

# 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.

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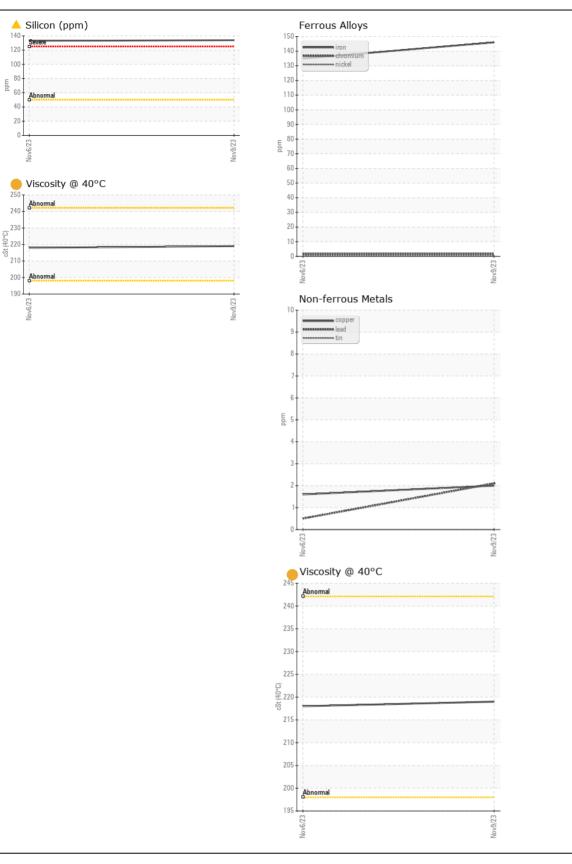
## FLUID CONDITION

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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