM D7844*   | >3   | <b>1.3</b>   | 1.1   | 1.3   |
| Nitration        | Abs/cm   | ASTM D7624*   | >20  | <b>10.1</b>  | 10.6  | 10.8  |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30  | <b>25.6</b>  | 28.6  | 30.9  |
| Emulsified Water | scalar   | Visual*       | >0.2 | <b>NEG</b>   | NEG   | NEG   |

## FLUID CONDITION

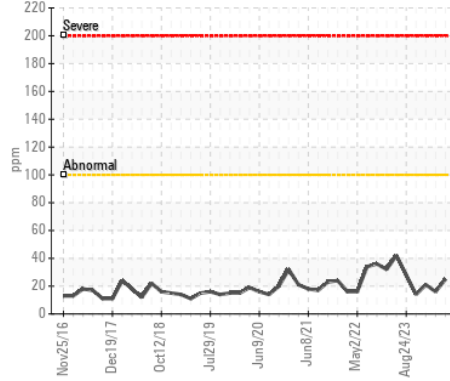
Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

|              |          |               |      |               |        |        |
|--------------|----------|---------------|------|---------------|--------|--------|
| Sodium       | ppm      | ASTM D5185(m) |      | <b>2</b>      | 2      | 3      |
| Boron        | ppm      | ASTM D5185(m) | 0    | <b>1</b>      | 1      | 2      |
| Barium       | ppm      | ASTM D5185(m) | 0    | <b>0</b>      | 0      | <1     |
| Molybdenum   | ppm      | ASTM D5185(m) | 60   | <b>57</b>     | 53     | 55     |
| Manganese    | ppm      | ASTM D5185(m) | 0    | <b>&lt;1</b>  | 0      | 0      |
| Magnesium    | ppm      | ASTM D5185(m) | 1010 | <b>926</b>    | 838    | 842    |
| Calcium      | ppm      | ASTM D5185(m) | 1070 | <b>1025</b>   | 958    | 947    |
| Phosphorus   | ppm      | ASTM D5185(m) | 1150 | <b>930</b>    | 826    | 835    |
| Zinc         | ppm      | ASTM D5185(m) | 1270 | <b>1155</b>   | 1009   | 1031   |
| Sulfur       | ppm      | ASTM D5185(m) | 2060 | <b>2389</b>   | 2395   | 2274   |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25  | <b>24.1</b>   | 32.2   | 36.2   |
| Visc @ 100°C | cSt      | ASTM D7279(m) | 15.6 | <b>▲ 13.2</b> | ▲ 11.5 | ▲ 12.3 |

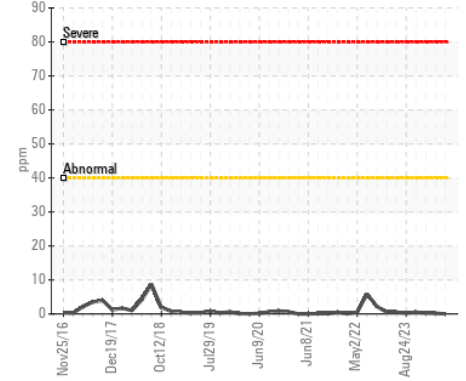
▲ Viscosity @ 100°C



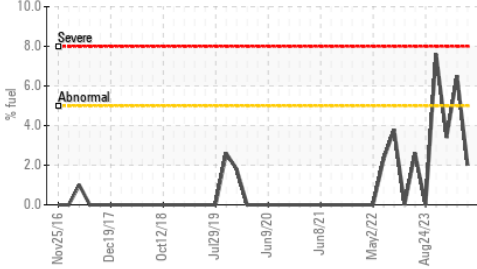
Iron (ppm)



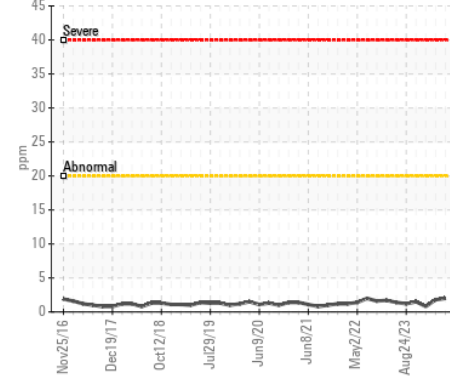
Lead (ppm)



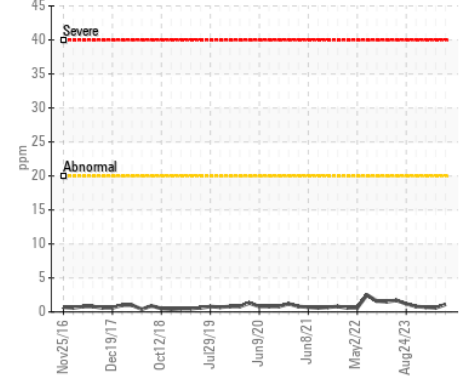
▲ Fuel Dilution



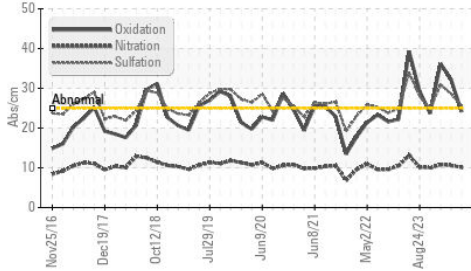
Aluminum (ppm)



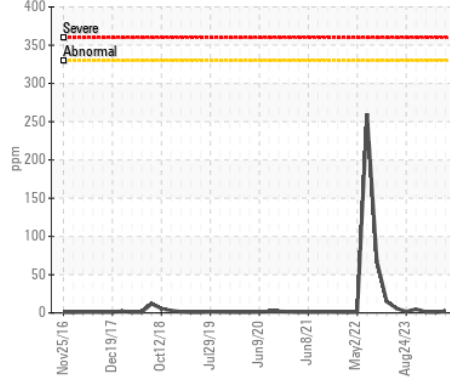
Chromium (ppm)



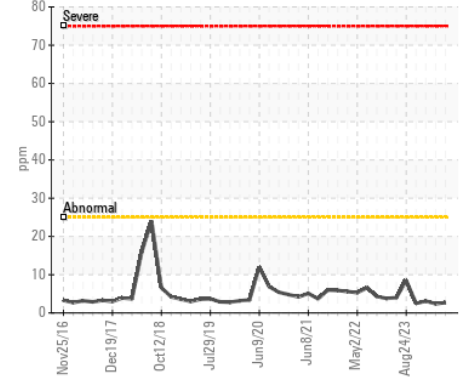
FT-IR (Direct Trend)



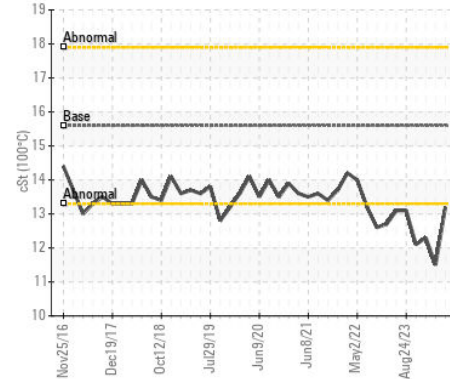
Copper (ppm)



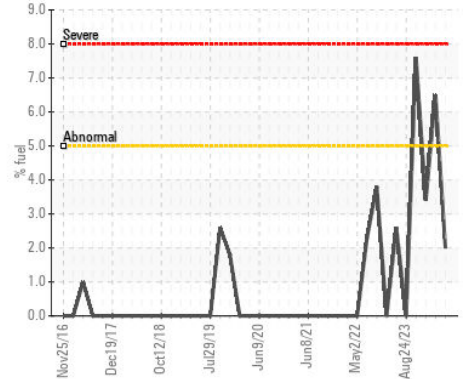
Silicon (ppm)



▲ Viscosity @ 100°C



▲ Fuel Dilution



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0932507 **Received** : 10 May 2024  
**Lab Number** : 02634478 **Tested** : 13 May 2024  
**Unique Number** : 5775631 **Diagnosed** : 13 May 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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