



# OIL ANALYSIS REPORT

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



Area  
**(EQ4307) N**  
Machine Id  
**SWTP Cat 1500kW generator #1 SWTP (S/N EBG01081)**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON UHP 5W40 (83 GAL)**

## RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0934063</b>   | WC0810881   | WC0696102   |
| Sample Date    |     | Client Info |           | <b>08 May 2024</b> | 18 May 2023 | 11 May 2022 |
| Machine Age    | hrs | Client Info |           | <b>111</b>         | 109         | 108         |
| Oil Age        | hrs | Client Info |           | <b>111</b>         | 107         | 108         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 107         | 0           |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Not Changd  |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | MARGINAL    | ABNORMAL    |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |       |
|--------------|--------|-------------|------|--------------|------|-------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>2</b>     | 2    | 4     |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>0</b>     | <1   | <1    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | <1   | 0     |
| Titanium     | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | <1    |
| Silver       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | 0     |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>&lt;1</b> | 2    | <1    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | <1   | 1     |
| Copper       | ppm    | ASTM D5185m | >330 | <b>4</b>     | 3    | 14    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>0</b>     | 1    | <1    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | 0     |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | LIGHT |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE  |

## CONTAMINATION

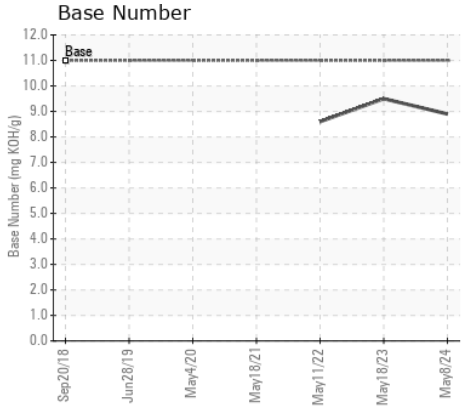
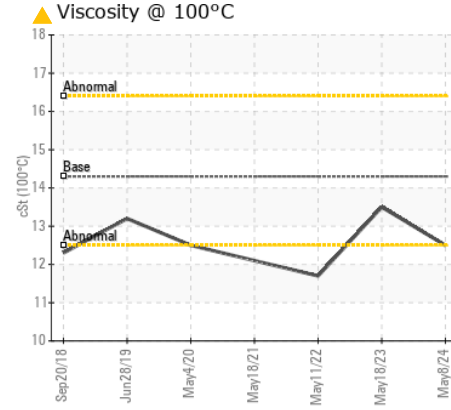
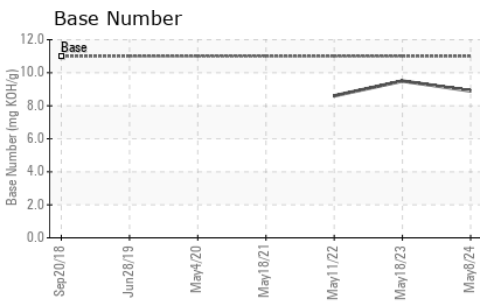
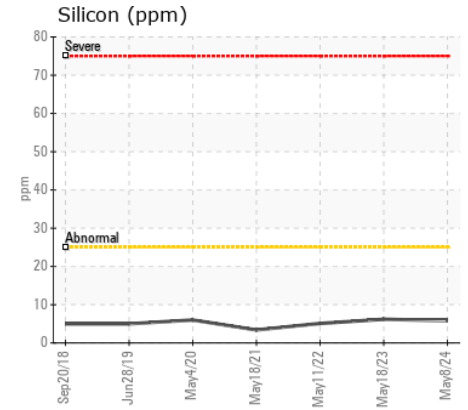
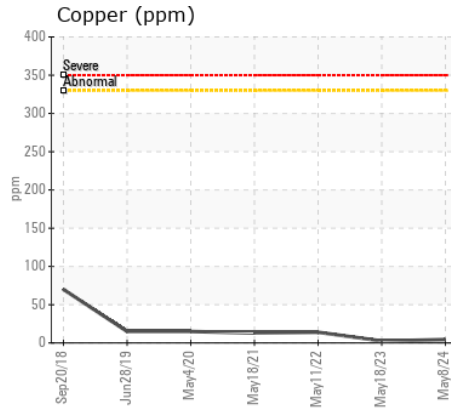
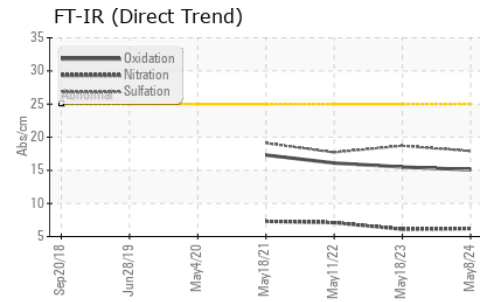
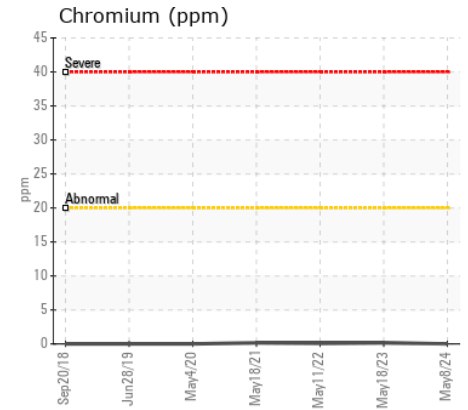
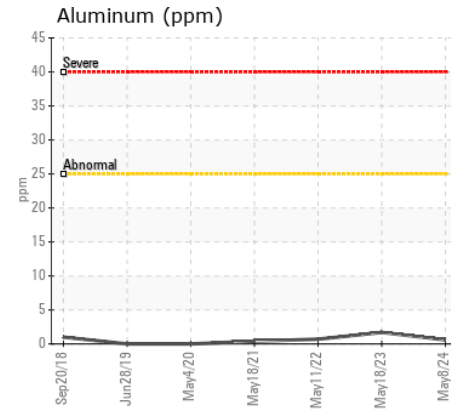
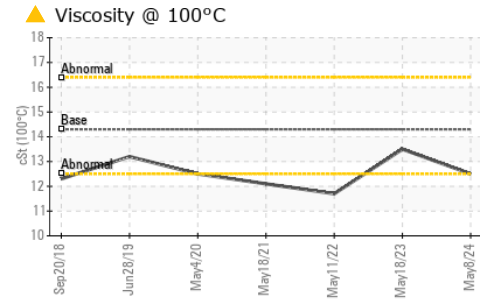
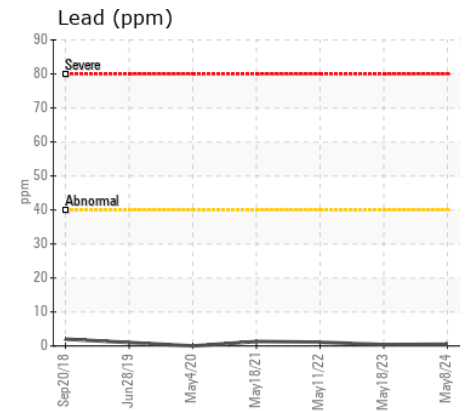
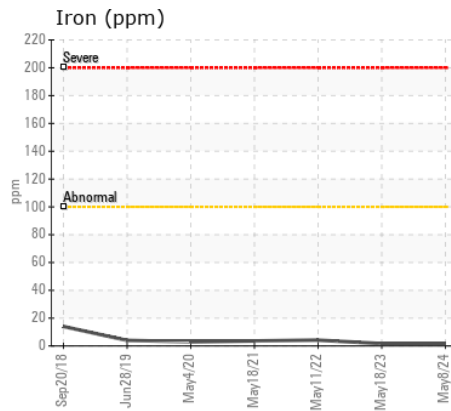
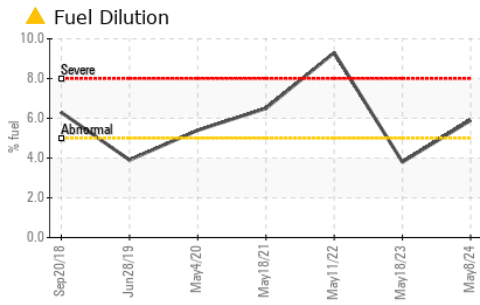
There is a moderate amount of fuel present in the oil.

|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>6</b>     | 6     | 5     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>&lt;1</b> | 2     | 0     |
| Fuel             | %        | ASTM D3524  | >5    | <b>▲ 5.9</b> | ▲ 3.8 | ▲ 9.3 |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0</b>     | 0.1   | 0.1   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>6.2</b>   | 6.1   | 7.1   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>17.9</b>  | 18.7  | 17.7  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| 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 BN result indicates that there is suitable alkalinity remaining in the oil.

|                  |          |             |      |               |      |        |
|------------------|----------|-------------|------|---------------|------|--------|
| Sodium           | ppm      | ASTM D5185m |      | <b>3</b>      | 2    | 3      |
| Boron            | ppm      | ASTM D5185m | 65   | <b>63</b>     | 66   | 64     |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>      | 0    | 0      |
| Molybdenum       | ppm      | ASTM D5185m | 65   | <b>55</b>     | 53   | 53     |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b>  | <1   | <1     |
| Magnesium        | ppm      | ASTM D5185m | 1160 | <b>997</b>    | 1068 | 998    |
| Calcium          | ppm      | ASTM D5185m | 820  | <b>837</b>    | 823  | 917    |
| Phosphorus       | ppm      | ASTM D5185m | 1160 | <b>987</b>    | 1017 | 976    |
| Zinc             | ppm      | ASTM D5185m | 1260 | <b>1178</b>   | 1268 | 1114   |
| Sulfur           | ppm      | ASTM D5185m | 3000 | <b>3689</b>   | 4045 | 2881   |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>15.1</b>   | 15.5 | 16.1   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 11.0 | <b>8.9</b>    | 9.5  | 8.6    |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.3 | <b>▲ 12.5</b> | 13.5 | ▲ 11.7 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0934063  
**Lab Number** : 06176915  
**Unique Number** : 11022968  
**Test Package** : MOB 1 ( Additional Tests: FUELDILUTION, PercentFuel, TBN )

**Received** : 13 May 2024  
**Tested** : 17 May 2024  
**Diagnosed** : 17 May 2024 - Jonathan Hester

**MONROE COUNTY WATER AUTHORITY**  
 4799 DEWEY AVE  
 ROCHESTER, NY  
 US 14612  
 Contact: SCOTT TRAIL  
 scott.trail@mcwa.com  
 T: (585)775-5257  
 F:

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)