

## Machine Id HC2209 Component Gearbox Fluid GEAR OIL ISO 220 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

## WEAR

All component wear rates are normal.

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## CONTAMINATION

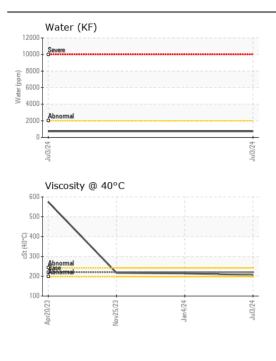
The water content is negligible. There is no indication of any contamination in the oil.

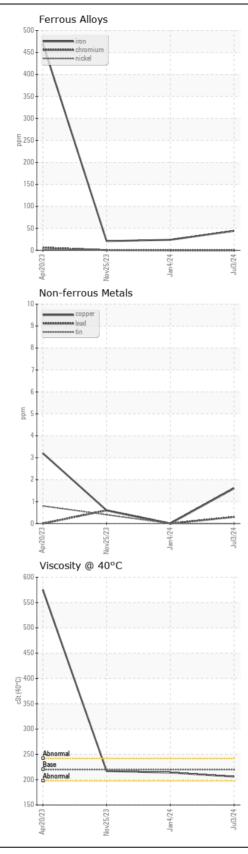
## **FLUID CONDITION**

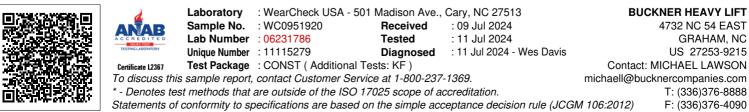
The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0951920	WC0867434	WC0823494
Sample Date		Client Info		03 Jul 2024	04 Jan 2024	25 Nov 2023
Machine Age	hrs	Client Info		10485	0	9513
Oil Age	hrs	Client Info		1000	0	521
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	ABNORMAL
			. 000		04	01
Iron	ppm	ASTM D5185m	>200	44	24	21
Chromium	ppm	ASTM D5185m	>10	0	0	<1
Nickel	ppm	ASTM D5185m	>10	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	► QE	0	0	0
Aluminum	ppm	ASTM D5185m	>25	7	3	3
Lead	ppm	ASTM D5185m	>50	<1	0	<1
Copper	ppm	ASTM D5185m	>200	2	0	<1
Tin	ppm	ASTM D5185m	>10	0	0	<1
Vanadium	ppm	ASTM D5185m	NONE			
White Metal	scalar	*Visual		NONE NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NUNE		NONE
Silicon	ppm	ASTM D5185m	>50	6	7	5
Silicon Potassium	ppm ppm		>50 >20			
		ASTM D5185m		6	7	5
Potassium	ppm	ASTM D5185m ASTM D5185m	>20	6 2	7 1	5 2
Potassium Water	ppm %	ASTM D5185m ASTM D5185m ASTM D6304	>20 >0.2	6 2 0.073	7 1 	5 2 
Potassium Water ppm Water	ppm % ppm	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304	>20 >0.2 >2000	6 2 0.073 730	7 1 	5 2 
Potassium Water ppm Water Silt	ppm % ppm scalar	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual	>20 >0.2 >2000 NONE	6 2 0.073 730 MODER	7 1  MODER	5 2  NONE
Potassium Water ppm Water Silt Debris	ppm % ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual	>20 >0.2 >2000 NONE NONE	6 2 0.073 730 MODER NONE	7 1  MODER NONE	5 2  NONE MODER
Potassium Water ppm Water Silt Debris Sand/Dirt	ppm % ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual	>20 >0.2 >2000 NONE NONE NONE	6 2 0.073 730 MODER NONE NONE	7 1  MODER NONE NONE	5 2  NONE MODER NONE
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance	ppm % ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual	>20 >0.2 >2000 NONE NONE NONE NORML	6 2 0.073 730 MODER NONE NONE NORML	7 1  MODER NONE NONE NORML	5 2  NONE MODER NONE NORML
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor	ppm % ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual	>20 >0.2 >2000 NONE NONE NONE NORML NORML	6 2 0.073 730 MODER NONE NONE NORML NORML	7 1  MODER NONE NONE NORML NORML	5 2  NONE MODER NONE NORML NORML
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm % ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual	>20 >0.2 >2000 NONE NONE NONE NORML NORML	6 2 0.073 730 MODER NONE NONE NORML NORML 0.2%	7 1  MODER NONE NONE NORML NORML NEG	5 2  NONE MODER NONE NORML NORML NORML NEG
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm % ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.2 >2000 NONE NONE NORML NORML >0.2	6 2 0.073 730 MODER NONE NONE NORML 0.2%	7 1  MODER NONE NONE NORML NORML NEG 0	5 2  NONE MODER NONE NORML NORML NEG
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm % ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m ASTM D5185m ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.2 >2000 NONE NORME NORML >0.2	6 2 0.073 730 MODER NONE NONE NORML 0.2% 1 <1	7 1  MODER NONE NONE NORML NORML NEG 0 3	5 2  NONE MODER NONE NORML NORML NEG 0 6
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm % ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.2 >2000 NONE NONE NORML >0.2 50 15	6 2 0.073 730 MODER NONE NONE NORML 0.2% 1 <1 <1 0	7 1  MODER NONE NONE NORML NORML NEG 0 3 0	5 2  NONE NONE NORML NORML NORML NEG 0 6 8
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm % ppm scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 >2000 NONE NONE NORML >0.2 50 15	6 2 0.073 730 MODER NONE NONE NORML 0.2% 1 <1 <1 0 0	7 1  MODER NONE NORML NORML NEG 0 3 0 0 3 0 0	5 2  NONE MODER NORML NORML NORML NEG 0 6 8 8 ( <1
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm % ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 >2000 NONE NORME NORML >0.2 50 15 15	6 2 0.073 730 MODER NONE NONE NORML 0.2% 1 <1 0 0 0 <1	7 1  MODER NONE NORML NORML NEG 0 3 0 0 3 0 0 2	5 2  NONE NORE NORML NORML NORML 0 6 8 8 4 2 1
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm % ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 >2000 NONE NONE NORML >0.2 50 15 15	6 2 0.073 730 MODER NONE NONE NORML 0.2% 1 <1 <1 0 0 <1 <1	7 1  MODER NONE NORML NORML NEG 0 3 0 0 3 0 0 2 1 0	5 2  NONE NONE NORML NORML NORML NEG 0 6 8 8 <1 <1 <1 1
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm % ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 >2000 NONE NONE NORML >0.2 50 15 15 50 50	6 2 0.073 730 MODER NONE NONE NORML 0.2% 1 <1 <1 0 0 <1 <1 1 1 1	7 1  MODER NONE NONE NORML NORML NORML 0 3 0 3 0 0 3 0 0 2 1 0 0 6	5 2  NONE NONE NORML NORML NORML NORML 0 6 8 2 4 4 5 7
Potassium Water ppm Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm % Scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2 50 15 15 50 50 50 350	6 2 0.073 730 MODER NONE NORE NORML 0.2% 1 <1 0 0 <1 <1 0 1 1 322	7 1  MODER NONE NORML NORML NEG 0 3 0 0 3 0 0 2 1 0 0 5 1 0 0 6 3 12	5 2  NONE NONE NORML NORML NORML 0 6 8 8 4 4 1 1 7 275

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