



OIL ANALYSIS REPORT

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

Machine Id  
**PHOENIX MIXER 249**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

**RECOMMENDATION**

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>LP0001487</b>   | LP0000515   | LP0000442   |
| Sample Date    |     | Client Info |           | <b>06 Dec 2023</b> | 01 Sep 2023 | 16 Jun 2023 |
| Machine Age    | hrs | Client Info |           | <b>15950</b>       | 15291       | 14797       |
| Oil Age        | hrs | Client Info |           | <b>500</b>         | 500         | 500         |
| Filter Age     | hrs | Client Info |           | <b>500</b>         | 500         | 500         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>MARGINAL</b>    | NORMAL      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >90  | <b>8</b>     | 9    | 11   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | 1    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m | >2   | <b>0</b>     | <1   | <1   |
| Silver       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | <1   |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>1</b>     | 0    | <1   |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | <1   | <1   |
| Copper       | ppm    | ASTM D5185m | >330 | <b>0</b>     | <1   | <1   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

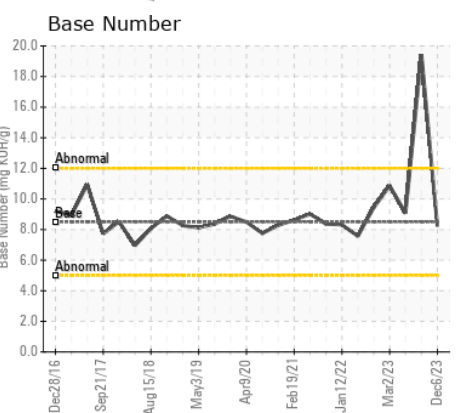
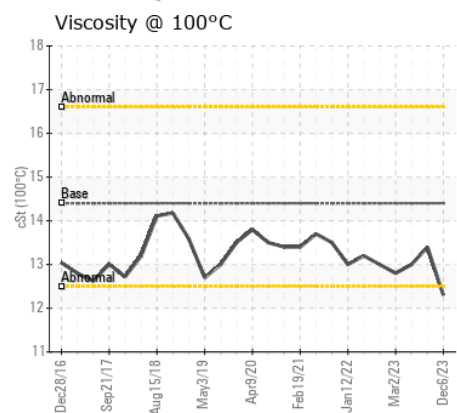
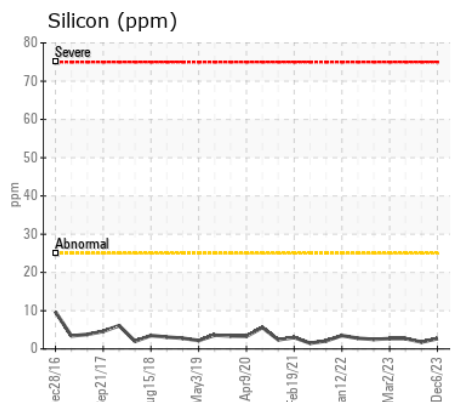
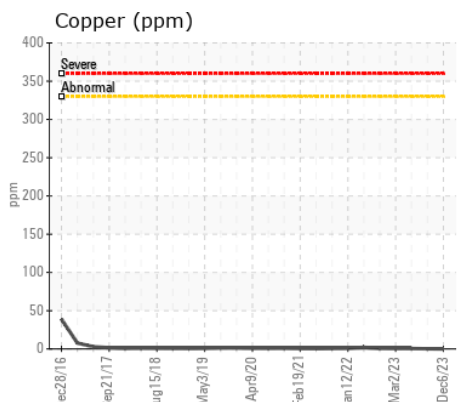
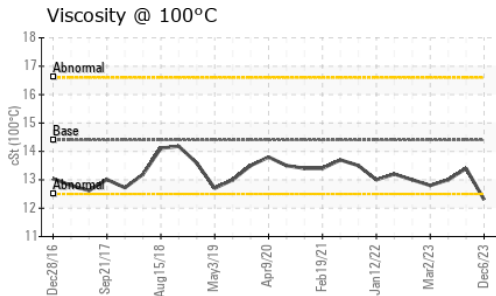
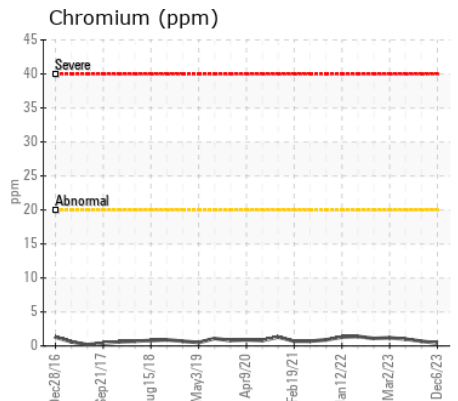
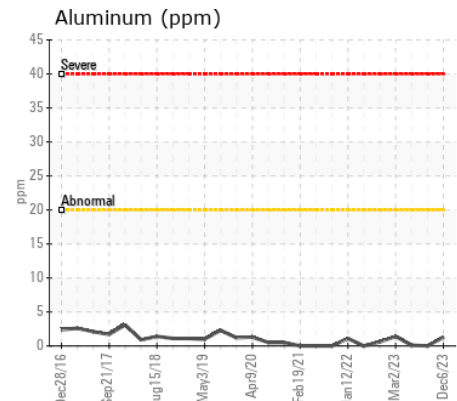
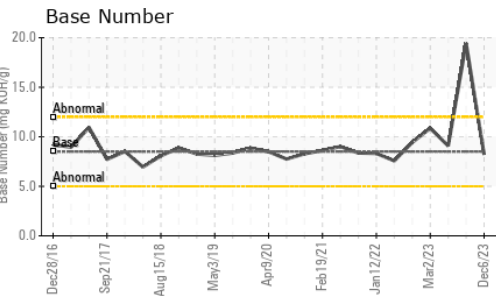
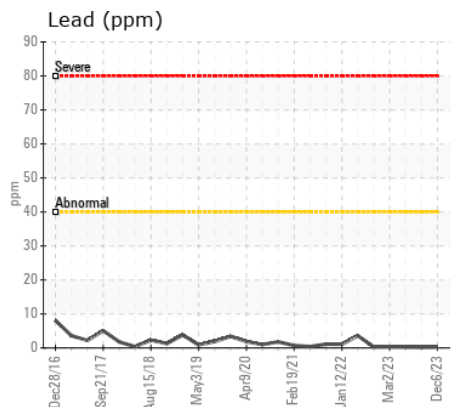
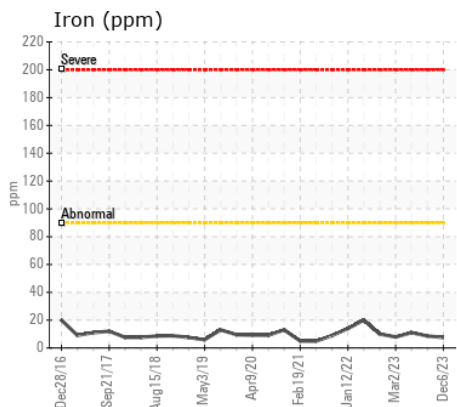
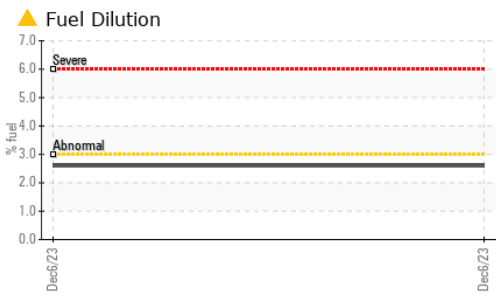
Light fuel dilution occurring. No other contaminants were detected in the oil.

|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>3</b>     | 2     | 3     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>1</b>     | 2     | 0     |
| Fuel             | %        | ASTM D3524  | >3.0  | <b>▲ 2.6</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >6    | <b>0.6</b>   | 0.6   | 0.6   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.8</b>   | 8.6   | 10.9  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>20.1</b>  | 19.8  | 22.0  |
| 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 suitable for further service.

|                  |          |             |      |              |       |      |
|------------------|----------|-------------|------|--------------|-------|------|
| Sodium           | ppm      | ASTM D5185m | >158 | <b>&lt;1</b> | 1     | 2    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>17</b>    | 5     | 23   |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0     | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>41</b>    | 57    | 76   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1    | <1   |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>332</b>   | 858   | 605  |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1853</b>  | 1188  | 1700 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1048</b>  | 1034  | 1143 |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1171</b>  | 1285  | 1366 |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3531</b>  | 3799  | 4435 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>14.3</b>  | 15.5  | 17.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>8.22</b>  | 19.43 | 9.08 |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | <b>12.3</b>  | 13.4  | 13.0 |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0001487 **Received** : 12 Jan 2024  
**Lab Number** : 06060405 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831787 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

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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)