



OIL ANALYSIS REPORT

|                 |        |
|-----------------|--------|
| WEAR            | NORMAL |
| CONTAMINATION   | NORMAL |
| FLUID CONDITION | NORMAL |

Area  
**[WILLY]**  
 Machine Id  
**MCCLOSKEY 89640 - VARIABLE SPEED**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 30 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>VPA056249</b>   | VPA040776   | VPA040121   |
| Sample Date    |     | Client Info |           | <b>10 Jan 2024</b> | 21 Jul 2023 | 01 Sep 2022 |
| Machine Age    | hrs | Client Info |           | <b>2594</b>        | 2452        | 1596        |
| Oil Age        | hrs | Client Info |           | <b>130</b>         | 500         | 300         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>4</b>     | 12   | 7    |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>0</b>     | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | <1   |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>1</b>     | <1   | 1    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | 0    | <1   |
| Copper       | ppm    | ASTM D5185m | >330 | <b>1</b>     | 5    | 10   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

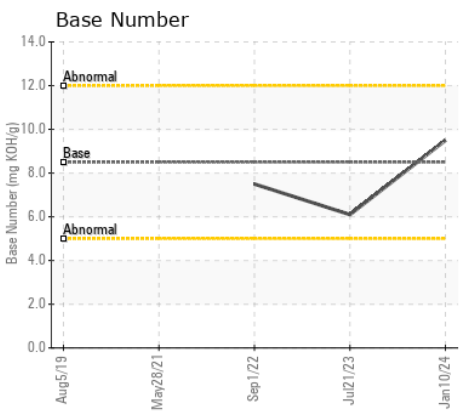
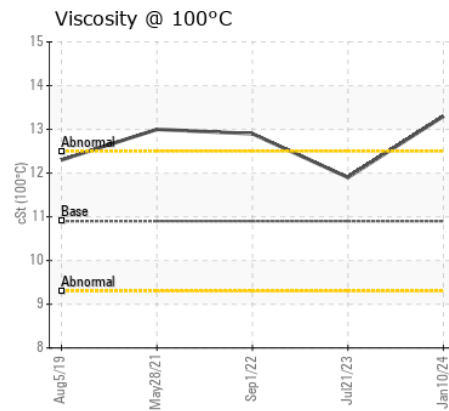
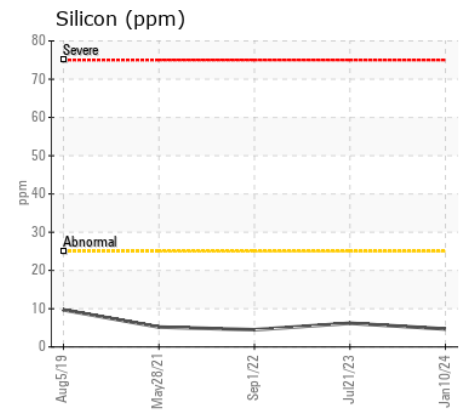
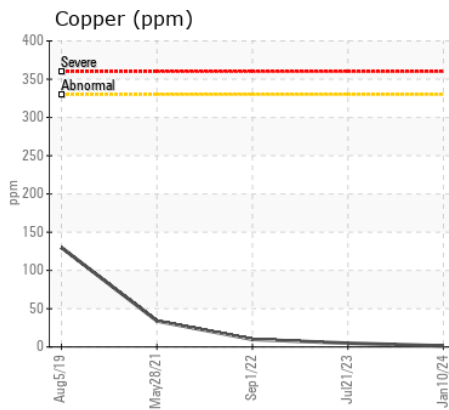
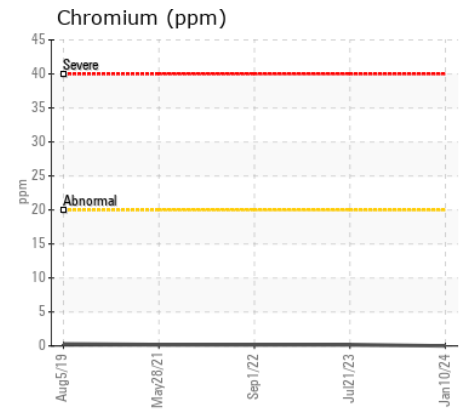
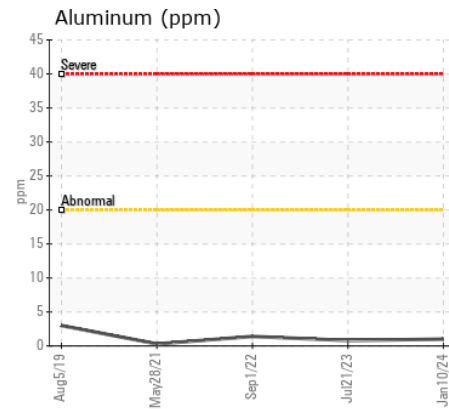
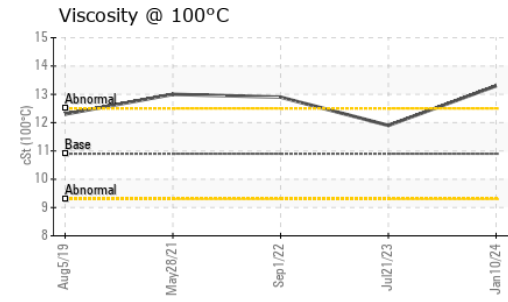
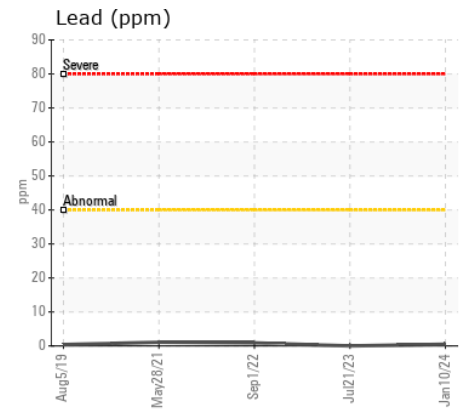
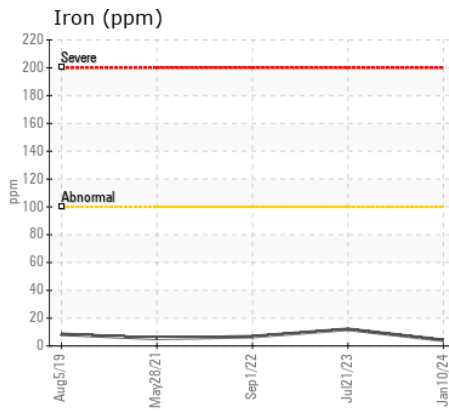
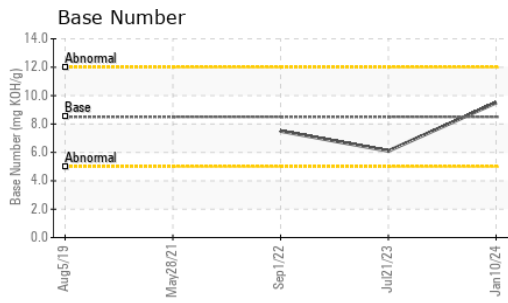
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>5</b>       | 6     | 4     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>&lt;1</b>   | <1    | <1    |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</b> | 1.7   | <1.0  |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.1</b>     | 0.1   | 0.1   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>5.1</b>     | 7.1   | 7.6   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>17.8</b>    | 19.4  | 18.7  |
| 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**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m | >75  | <b>&lt;1</b> | 2    | <1   |
| Boron            | ppm      | ASTM D5185m | 250  | <b>23</b>    | 125  | 9    |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>56</b>    | 42   | 7    |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>880</b>   | 413  | 71   |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1144</b>  | 1897 | 2054 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1031</b>  | 976  | 796  |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1207</b>  | 1203 | 1012 |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3158</b>  | 3887 | 3045 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>13.2</b>  | 12.8 | 10.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>9.5</b>   | 6.1  | 7.5  |
| Visc @ 100°C     | cSt      | ASTM D445   | 10.9 | <b>13.3</b>  | 11.9 | 12.9 |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA056249 **Received** : 17 Jan 2024  
**Lab Number** : 06062303 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833685 **Diagnostician** : Sean Felton  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**MCCOURT & SONS EQUIPMENT INC**  
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Certificate L2367  
 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)