



# OIL ANALYSIS REPORT

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



Area  
**OKLAHOMA/102**  
Machine Id  
**20.523L [OKLAHOMA^102]**  
Component  
**Diesel Engine**  
Fluid  
**MOBIL DELVAC 1300 SUPER15W40 (9 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0857366</b>   | WC0800903   | WC0746356   |
| Sample Date    |     | Client Info |           | <b>20 Jan 2024</b> | 17 Apr 2023 | 27 Oct 2022 |
| Machine Age    | hrs | Client Info |           | <b>3748</b>        | 2735        | 2313        |
| Oil Age        | hrs | Client Info |           | <b>250</b>         | 422         | 53          |
| Filter Age     | hrs | Client Info |           | <b>250</b>         | 422         | 53          |
| 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>25</b>    | 9    | 2    |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | 0    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>6</b>     | 2    | 0    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>2</b>     | 0    | 0    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>9</b>     | <1   | 0    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | 0    | 0    |
| 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.

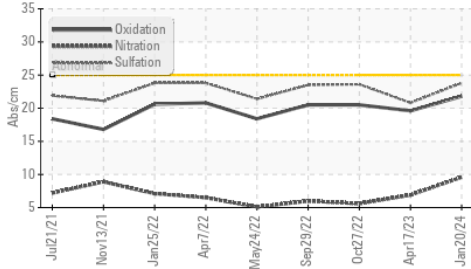
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>6</b>       | 4     | 2     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>5</b>       | 0     | 2     |
| 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>1.6</b>     | 0.6   | 0.2   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.6</b>     | 6.9   | 5.6   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>23.8</b>    | 20.8  | 23.6  |
| 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

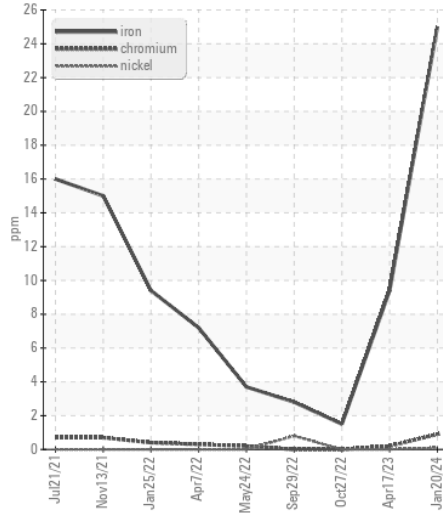
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |     |              |      |      |
|------------------|----------|-------------|-----|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m |     | <b>0</b>     | 2    | 1    |
| Boron            | ppm      | ASTM D5185m | 0   | <b>29</b>    | 45   | 57   |
| Barium           | ppm      | ASTM D5185m | 0   | <b>&lt;1</b> | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 0   | <b>52</b>    | 43   | 37   |
| Manganese        | ppm      | ASTM D5185m |     | <b>&lt;1</b> | <1   | 1    |
| Magnesium        | ppm      | ASTM D5185m | 0   | <b>593</b>   | 531  | 487  |
| Calcium          | ppm      | ASTM D5185m |     | <b>1969</b>  | 1607 | 1645 |
| Phosphorus       | ppm      | ASTM D5185m |     | <b>921</b>   | 734  | 699  |
| Zinc             | ppm      | ASTM D5185m |     | <b>1078</b>  | 945  | 876  |
| Sulfur           | ppm      | ASTM D5185m |     | <b>3129</b>  | 2691 | 2648 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25 | <b>21.8</b>  | 19.6 | 20.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.4 | <b>8.3</b>   | 8.6  | 11.4 |
| Visc @ 100°C     | cSt      | ASTM D445   | 14  | <b>13.9</b>  | 13.1 | 13.1 |

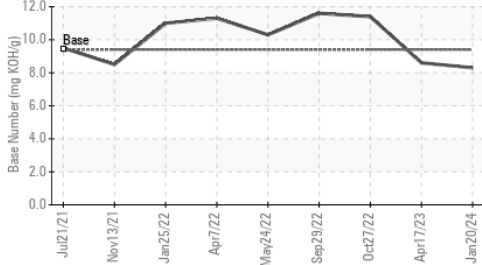
**FT-IR (Direct Trend)**



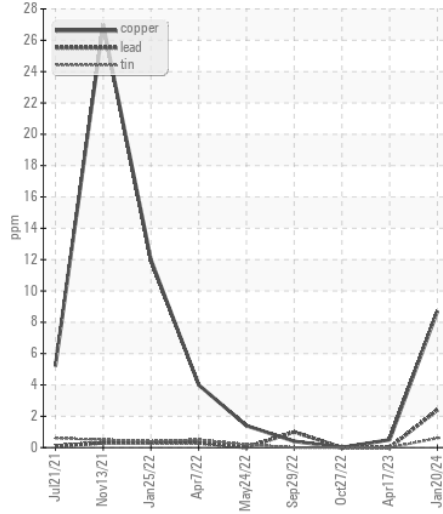
**Ferrous Alloys**



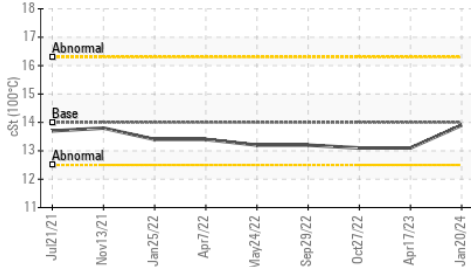
**Base Number**



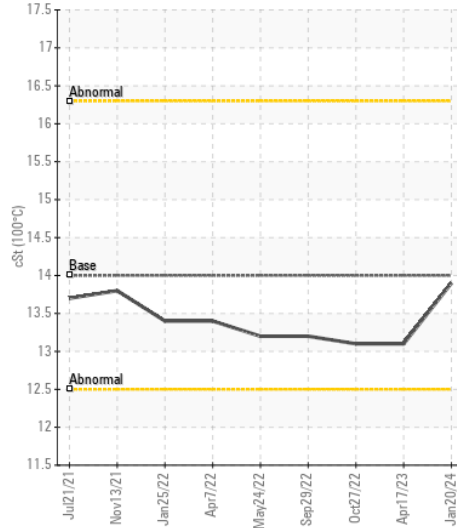
**Non-ferrous Metals**



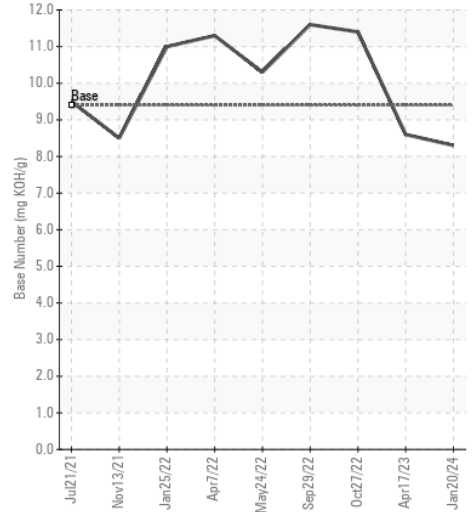
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0857366 **Received** : 01 Feb 2024  
**Lab Number** : 06076676 **Tested** : 02 Feb 2024  
**Unique Number** : 10858767 **Diagnosed** : 02 Feb 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**SHERWOOD CONSTRUCTION CO INC**  
 3219 WEST MAY ST  
 WICHITA, KS  
 US 67213  
 Contact: DOUG KING  
 Doug.King@sherwood.net

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)

T:  
F: