



# LUBE PLUS+

## OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR LOADER L-7**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (12 GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>LP0001032</b>   | LP0000945   | LP0000882   |
| Sample Date    |     | Client Info |           | <b>11 Apr 2024</b> | 13 Feb 2024 | 16 Sep 2023 |
| Machine Age    | hrs | Client Info |           | <b>50631</b>       | 50261       | 49284       |
| Oil Age        | hrs | Client Info |           | <b>50261</b>       | 500         | 500         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 500         | 500         |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>19</b>    | 51   | 78   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | 1    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | <1   |
| Silver       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>&lt;1</b> | 1    | 2    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>0</b>     | 2    | 7    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | 10   | 23   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | 2    |
| 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

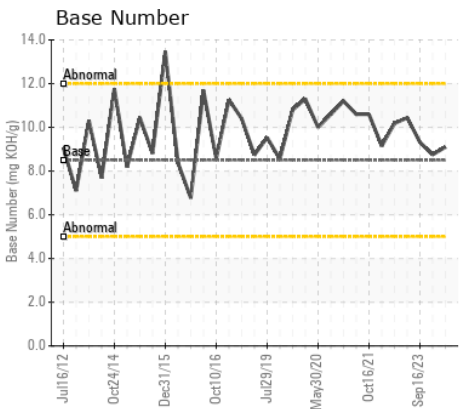
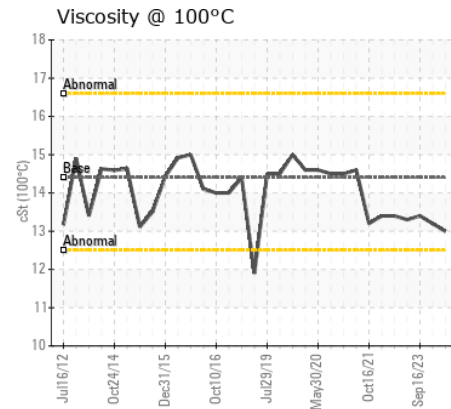
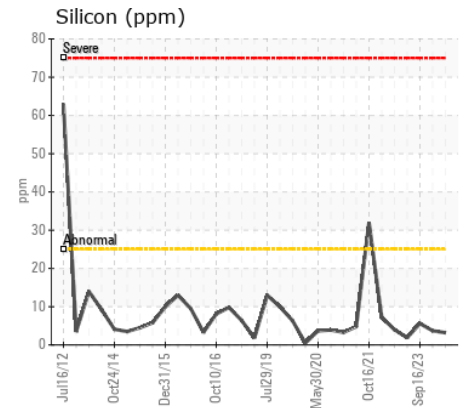
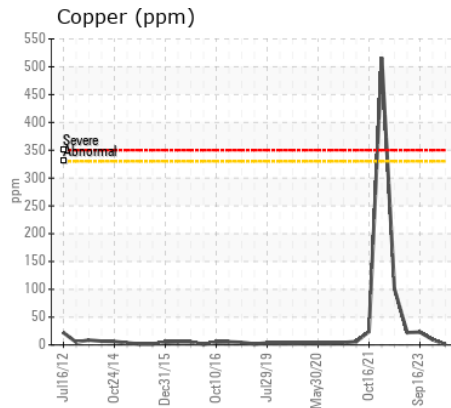
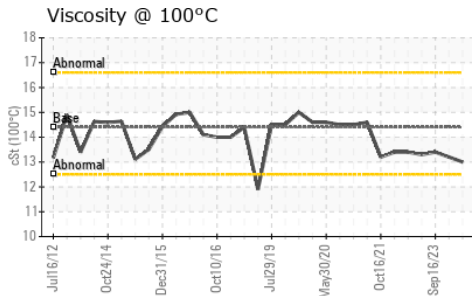
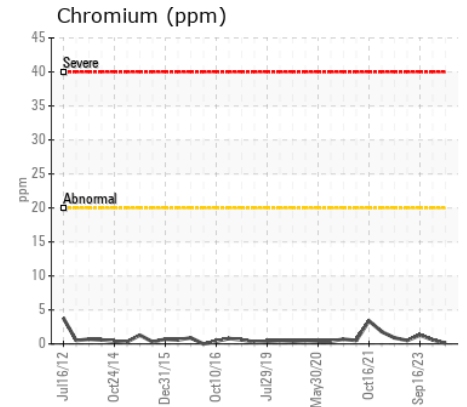
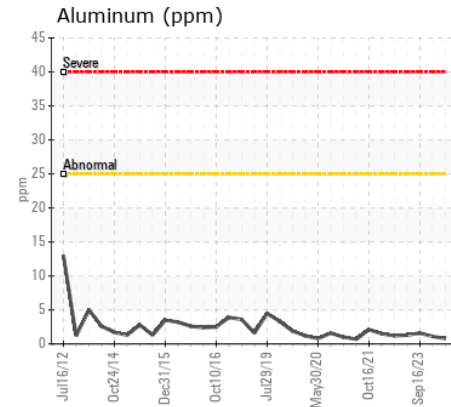
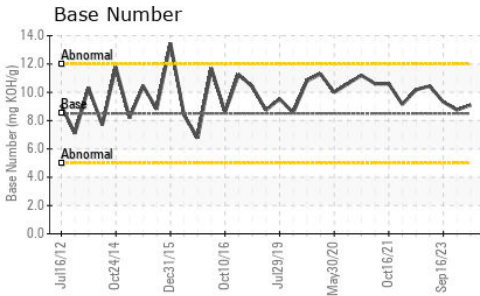
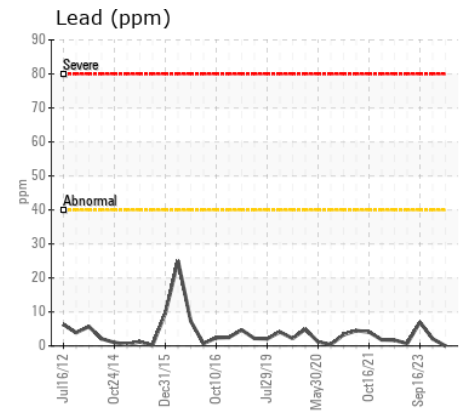
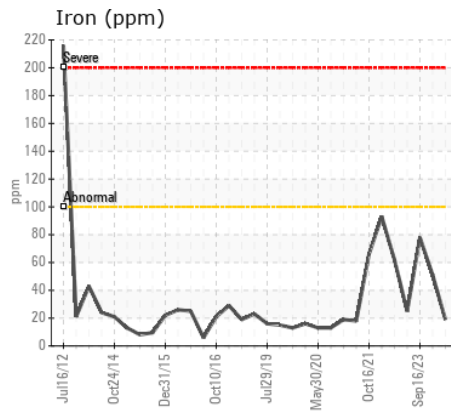
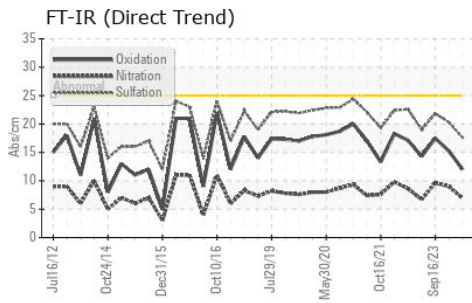
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>3</b>       | 4     | 6     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>7</b>       | 12    | 3     |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</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 | >3    | <b>0.3</b>     | 0.7   | 1     |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>6.9</b>     | 9.0   | 9.6   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>17.6</b>    | 20.3  | 21.8  |
| 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>3</b>     | 3    | 2    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>13</b>    | 10   | 7    |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0    | 3    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>37</b>    | 50   | 62   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>464</b>   | 655  | 925  |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1644</b>  | 1545 | 1226 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>957</b>   | 1004 | 1074 |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1102</b>  | 1238 | 1350 |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3680</b>  | 3296 | 3048 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>12.0</b>  | 15.2 | 17.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>9.10</b>  | 8.75 | 9.32 |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | <b>13.0</b>  | 13.2 | 13.4 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0001032  
**Lab Number** : 06157110  
**Unique Number** : 10992533  
**Test Package** : MOB 2  
**Received** : 22 Apr 2024  
**Tested** : 23 Apr 2024  
**Diagnosed** : 23 Apr 2024 - Wes Davis

**TRESCA BROS SAND & GRAVEL INC**  
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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)