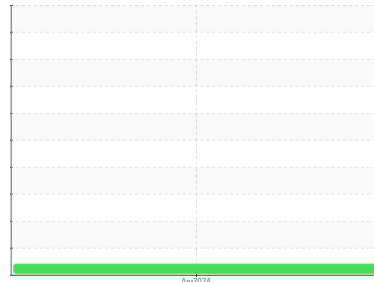




# OIL ANALYSIS REPORT

Area  
**KANSAS/44/EG - EXCAVATOR**  
 Machine Id  
**20.147L [KANSAS^44^EG - EXCAVATOR]**  
 Component  
**Diesel Engine**  
 Fluid  
**CAT DIESEL ENGINE OIL 15W40 (--- GAL)**

## Sample Rating Trend



## VISCOSITY



### DIAGNOSIS

#### ▲ Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

#### ▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info |             | <b>WC0789835</b>   | ---      | ---      |
| Sample Date   | Client Info |             | <b>16 Apr 2024</b> | ---      | ---      |
| Machine Age   | hrs         | Client Info | <b>10</b>          | ---      | ---      |
| Oil Age       | hrs         | Client Info | <b>10</b>          | ---      | ---      |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | ---      | ---      |
| Sample Status |             |             | <b>ABNORMAL</b>    | ---      | ---      |

### CONTAMINATION

|        | method    | limit/base | current    | history1 | history2 |
|--------|-----------|------------|------------|----------|----------|
| 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 >100 | <b>17</b>    | ---      | ---      |
| Chromium | ppm    | ASTM D5185m >20  | <b>1</b>     | ---      | ---      |
| Nickel   | ppm    | ASTM D5185m >2   | <b>0</b>     | ---      | ---      |
| Titanium | ppm    | ASTM D5185m >2   | <b>0</b>     | ---      | ---      |
| Silver   | ppm    | ASTM D5185m >2   | <b>0</b>     | ---      | ---      |
| Aluminum | ppm    | ASTM D5185m >25  | <b>6</b>     | ---      | ---      |
| Lead     | ppm    | ASTM D5185m >40  | <b>0</b>     | ---      | ---      |
| Copper   | ppm    | ASTM D5185m >330 | <b>20</b>    | ---      | ---      |
| Tin      | ppm    | ASTM D5185m >15  | <b>&lt;1</b> | ---      | ---      |
| Vanadium | ppm    | ASTM D5185m      | <b>0</b>     | ---      | ---      |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | ---      | ---      |

### ADDITIVES

|            | method | limit/base       | current     | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron      | ppm    | ASTM D5185m      | <b>73</b>   | ---      | ---      |
| Barium     | ppm    | ASTM D5185m      | <b>10</b>   | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185m      | <b>38</b>   | ---      | ---      |
| Manganese  | ppm    | ASTM D5185m      | <b>4</b>    | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185m      | <b>515</b>  | ---      | ---      |
| Calcium    | ppm    | ASTM D5185m      | <b>1535</b> | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185m      | <b>944</b>  | ---      | ---      |
| Zinc       | ppm    | ASTM D5185m 1460 | <b>1082</b> | ---      | ---      |
| Sulfur     | ppm    | ASTM D5185m      | <b>3539</b> | ---      | ---      |

### CONTAMINANTS

|           | method | limit/base      | current      | history1 | history2 |
|-----------|--------|-----------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>13</b>    | ---      | ---      |
| Sodium    | ppm    | ASTM D5185m     | <b>6</b>     | ---      | ---      |
| Potassium | ppm    | ASTM D5185m >20 | <b>&lt;1</b> | ---      | ---      |
| Fuel      | %      | ASTM D3524 >5   | <b>0.2</b>   | ---      | ---      |

### INFRA-RED

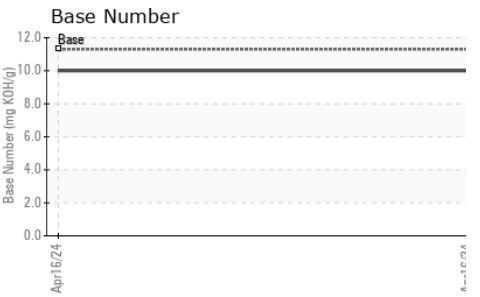
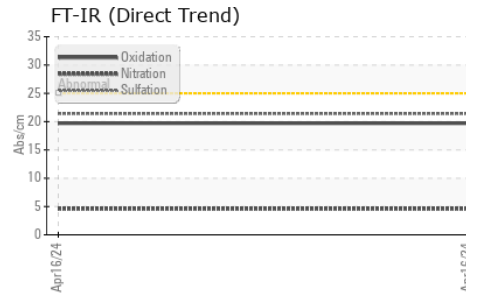
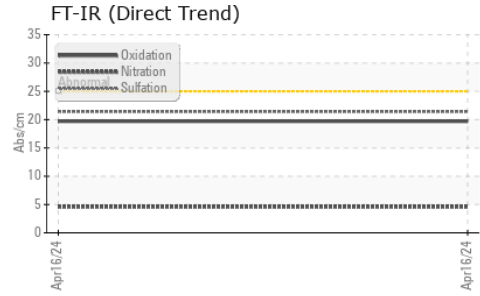
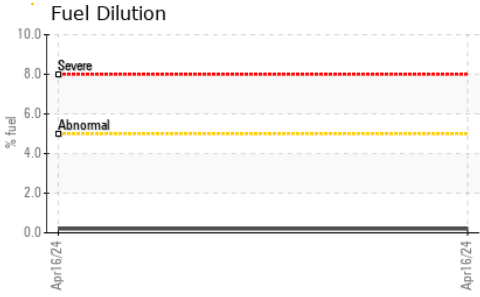
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >3  | <b>0.1</b>  | ---      | ---      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>4.6</b>  | ---      | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>21.4</b> | ---      | ---      |

### FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>19.7</b> | ---      | ---      |
| Base Number (BN) | mg KOH/g | ASTM D2896 11.3 | <b>10.0</b> | ---      | ---      |



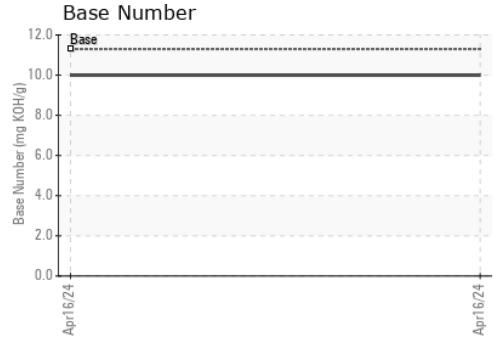
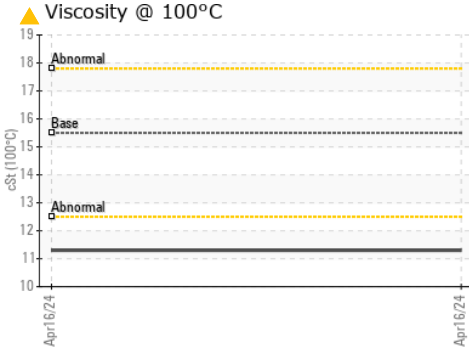
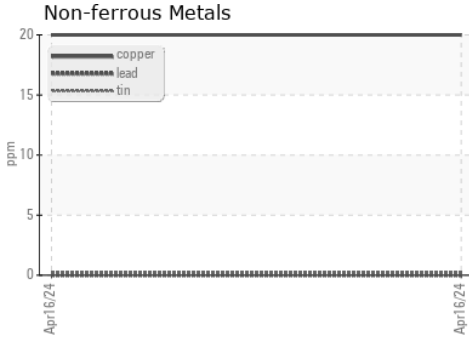
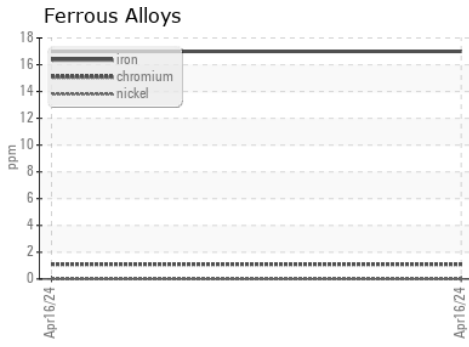
# OIL ANALYSIS REPORT



| 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  | 15.5    | ▲ 11.3   | ---      | --- |

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0789835      **Received** : 22 Apr 2024  
**Lab Number** : 06155638      **Tested** : 25 Apr 2024  
**Unique Number** : 10991061      **Diagnosed** : 25 Apr 2024 - Angela Borella  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**SHERWOOD CONSTRUCTION CO INC**  
 3219 WEST MAY ST  
 WICHITA, KS  
 US 67213  
 Contact: RANDY ROBERTS  
 randy.roberts@sherwood.net  
 T: (316)943-6491  
 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)