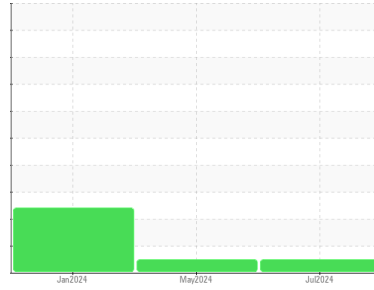




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**Stadler C13 DM2 (S/N 09211233)**  
 Component  
**2 Diesel Engine**  
 Fluid  
**PETRO CANADA DURON UHP 10W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### 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.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>WC0955181</b>   | WC0932430   | WC0902428   |
| Sample Date        | Client Info |             |            | <b>10 Jul 2024</b> | 01 May 2024 | 27 Jan 2024 |
| Machine Age        | hrs         | Client Info |            | <b>2600</b>        | 0           | 630         |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 0           | 630         |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | Not Changd  |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

| CONTAMINATION |           | method | limit/base | current        | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel          | WC Method | >5     |            | <b>&lt;1.0</b> | <1.0     | 0.6      |
| Water         | WC Method | >0.2   |            | <b>NEG</b>     | NEG      | NEG      |

| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >150       | <b>7</b>     | 10       | 14       |
| Chromium    | ppm | ASTM D5185(m) | >20        | <b>1</b>     | 2        | 2        |
| Nickel      | ppm | ASTM D5185(m) | >2         | <b>&lt;1</b> | 0        | <1       |
| Titanium    | ppm | ASTM D5185(m) | >2         | <b>0</b>     | 0        | 0        |
| Silver      | ppm | ASTM D5185(m) | >2         | <b>&lt;1</b> | 0        | 0        |
| Aluminum    | ppm | ASTM D5185(m) | >20        | <b>1</b>     | 2        | 2        |
| Lead        | ppm | ASTM D5185(m) | >40        | <b>5</b>     | 1        | 1        |
| Copper      | ppm | ASTM D5185(m) | >30        | <b>218</b>   | 75       | 8        |
| Tin         | ppm | ASTM D5185(m) | >15        | <b>0</b>     | 0        | <1       |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |

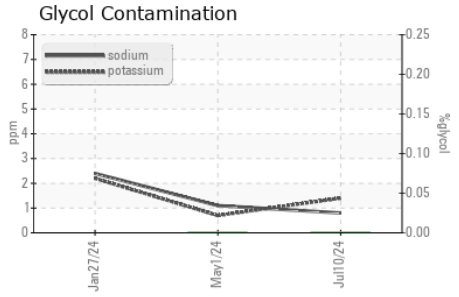
| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) | 2          | <b>68</b>    | 81       | 12       |
| Barium     | ppm | ASTM D5185(m) | 0          | <b>&lt;1</b> | <1       | 5        |
| Molybdenum | ppm | ASTM D5185(m) | 60         | <b>45</b>    | 43       | 13       |
| Manganese  | ppm | ASTM D5185(m) | 0          | <b>0</b>     | <1       | <1       |
| Magnesium  | ppm | ASTM D5185(m) | 1010       | <b>886</b>   | 851      | 79       |
| Calcium    | ppm | ASTM D5185(m) | 1070       | <b>1369</b>  | 1466     | 2404     |
| Phosphorus | ppm | ASTM D5185(m) | 1150       | <b>712</b>   | 730      | 710      |
| Zinc       | ppm | ASTM D5185(m) | 1270       | <b>879</b>   | 874      | 820      |
| Sulfur     | ppm | ASTM D5185(m) | 2060       | <b>1846</b>  | 1851     | 2343     |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | <1       |

| CONTAMINANTS |     | method        | limit/base | current      | history1 | history2 |
|--------------|-----|---------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >25        | <b>3</b>     | 4        | 8        |
| Sodium       | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | 1        | 2        |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>1</b>     | <1       | 2        |
| Glycol       | %   | ASTM D7922*   |            | <b>0.0</b>   | 0.0      | NEG      |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | ASTM D7844* | >3         | <b>0</b>    | 0        | 0        |
| Nitration | Abs/cm   | ASTM D7624* | >20        | <b>10.0</b> | 8.7      | 8.5      |
| Sulfation | Abs/.1mm | ASTM D7415* | >30        | <b>20.8</b> | 19.5     | 21.4     |



# OIL ANALYSIS REPORT

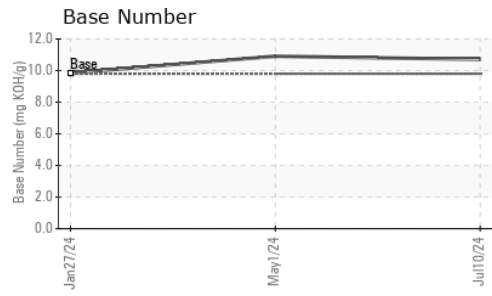
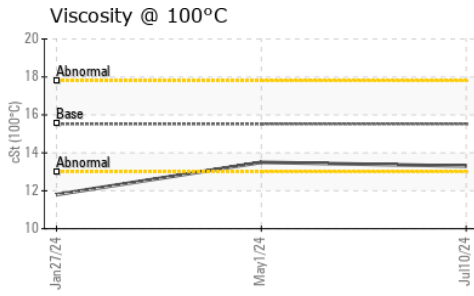
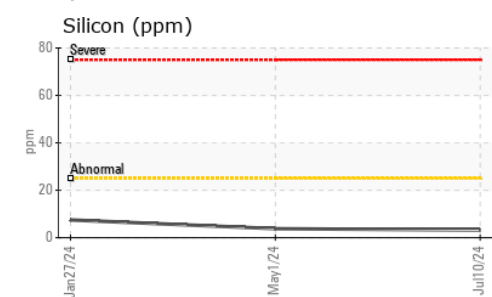
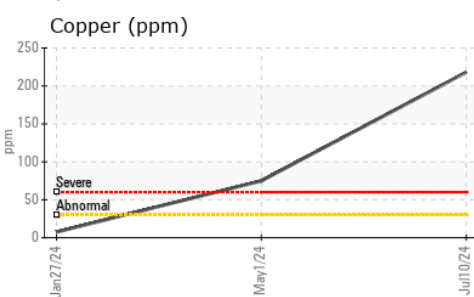
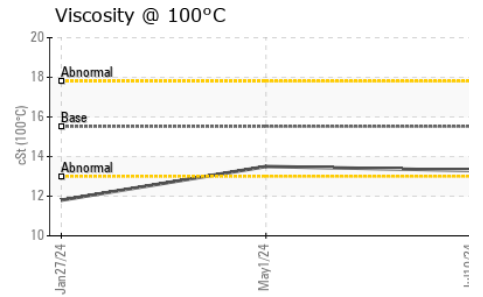
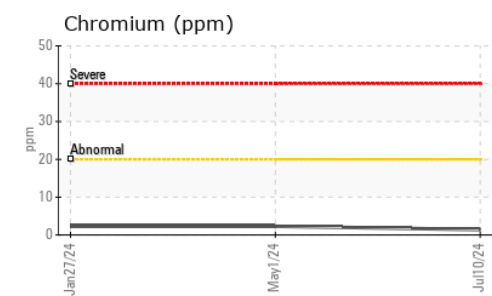
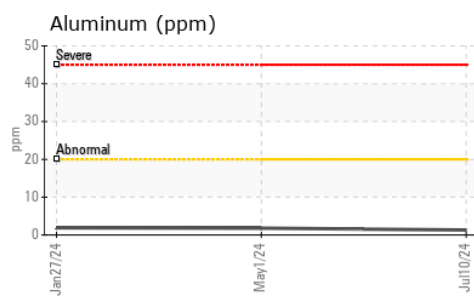
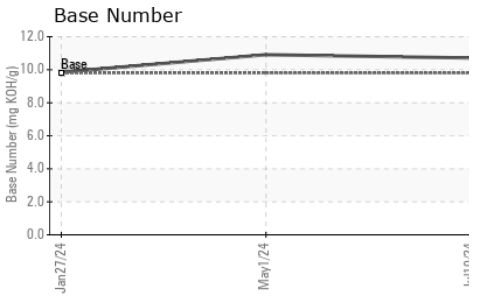
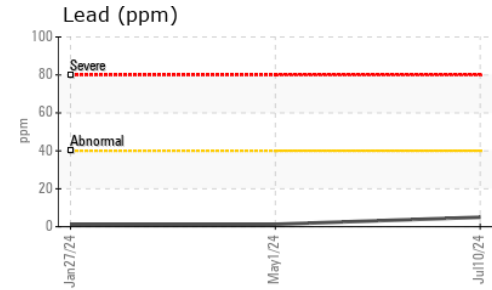
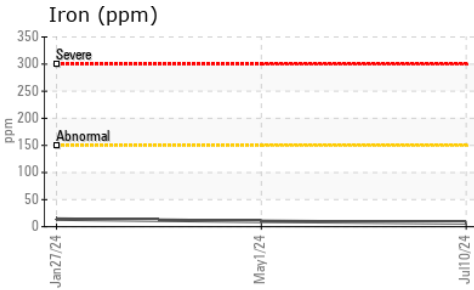
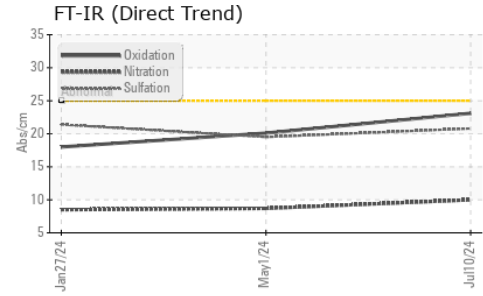


| FLUID DEGRADATION | method   | limit/base  | current | history1     | history2 |      |
|-------------------|----------|-------------|---------|--------------|----------|------|
| Oxidation         | Abs./1mm | ASTM D7414* | >25     | <b>23.1</b>  | 20.1     | 18.0 |
| Base Number (BN)  | mg KOH/g | ASTM D2896* | 9.8     | <b>10.71</b> | 10.91    | 9.85 |

| VISUAL           | method | limit/base | current | history1   | history2 |     |
|------------------|--------|------------|---------|------------|----------|-----|
| Emulsified Water | scalar | Visual*    | >0.2    | <b>NEG</b> | NEG      | NEG |
| Free Water       | scalar | Visual*    |         | <b>NEG</b> | NEG      | NEG |

| FLUID PROPERTIES | method | limit/base    | current | history1    | history2 |        |
|------------------|--------|---------------|---------|-------------|----------|--------|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 15.52   | <b>13.3</b> | 13.5     | ▲ 11.8 |

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0955181      **Received** : 11 Jul 2024  
**Lab Number** : **02647289**      **Tested** : 12 Jul 2024  
**Unique Number** : 5812841      **Diagnosed** : 12 Jul 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: Glycol )

**TransitNext M&R Inc**  
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 Glenn.Skilton@atkinsrealis.com  
 T: (613)907-7100  
 F:

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.