



# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**FREIGHTLINER 3059 - TW**

Component  
**Diesel Engine**

Fluid  
**MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**

## 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>SBP0004295</b>  | ---      | ---      |
| Sample Date   | Client Info     | <b>22 Jan 2024</b> | ---      | ---      |
| Machine Age   | mls Client Info | <b>154003</b>      | ---      | ---      |
| Oil Age       | mls Client Info | <b>6812</b>        | ---      | ---      |
| Oil Changed   | Client Info     | <b>Changed</b>     | ---      | ---      |
| Sample Status |                 | <b>NORMAL</b>      | ---      | ---      |

## CONTAMINATION

| method | limit/base     | current        | history1 | history2 |
|--------|----------------|----------------|----------|----------|
| Fuel   | WC Method >5   | <b>&lt;1.0</b> | ---      | ---      |
| Water  | WC Method >0.2 | <b>NEG</b>     | ---      | ---      |
| Glycol | WC Method      | <b>NEG</b>     | ---      | ---      |

## WEAR METALS

| method   | limit/base           | current      | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron     | ppm ASTM D5185m >80  | <b>34</b>    | ---      | ---      |
| Chromium | ppm ASTM D5185m >5   | <b>1</b>     | ---      | ---      |
| Nickel   | ppm ASTM D5185m >2   | <b>&lt;1</b> | ---      | ---      |
| Titanium | ppm ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Silver   | ppm ASTM D5185m >3   | <b>0</b>     | ---      | ---      |
| Aluminum | ppm ASTM D5185m >30  | <b>16</b>    | ---      | ---      |
| Lead     | ppm ASTM D5185m >30  | <b>&lt;1</b> | ---      | ---      |
| Copper   | ppm ASTM D5185m >150 | <b>5</b>     | ---      | ---      |
| Tin      | ppm ASTM D5185m >5   | <b>&lt;1</b> | ---      | ---      |
| Vanadium | ppm ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Cadmium  | ppm ASTM D5185m      | <b>0</b>     | ---      | ---      |

## ADDITIVES

| method     | limit/base        | current      | history1 | history2 |
|------------|-------------------|--------------|----------|----------|
| Boron      | ppm ASTM D5185m 0 | <b>208</b>   | ---      | ---      |
| Barium     | ppm ASTM D5185m 0 | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm ASTM D5185m 0 | <b>78</b>    | ---      | ---      |
| Manganese  | ppm ASTM D5185m   | <b>&lt;1</b> | ---      | ---      |
| Magnesium  | ppm ASTM D5185m 0 | <b>341</b>   | ---      | ---      |
| Calcium    | ppm ASTM D5185m   | <b>1356</b>  | ---      | ---      |
| Phosphorus | ppm ASTM D5185m   | <b>929</b>   | ---      | ---      |
| Zinc       | ppm ASTM D5185m   | <b>1143</b>  | ---      | ---      |
| Sulfur     | ppm ASTM D5185m   | <b>2962</b>  | ---      | ---      |

## CONTAMINANTS

| method    | limit/base          | current   | history1 | history2 |
|-----------|---------------------|-----------|----------|----------|
| Silicon   | ppm ASTM D5185m >20 | <b>8</b>  | ---      | ---      |
| Sodium    | ppm ASTM D5185m     | <b>5</b>  | ---      | ---      |
| Potassium | ppm ASTM D5185m >20 | <b>34</b> | ---      | ---      |

## INFRA-RED

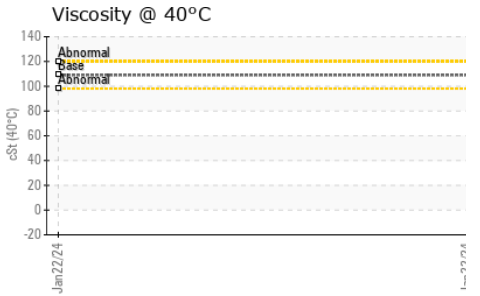
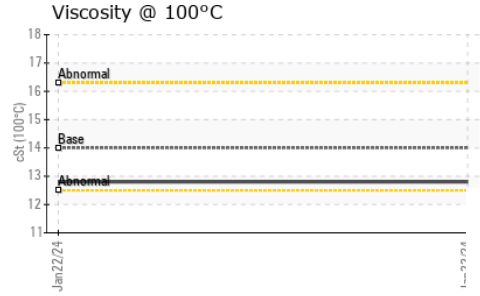
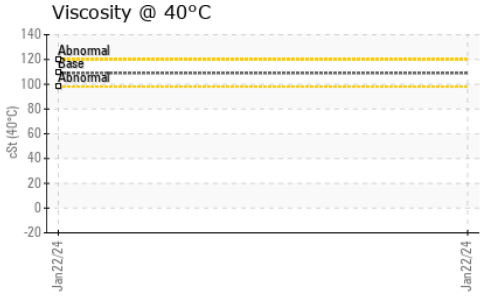
| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % *ASTM D7844 >3         | <b>0.5</b>  | ---      | ---      |
| Nitration | Abs/cm *ASTM D7624 >20   | <b>10.5</b> | ---      | ---      |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | <b>23.7</b> | ---      | ---      |

## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm *ASTM D7414 >25 | <b>18.7</b> | ---      | ---      |
| Base Number (BN) | mg KOH/g ASTM D2896 9.4  | <b>5.10</b> | ---      | ---      |



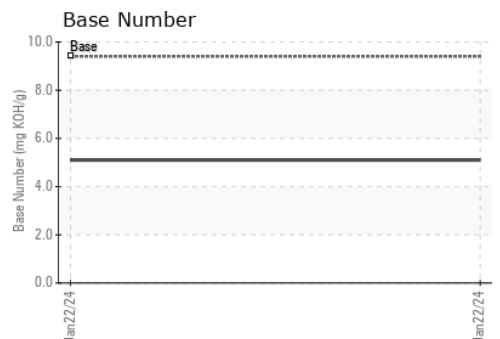
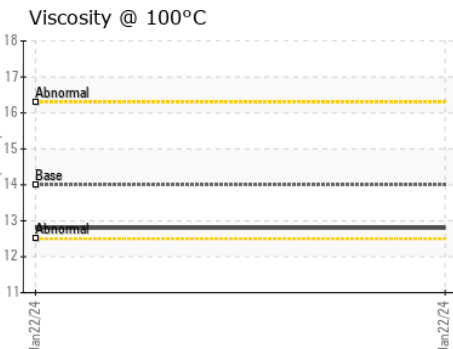
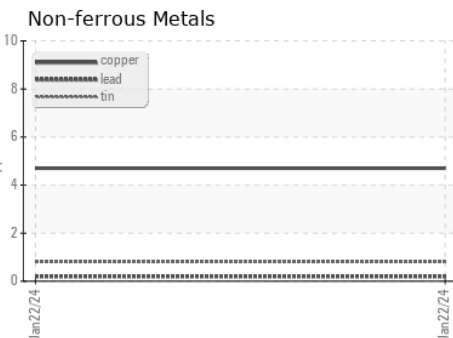
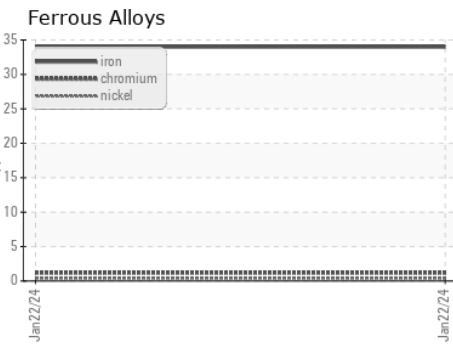
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |     |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Debris           | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      | --- |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      | --- |
| Emulsified Water | scalar | *Visual    | >0.2    | NEG      | ---      | --- |
| Free Water       | scalar | *Visual    |         | NEG      | ---      | --- |

| FLUID PROPERTIES | method | limit/base   | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445 14 | 12.8    | ---      | ---      |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0004295 **Received** : 22 Feb 2024  
**Lab Number** : 06097454 **Tested** : 27 Feb 2024  
**Unique Number** : 10890307 **Diagnosed** : 27 Feb 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: KV40 )

**Sapp Bros. Petroleum - Sioux City**  
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 SIOUX CITY, IA  
 US 51106  
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 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)