

#### [Z20823] Machine Id KENWORTH T610 MEL390 (S/N 80130947) Component

Transmission

# VALVOLINE ALLFLEET 50 (14 LTR)

# RECOMMENDATION

Resample at the next service interval to monitor.

### **WEAR**

All component wear rates are normal.

# CONTAMINATION

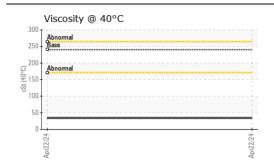
There is no indication of any contamination in the fluid.

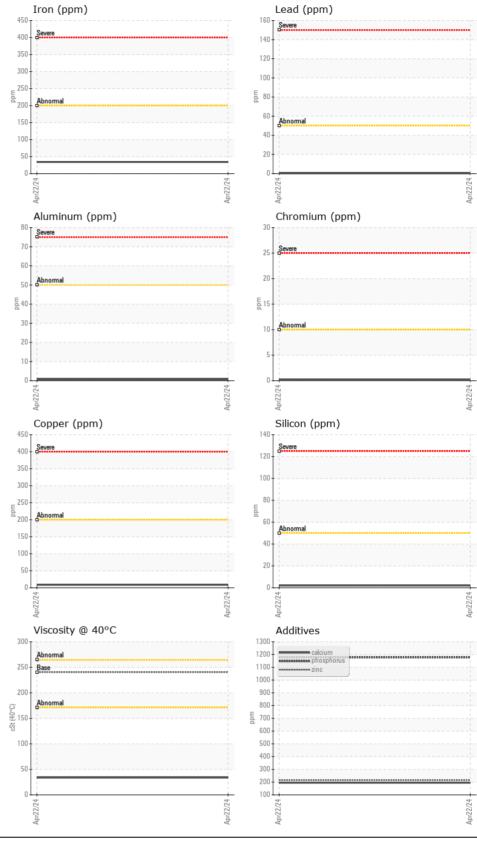
# FLUID CONDITION

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

| Test                                                                                                                                                                                                 | UOM                                                                                                    | Method                                                                                                                                                                                                                 | Limit/Abn                                                                                                             | Current                                                                                                               | History1 | History2             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------|----------------------|
| Sample Number                                                                                                                                                                                        |                                                                                                        | Client Info                                                                                                                                                                                                            |                                                                                                                       | WC06189872                                                                                                            |          |                      |
| Sample Date                                                                                                                                                                                          |                                                                                                        | Client Info                                                                                                                                                                                                            |                                                                                                                       | 22 Apr 2024                                                                                                           |          |                      |
| Machine Age                                                                                                                                                                                          | kms                                                                                                    | Client Info                                                                                                                                                                                                            |                                                                                                                       | 760669                                                                                                                |          |                      |
| Oil Age                                                                                                                                                                                              | kms                                                                                                    | Client Info                                                                                                                                                                                                            |                                                                                                                       | 118042                                                                                                                |          |                      |
| Filter Age                                                                                                                                                                                           | kms                                                                                                    | Client Info                                                                                                                                                                                                            |                                                                                                                       | 118042                                                                                                                |          |                      |
| Oil Changed                                                                                                                                                                                          |                                                                                                        | Client Info                                                                                                                                                                                                            |                                                                                                                       | Changed                                                                                                               |          |                      |
| Filter Changed                                                                                                                                                                                       |                                                                                                        | Client Info                                                                                                                                                                                                            |                                                                                                                       | N/A                                                                                                                   |          |                      |
| Sample Status                                                                                                                                                                                        |                                                                                                        |                                                                                                                                                                                                                        |                                                                                                                       | NORMAL                                                                                                                |          |                      |
| Iran                                                                                                                                                                                                 |                                                                                                        |                                                                                                                                                                                                                        | >200                                                                                                                  | 24                                                                                                                    |          |                      |
| Iron                                                                                                                                                                                                 | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            |                                                                                                                       | 34                                                                                                                    |          |                      |
| Chromium                                                                                                                                                                                             | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >10                                                                                                                   | <1                                                                                                                    |          |                      |
| Nickel                                                                                                                                                                                               | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            |                                                                                                                       | <1                                                                                                                    |          |                      |
| Titanium                                                                                                                                                                                             | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            |                                                                                                                       | <1                                                                                                                    |          |                      |
| Silver                                                                                                                                                                                               | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | 50                                                                                                                    | <1                                                                                                                    |          |                      |
| Aluminum                                                                                                                                                                                             | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >50                                                                                                                   | <1                                                                                                                    |          |                      |
| Lead                                                                                                                                                                                                 | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >50                                                                                                                   | <1                                                                                                                    |          |                      |
| Copper                                                                                                                                                                                               | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >200                                                                                                                  | 8                                                                                                                     |          |                      |
| Tin                                                                                                                                                                                                  | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >10                                                                                                                   | 0                                                                                                                     |          |                      |
| Vanadium                                                                                                                                                                                             | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | NONE                                                                                                                  | <1                                                                                                                    |          |                      |
| White Metal                                                                                                                                                                                          | scalar                                                                                                 | *Visual                                                                                                                                                                                                                | NONE                                                                                                                  | NONE                                                                                                                  |          |                      |
|                                                                                                                                                                                                      |                                                                                                        |                                                                                                                                                                                                                        |                                                                                                                       |                                                                                                                       |          |                      |
| Yellow Metal                                                                                                                                                                                         | scalar                                                                                                 | *Visual                                                                                                                                                                                                                | NONE                                                                                                                  | NONE                                                                                                                  |          |                      |
| Silicon                                                                                                                                                                                              | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >50                                                                                                                   | NONE<br>2                                                                                                             |          |                      |
|                                                                                                                                                                                                      |                                                                                                        |                                                                                                                                                                                                                        |                                                                                                                       |                                                                                                                       |          |                      |
| Silicon                                                                                                                                                                                              | ppm                                                                                                    | ASTM D5185m                                                                                                                                                                                                            | >50                                                                                                                   | 2                                                                                                                     | <br>     | <br>                 |
| Silicon<br>Potassium                                                                                                                                                                                 | ppm                                                                                                    | ASTM D5185m<br>ASTM D5185m                                                                                                                                                                                             | >50<br>>20                                                                                                            | 2<br>1                                                                                                                |          | <br><br>             |
| Silicon<br>Potassium<br>Water                                                                                                                                                                        | ppm<br>ppm                                                                                             | ASTM D5185m<br>ASTM D5185m<br>WC Method                                                                                                                                                                                | >50<br>>20<br>>0.1                                                                                                    | 2<br>1<br>NEG                                                                                                         |          | <br>                 |
| 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>>0.1<br>NONE                                                                                            | 2<br>1<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>>0.1<br>NONE<br>NONE                                                                                    | 2<br>1<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>>0.1<br>NONE<br>NONE<br>NONE                                                                            | 2<br>1<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>>0.1<br>NONE<br>NONE<br>NONE<br>NORML                                                                   | 2<br>1<br>NEG<br>NONE<br>NONE<br>NONE<br>NORML                                                                        |          | <br><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                                           | ASTM D5185m<br>ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual                                                                                                              | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORE<br>NORML                                                                        |          | <br><br>             |
| Silicon<br>Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor                                                                                                                   | ppm<br>ppm<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<br>ASTM D5185m                                                                                               | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1                                                           |          | <br><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>gpm<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                                                                                               | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239                                                    |          | <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<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;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0                                               |          | <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<br>Boron<br>Barium<br>Molybdenum                                                    | ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>gpm<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                                                                            | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1                                         |          |                      |
| 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                   | 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;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1<br><1                                   |          |                      |
| 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>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>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;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1<br><1<br><1<br>32                       |          |                      |
| 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>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>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;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1<br><1<br><1<br>32<br>195                |          |                      |
| 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        | 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;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1<br><1<br><1<br>32                       |          |                      |
| 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<br>Phosphorus | 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<br>ASTM D5185m<br>ASTM D5185m | <ul> <li>&gt;50</li> <li>&gt;20</li> <li>&gt;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1<br><1<br><1<br>32<br>195<br>1178<br>215 |          |                      |
| 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;0.1</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul> | 2<br>1<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>1<br>239<br>0<br><1<br><1<br>32<br>195<br>1178              |          |                      |

Contact/Location: STEVE FURSDON - ALLAUC





**ALLIED CONCRETE PENROSE** Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. Received : WC06189872 : 23 May 2024 Lab Number : 06189872 Tested AUCKLAND, : 30 May 2024 Unique Number : 11046624 Diagnosed : 30 May 2024 - Jonathan Hester NZ Test Package : MOB 1 Contact: STEVE FURSDON Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. steve.fursdon@hwr.co.nz T: \* - 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) F:

Contact/Location: STEVE FURSDON - ALLAUC Page 2 of 2