

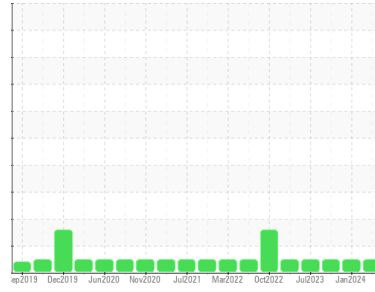


# OIL ANALYSIS REPORT



Area  
**OKLAHOMA/102/EG - MOTOR GRADER**  
 Machine Id  
**78.256 [OKLAHOMA^102^EG - MOTOR GRADER]**  
 Component  
**Diesel Engine**  
 Fluid  
**MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**

Sample Rating Trend



**NORMAL**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### 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.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>WC0935198</b>   | WC0873899   | WC0857406   |
| Sample Date   | Client Info |             | <b>08 May 2024</b> | 18 Jan 2024 | 13 Oct 2023 |
| Machine Age   | hrs         | Client Info | <b>8775</b>        | 7727        | 7485        |
| Oil Age       | hrs         | Client Info | <b>345</b>         | 250         | 310         |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method |            | <b>&lt;1.0</b> | <1.0     | <1.0     |
| Water  | WC Method |            | <b>NEG</b>     | NEG      | NEG      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base  | current      | history1 | history2 |
|----------|--------|-------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m | <b>6</b>     | 2        | 8        |
| Chromium | ppm    | ASTM D5185m | <b>0</b>     | <1       | <1       |
| Nickel   | ppm    | ASTM D5185m | <b>0</b>     | 0        | <1       |
| Titanium | ppm    | ASTM D5185m | <b>0</b>     | <1       | 0        |
| Silver   | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m | <b>1</b>     | 2        | 2        |
| Lead     | ppm    | ASTM D5185m | <b>&lt;1</b> | 1        | 5        |
| Copper   | ppm    | ASTM D5185m | <b>0</b>     | <1       | <1       |
| Tin      | ppm    | ASTM D5185m | <b>0</b>     | <1       | <1       |
| Vanadium | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base  | current      | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m | <b>42</b>    | 47       | 35       |
| Barium     | ppm    | ASTM D5185m | <b>0</b>     | <1       | 0        |
| Molybdenum | ppm    | ASTM D5185m | <b>41</b>    | 39       | 44       |
| Manganese  | ppm    | ASTM D5185m | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm    | ASTM D5185m | <b>517</b>   | 461      | 494      |
| Calcium    | ppm    | ASTM D5185m | <b>1804</b>  | 1590     | 1720     |
| Phosphorus | ppm    | ASTM D5185m | <b>784</b>   | 774      | 815      |
| Zinc       | ppm    | ASTM D5185m | <b>959</b>   | 856      | 950      |
| Sulfur     | ppm    | ASTM D5185m | <b>2974</b>  | 2655     | 3132     |

## CONTAMINANTS

|           | method | limit/base  | current  | history1 | history2 |
|-----------|--------|-------------|----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m | <b>4</b> | 3        | 6        |
| Sodium    | ppm    | ASTM D5185m | <b>2</b> | 0        | 0        |
| Potassium | ppm    | ASTM D5185m | <b>0</b> | 1        | 2        |

## INFRA-RED

|           | method   | limit/base  | current     | history1 | history2 |
|-----------|----------|-------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 | <b>0.2</b>  | 0.2      | 0.3      |
| Nitration | Abs/cm   | *ASTM D7624 | <b>8.5</b>  | 7.5      | 8.7      |
| Sulfation | Abs/.1mm | *ASTM D7415 | <b>22.1</b> | 22.2     | 22.0     |

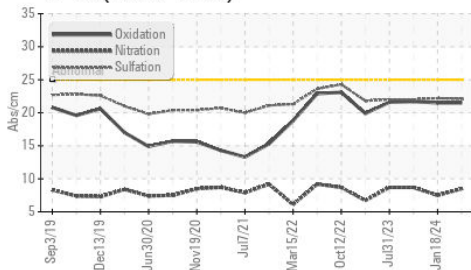
## FLUID DEGRADATION

|                  | method   | limit/base  | current     | history1 | history2 |
|------------------|----------|-------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 | <b>21.5</b> | 21.5     | 21.7     |
| Base Number (BN) | mg KOH/g | ASTM D2896  | <b>9.2</b>  | 9.6      | 8.9      |

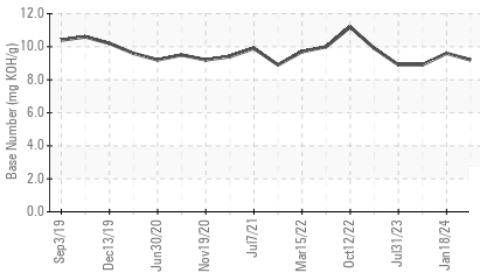


# OIL ANALYSIS REPORT

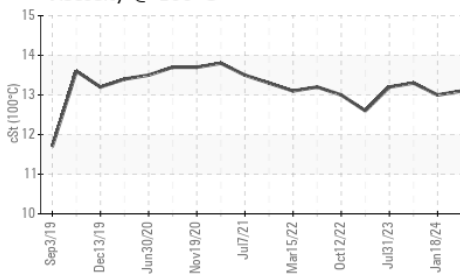
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

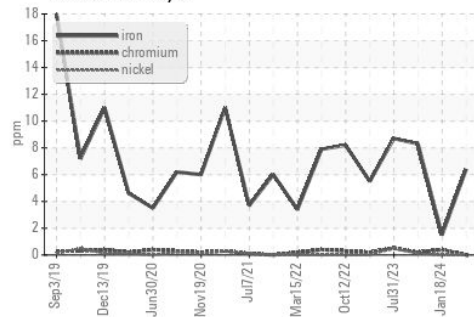


| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | NEG     | NEG      | NEG      |
| Free Water       | scalar | *Visual    | NEG     | NEG      | NEG      |

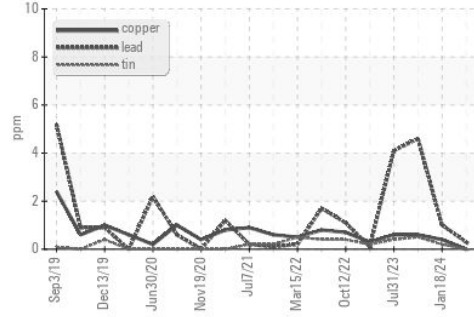
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | 13.1    | 13.0     | 13.3     |

## GRAPHS

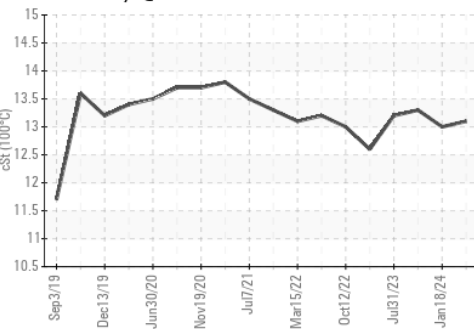
Ferrous Alloys



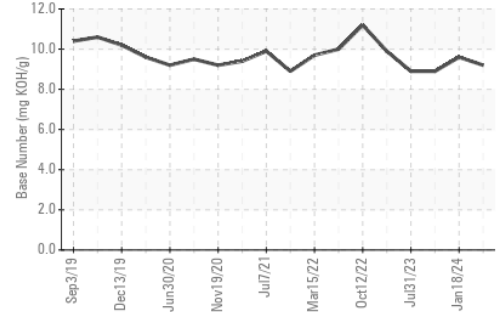
Non-ferrous Metals



Viscosity @ 100°C



Base Number



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0935198 **Received** : 05 Jun 2024  
**Lab Number** : 06199961 **Tested** : 06 Jun 2024  
**Unique Number** : 11062084 **Diagnosed** : 06 Jun 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  
 T: (316)617-3161  
 F: x:

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)