



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

Machine Id  
**1014**  
 Component  
**Diesel Engine**  
 Fluid  
**{not provided} (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number  |     | Client Info |           | <b>JR0169902</b>   | JR0184567   | ---      |
| Sample Date    |     | Client Info |           | <b>06 Feb 2024</b> | 26 Oct 2023 | ---      |
| Machine Age    | hrs | Client Info |           | <b>1548</b>        | 1050        | ---      |
| Oil Age        | hrs | Client Info |           | <b>500</b>         | 1000        | ---      |
| Filter Age     | hrs | Client Info |           | <b>500</b>         | 1000        | ---      |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | ---      |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | ---      |
| Sample Status  |     |             |           | <b>NORMAL</b>      | ABNORMAL    | ---      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |     |
|--------------|--------|-------------|------|--------------|------|-----|
| Iron         | ppm    | ASTM D5185m | >51  | <b>8</b>     | 16   | --- |
| Chromium     | ppm    | ASTM D5185m | >11  | <b>&lt;1</b> | <1   | --- |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>&lt;1</b> | <1   | --- |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | --- |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | --- |
| Aluminum     | ppm    | ASTM D5185m | >31  | <b>4</b>     | 4    | --- |
| Lead         | ppm    | ASTM D5185m | >26  | <b>&lt;1</b> | 0    | --- |
| Copper       | ppm    | ASTM D5185m | >26  | <b>3</b>     | ▲ 42 | --- |
| Tin          | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | --- |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | --- |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | --- |

### CONTAMINATION

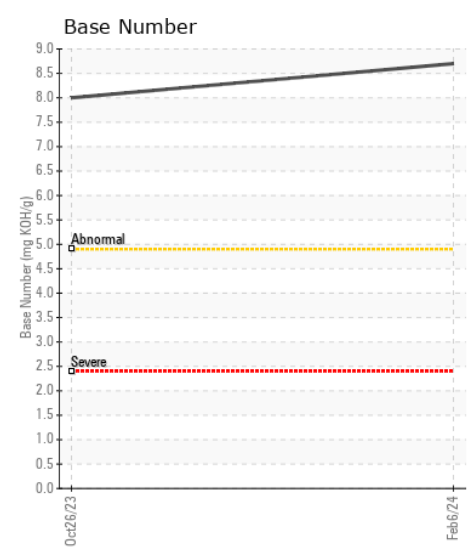
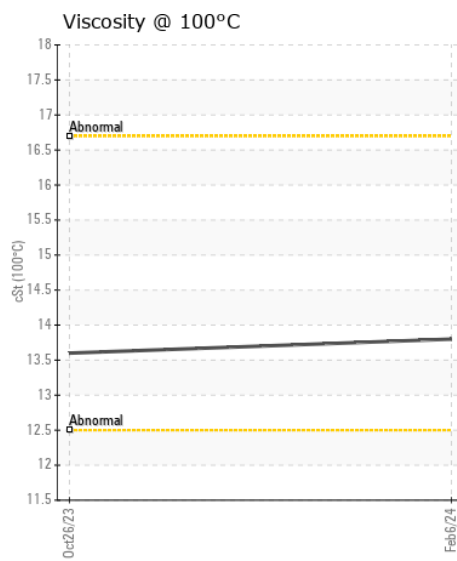
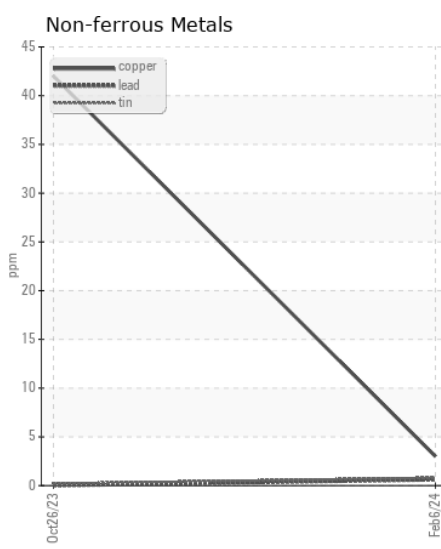
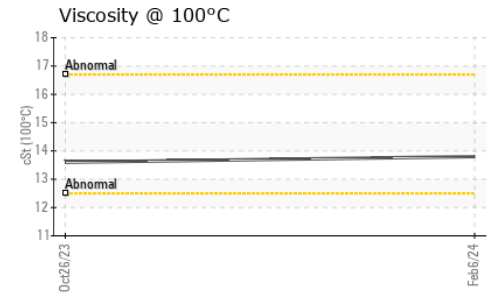
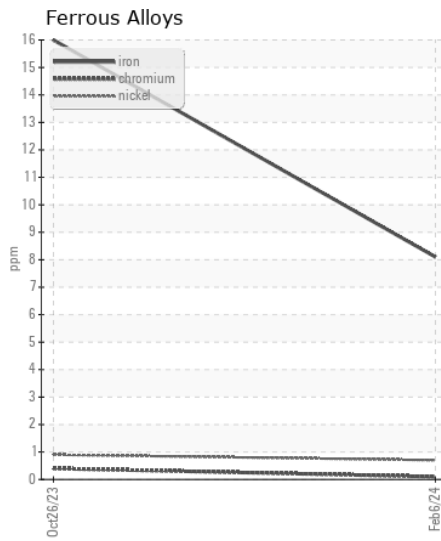
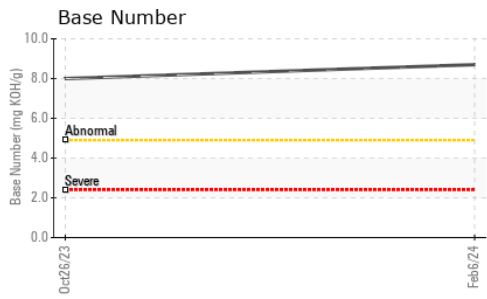
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |     |
|------------------|----------|-------------|-------|----------------|-------|-----|
| Silicon          | ppm      | ASTM D5185m | >22   | <b>6</b>       | 8     | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>       | <1    | --- |
| Fuel             |          | WC Method   | >2.1  | <b>&lt;1.0</b> | <1.0  | --- |
| Water            |          | WC Method   | >0.21 | <b>NEG</b>     | NEG   | --- |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | --- |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.3</b>     | 0.4   | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.2</b>     | 9.1   | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>22.5</b>    | 22.6  | --- |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | --- |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | --- |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | --- |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | --- |
| Emulsified Water | scalar   | *Visual     | >0.21 | <b>NEG</b>     | NEG   | --- |

### 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.

|                  |          |             |     |              |      |     |
|------------------|----------|-------------|-----|--------------|------|-----|
| Sodium           | ppm      | ASTM D5185m | >31 | <b>2</b>     | 4    | --- |
| Boron            | ppm      | ASTM D5185m |     | <b>184</b>   | 198  | --- |
| Barium           | ppm      | ASTM D5185m |     | <b>0</b>     | 4    | --- |
| Molybdenum       | ppm      | ASTM D5185m |     | <b>229</b>   | 248  | --- |
| Manganese        | ppm      | ASTM D5185m |     | <b>&lt;1</b> | <1   | --- |
| Magnesium        | ppm      | ASTM D5185m |     | <b>733</b>   | 749  | --- |
| Calcium          | ppm      | ASTM D5185m |     | <b>1238</b>  | 1356 | --- |
| Phosphorus       | ppm      | ASTM D5185m |     | <b>820</b>   | 933  | --- |
| Zinc             | ppm      | ASTM D5185m |     | <b>981</b>   | 1032 | --- |
| Sulfur           | ppm      | ASTM D5185m |     | <b>2561</b>  | 2488 | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25 | <b>17.6</b>  | 17.5 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  |     | <b>8.7</b>   | 8.0  | --- |
| Visc @ 100°C     | cSt      | ASTM D445   |     | <b>13.8</b>  | 13.6 | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0169902 **Received** : 14 Feb 2024  
**Lab Number** : 06089440 **Tested** : 15 Feb 2024  
**Unique Number** : 10876885 **Diagnosed** : 15 Feb 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**PATRIOT DEVELOPMENT CORP**  
 22721 LADBROOK DRIVE STE 120  
 STERLING, VA  
 US 20166  
 Contact: ROBERT MOSS  
 robert.moss@patriotdev.net  
 T:  
 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)