



### KANSAS/44/EG - EXCAVATOR 20.147L [KANSAS^44^EG - EXCAVATOR] Component Swing Drive

TDTO FLUID SAE 30 (--- GAL)

# RECOMMENDATION

Resample at the next service interval to monitor.

#### **WEAR**

All component wear rates are normal.

### CONTAMINATION

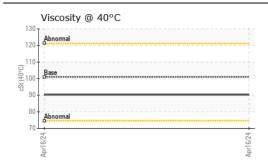
There is no indication of any contamination in the oil.

# FLUID CONDITION

The condition of the oil is acceptable for the time in service.

| Test                                                                                                                                                                                                      | UOM                                                                                                                  | Method                                                                                                                                                                                                                 | Limit/Abn                                                                                                                                                                                           | Current                                                                                                                  | History1 | History2             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------|----------------------|
| Sample Number                                                                                                                                                                                             |                                                                                                                      | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | WC0789833                                                                                                                |          |                      |
| Sample Date                                                                                                                                                                                               |                                                                                                                      | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | 16 Apr 2024                                                                                                              |          |                      |
| Machine Age                                                                                                                                                                                               | hrs                                                                                                                  | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | 10                                                                                                                       |          |                      |
| Oil Age                                                                                                                                                                                                   | hrs                                                                                                                  | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | 10                                                                                                                       |          |                      |
| Filter Age                                                                                                                                                                                                | hrs                                                                                                                  | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | 0                                                                                                                        |          |                      |
| Oil Changed                                                                                                                                                                                               |                                                                                                                      | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | Not Changd                                                                                                               |          |                      |
| Filter Changed                                                                                                                                                                                            |                                                                                                                      | Client Info                                                                                                                                                                                                            |                                                                                                                                                                                                     | N/A                                                                                                                      |          |                      |
| Sample Status                                                                                                                                                                                             |                                                                                                                      |                                                                                                                                                                                                                        |                                                                                                                                                                                                     | NORMAL                                                                                                                   |          |                      |
| Iron                                                                                                                                                                                                      |                                                                                                                      | ASTM D5185m                                                                                                                                                                                                            | >400                                                                                                                                                                                                | 2                                                                                                                        |          |                      |
| Chromium                                                                                                                                                                                                  | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >400                                                                                                                                                                                                | 2<br><1                                                                                                                  |          |                      |
| Nickel                                                                                                                                                                                                    | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >10                                                                                                                                                                                                 | 0                                                                                                                        |          |                      |
| Titanium                                                                                                                                                                                                  | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >10                                                                                                                                                                                                 | 0                                                                                                                        |          |                      |
| Silver                                                                                                                                                                                                    | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            |                                                                                                                                                                                                     | 0                                                                                                                        |          |                      |
| Aluminum                                                                                                                                                                                                  | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >25                                                                                                                                                                                                 | ۰<br><1                                                                                                                  |          |                      |
| Lead                                                                                                                                                                                                      | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >20                                                                                                                                                                                                 | 0                                                                                                                        |          |                      |
| Copper                                                                                                                                                                                                    | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >200                                                                                                                                                                                                | 0                                                                                                                        |          |                      |
| Tin                                                                                                                                                                                                       | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >10                                                                                                                                                                                                 | ۰<br>1                                                                                                                   |          |                      |
| Vanadium                                                                                                                                                                                                  | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >10                                                                                                                                                                                                 | 0                                                                                                                        |          |                      |
| White Metal                                                                                                                                                                                               | ppm<br>scalar                                                                                                        | *Visual                                                                                                                                                                                                                | NONE                                                                                                                                                                                                | NONE                                                                                                                     |          |                      |
| Yellow Metal                                                                                                                                                                                              |                                                                                                                      |                                                                                                                                                                                                                        |                                                                                                                                                                                                     |                                                                                                                          |          |                      |
|                                                                                                                                                                                                           |                                                                                                                      |                                                                                                                                                                                                                        |                                                                                                                                                                                                     |                                                                                                                          |          |                      |
|                                                                                                                                                                                                           | scalar                                                                                                               | *Visual                                                                                                                                                                                                                | NONE                                                                                                                                                                                                | NONE                                                                                                                     |          |                      |
| Silicon                                                                                                                                                                                                   | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >50                                                                                                                                                                                                 | NONE<br>14                                                                                                               |          |                      |
|                                                                                                                                                                                                           |                                                                                                                      |                                                                                                                                                                                                                        |                                                                                                                                                                                                     |                                                                                                                          |          |                      |
| Silicon                                                                                                                                                                                                   | ppm                                                                                                                  | ASTM D5185m                                                                                                                                                                                                            | >50                                                                                                                                                                                                 | 14                                                                                                                       |          |                      |
| Silicon<br>Potassium                                                                                                                                                                                      | ppm                                                                                                                  | ASTM D5185m<br>ASTM D5185m                                                                                                                                                                                             | >50<br>>20                                                                                                                                                                                          | 14<br>2                                                                                                                  |          |                      |
| Silicon<br>Potassium<br>Water                                                                                                                                                                             | ppm<br>ppm                                                                                                           | ASTM D5185m<br>ASTM D5185m<br>WC Method                                                                                                                                                                                | >50<br>>20<br>>0.2                                                                                                                                                                                  | 14<br>2<br>NEG                                                                                                           |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt                                                                                                                                                                     | ppm<br>ppm<br>scalar                                                                                                 | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual                                                                                                                                                                     | >50<br>>20<br>>0.2<br>NONE                                                                                                                                                                          | 14<br>2<br>NEG<br>NONE                                                                                                   |          | <br><br><br><br>     |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris                                                                                                                                                           | ppm<br>ppm<br>scalar<br>scalar                                                                                       | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual                                                                                                                                                          | >50<br>>20<br>>0.2<br>NONE<br>NONE                                                                                                                                                                  | 14<br>2<br>NEG<br>NONE<br>NONE                                                                                           |          | <br><br><br><br><br> |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt                                                                                                                                              | ppm<br>ppm<br>scalar<br>scalar<br>scalar                                                                             | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual                                                                                                                                                          | >50<br>>20<br>>0.2<br>NONE<br>NONE<br>NONE                                                                                                                                                          | 14<br>2<br>NEG<br>NONE<br>NONE<br>NONE                                                                                   |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance                                                                                                                                | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar                                                                   | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual                                                                                                                                    | >50<br>>20<br>>0.2<br>NONE<br>NONE<br>NONE<br>NORML                                                                                                                                                 | 14<br>2<br>NEG<br>NONE<br>NONE<br>NONE<br>NORML                                                                          |          | <br>                 |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water                                                                                                    | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar                                               | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual                                                                                                              | >50<br>>20<br>>0.2<br>NONE<br>NONE<br>NONE<br>NORML<br>NORML                                                                                                                                        | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORE<br>NORML<br>NEG                                                                   |          | <br><br><br><br>     |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium                                                                                          | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm                                        | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m                                                                                               | >50<br>>20<br>>0.2<br>NONE<br>NONE<br>NORML<br>NORML<br>>0.2                                                                                                                                        | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2                                                             |          | <br>                 |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron                                                                                 | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>gppm                                       | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m                                                                                | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> </ul>                                                                 | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0                                                        |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium                                                                       | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm                                 | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m                                                                                | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>7</li> </ul>                                       | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10                                                  |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium                                                                       | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm                          | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                                                                 | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>7</li> </ul>                                       | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10                                                  |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese                                            | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm                          | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                                                  | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>5</li> </ul>                                                     | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10<br>0<br>2                                        |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium                               | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                                              | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>7</li> <li>5</li> <li>40</li> </ul>                | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10<br>0<br>10<br>0<br><1<br>16                      |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Malybdenum<br>Manganese<br>Magnesium                               | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                               | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>7</li> <li>5</li> <li>40</li> <li>2650</li> </ul>                | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10<br>0<br><1<br>10<br>0<br><1<br>16<br>3486        |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium                    | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                    | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>37</li> <li>5</li> <li>40</li> <li>2650</li> <li>1050</li> </ul> | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10<br>0<br><1<br>10<br>0<br><1<br>16<br>3486<br>916 |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>37</li> <li>5</li> <li>40</li> <li>2650</li> <li>1050</li> <li>1075</li> </ul>  | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10<br>0<br><1<br>16<br>3486<br>916<br>1085          |          |                      |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium                    | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                    | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>37</li> <li>37</li> <li>5</li> <li>40</li> <li>2650</li> <li>1050</li> </ul> | 14<br>2<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>2<br>0<br>10<br>0<br><1<br>10<br>0<br><1<br>16<br>3486<br>916 |          |                      |

Submitted By: JASON GORGES



Ferrous Alloys 10 mdd 0 Apr16/24 lor. Non-ferrous Metals 10 lead mdo Viscosity @ 40°C 125 Ał 120 115 110 105 () 10 ) 55 95 9 85 80 Ab 75 70 Apr16/24 -Apr16/24



Lab Number : 06156340 Tested WICHITA, KS : 23 Apr 2024 Unique Number : 10991763 Diagnosed : 24 Apr 2024 - Sean Felton US 67213 Test Package : CONST Contact: RANDY ROBERTS Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. randy.roberts@sherwood.net \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (316)943-6491 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

: 22 Apr 2024

Laboratory

Sample No.

: WC0789833

Submitted By: JASON GORGES Page 2 of 2

SHERWOOD CONSTRUCTION CO INC

3219 WEST MAY ST

F: x: