

WEAR NORMAL CONTAMINATION ABNORMAL FLUID CONDITION ATTENTION

Machine Id 015-0073 - TROLLEY Component Gearbox Fluid ISO 360 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material.

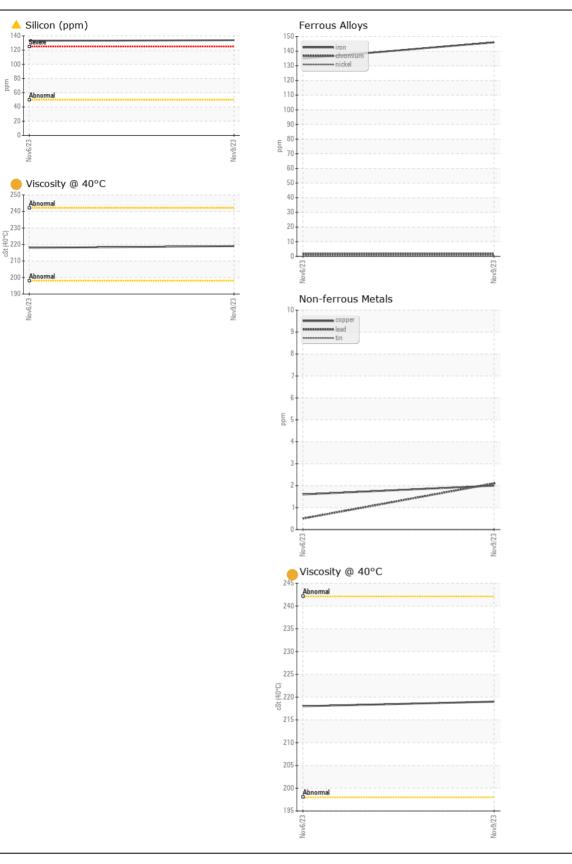
FLUID CONDITION

Viscosity of sample indicates oil is within ISO 220 range, advise investigate. Confirm oil type. The condition of the oil is acceptable for the time in service.

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| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|--|---|---|---|---|--|----------|
| Sample Number | | Client Info | | WC0750611 | WC0868361 | |
| Sample Date | | Client Info | | 09 Nov 2023 | 06 Nov 2023 | |
| Machine Age | hrs | Client Info | | 0 | 0 | |
| Oil Age | hrs | Client Info | | 0 | 0 | |
| Filter Age | hrs | Client Info | | 0 | 0 | |
| Oil Changed | | Client Info | | Not Changd | Not Changd | |
| Filter Changed | | Client Info | | Not Changd | Not Changd | |
| Sample Status | | | | ABNORMAL | ABNORMAL | |
| | | | | | | |
| Iron | ppm | ASTM D5185m | >200 | 146 | 135 | |
| Chromium | ppm | ASTM D5185m | >10 | 2 | 2 | |
| Nickel | ppm | ASTM D5185m | >10 | <1 | <1 | |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | |
| Silver | ppm | ASTM D5185m | | 0 | 0 | |
| Aluminum | ppm | ASTM D5185m | >25 | 2 | 2 | |
| Lead | ppm | ASTM D5185m | >50 | 2 | <1 | |
| Copper | ppm | ASTM D5185m | >200 | 2 | 2 | |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | |
| White Metal | scalar | *Visual | NONE | NONE | NONE | |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | |
| Silicon | ppm | ASTM D5185m | >50 | A 104 | 400 | |
| Potassium | | | 200 | 🔺 134 | 🔺 133 | |
| Folassium | ppm | ASTM D5185m | >20 | 3 | 3 | |
| Water | ppm | ASTM D5185m WC Method | | - | | |
| | ppm scalar | | >20 | 3 | 3 | |
| Water | | WC Method | >20 >0.2 | 3 NEG | 3 NEG | |
| Water Silt | scalar | WC Method *Visual | >20 >0.2 NONE | 3 NEG NONE | 3 NEG MODER | |
| Water Silt Debris | scalar scalar | WC Method *Visual *Visual | >20 >0.2 NONE NONE | 3 NEG NONE NONE | 3 NEG MODER NONE | |
| Water Silt Debris Sand/Dirt | scalar scalar scalar | WC Method *Visual *Visual *Visual | >20 >0.2 NONE NONE NONE | 3 NEG NONE NONE NONE | 3 NEG MODER NONE NONE | |
| Water Silt Debris Sand/Dirt Appearance | scalar scalar scalar scalar | WC Method *Visual *Visual *Visual *Visual | >20 >0.2 NONE NONE NONE | 3 NEG NONE NONE NONE NORML | 3 NEG MODER NONE NONE NORML | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water | scalar scalar scalar scalar scalar scalar | WC Method *Visual *Visual *Visual *Visual *Visual *Visual | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG | 3 NEG MODER NONE NORML NORML NEG | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium | scalar scalar scalar scalar scalar scalar scalar | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 | 3 NEG MODER NONE NORML NORML NEG 2 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron | scalar scalar scalar scalar scalar scalar ppm | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 | 3 NEG NONE NONE NORML NORML NEG 2 5 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium | scalar scalar scalar scalar scalar scalar ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 0 | 3 NEG MODER NONE NORML NORML NEG 2 5 0 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum | scalar scalar scalar scalar scalar scalar ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 | 3 NEG MODER NONE NORML NORML NEG 2 5 0 2 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese | scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 0 1 1 4 | 3 NEG NONE NONE NORML NORML NEG 2 5 0 2 5 0 2 3 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium | scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 0 1 4 4 | 3 NEG NONE NONE NORML NORML NEG 2 5 0 2 5 0 2 3 3 1 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium | scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML 2 6 0 1 4 1 2 2 | 3 NEG MODER NONE NORML NORML NEG 2 5 0 2 5 0 2 3 1 2 1 2 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium | scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 0 1 4 1 22 2 240 | 3 NEG NONE NONE NORML NORML NEG 2 5 0 2 5 0 2 3 1 2 1 21 233 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML 2 2 6 0 1 4 1 22 2 40 240 47 | 3 NEG NODER NONE NORML NORML NEG 2 5 0 2 5 0 2 3 1 2 1 21 21 233 45 | |
| Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium | scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm | WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | >20 >0.2 NONE NONE NORML NORML | 3 NEG NONE NONE NORML NORML NEG 2 6 0 1 4 1 22 2 240 | 3 NEG NONE NONE NORML NORML NEG 2 5 0 2 5 0 2 3 1 2 1 21 233 | |

Contact/Location: DANIEL LISELLA - AECCHATN



SHIMMICK CONSTRUCTION Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. Received : 21 Nov 2023 5535 TRAILHEAD DRIVE : WC0750611 Lab Number : 06014661 Tested : 23 Nov 2023 CHATTANOOGA, TN Unique Number : 10753805 Diagnosed : 24 Nov 2023 - Don Baldridge US 37415 Test Package : CONST Contact: DANIEL LISELLA Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. daniel.lisella@shimmick.com * - 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)

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Contact/Location: DANIEL LISELLA - AECCHATN Page 2 of 2

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