

Machine Id **427193** Component **2 Differential** Fluid **GEAR OIL SAE 80W90 (--- GAL)**

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The nickel level is abnormal. All other component wear rates are normal.

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (AI) indicate aluminasilicate (coarse dirt) ingress.

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		GFL0112039	GFL0085428	
Sample Date		Client Info		12 Apr 2024	20 Jun 2023	
Machine Age	mls	Client Info		338877	301654	
Oil Age	mls	Client Info		338877	301654	
Filter Age	mls	Client Info		338877	0	
Oil Changed		Client Info		Changed	Changed	
Filter Changed		Client Info		Changed	N/A	
Sample Status				ABNORMAL	ABNORMAL	
Iron	ppm	ASTM D5185m	>500	475	▲ 623 -	
Chromium	ppm	ASTM D5185m	>10	4	5	
Nickel	ppm	ASTM D5185m	>10	▲ 16	▲ 33	
Titanium	ppm	ASTM D5185m		1	<1	
Silver	ppm	ASTM D5185m		0	0	
Aluminum	ppm	ASTM D5185m	>25	24	63	
Lead	ppm	ASTM D5185m	>25	1	<1	
Copper	ppm	ASTM D5185m	>100	2	3	
Tin	ppm	ASTM D5185m	>10	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Vallow Matal		*\ /: 1	NIGNE			
	scalar	" visuai	NONE	NONE	NONE	
Silicon	ppm	ASTM D5185m	>75	NONE 68	176	
Silicon Potassium	ppm	ASTM D5185m	>75 >20	NONE 68 7	NONE ▲ 176 12	
Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>75 >20 >.2	NONE 68 7 NEG	NONE ▲ 176 12 NEG	
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>75 >20 >.2 NONE	NONE 68 7 NEG LIGHT	NONE 176 12 NEG NONE	
Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>75 >20 >.2 NONE NONE	NONE 68 7 NEG LIGHT NONE	NONE 176 12 NEG NONE NONE	
Silicon Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual	>75 >20 >.2 NONE NONE NONE	NONE 68 7 NEG LIGHT NONE NONE	NONE 176 12 NEG NONE NONE NONE	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	scalar ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>75 >20 >.2 NONE NONE NORE	NONE 68 7 NEG LIGHT NONE NONE NORE	NONE 176 12 NEG NONE NONE NONE NORE	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	>75 >20 >.2 NONE NONE NORML NORML	NONE 68 7 NEG LIGHT NONE NONE NORML NORML	NONE 176 12 NEG NONE NONE NONE NORML NORML	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>75 >20 >.2 NONE NONE NONE NORML NORML >.2	NONE 68 7 NEG LIGHT NONE NONE NORML NEG	NONE 176 12 NEG NONE NONE NONE NONE NORML NORML NEG	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	scalar ppm ppm scalar scalar scalar scalar scalar scalar gcalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	 >75 >20 >.2 NONE NONE NORML >.2 >170 	NONE 68 7 NEG LIGHT NONE NONE NORML NORML NEG 0	NONE 176 12 NEG NONE NONE NONE NORML NORML NEG 3	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>75 >20 >.2 NONE NONE NORML NORML >.2 >170 400	NONE 68 7 NEG LIGHT NONE NONE NORML NORML NEG 0 49	NONE 176 12 NEG NONE NONE NONE NORML NORML NEG 3 165	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>75 >20 >.2 NONE NONE NONE NORML >.2 >170 400 200	NONE 68 7 NEG LIGHT NONE NONE NORML NEG 0 49 2	NONE 176 12 NEG NONE NONE NONE NORML NORML NEG 3 165 0	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >.2 NONE NONE NORML NORML >.2 >170 400 200 12	NONE 68 7 NEG LIGHT NONE NORML NORML NEG 0 49 2 2 2	NONE 176 12 NEG NONE NONE NONE NORML NORML NEG 3 165 0 0	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NONE NORML >.2 >170 400 200 12 	NONE 68 7 NEG LIGHT NONE NORML NORML NEG 0 49 2 2 2 6	NONE 176 12 NEG NONE NONE NORML NORML NEG 3 165 0 0 11	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NONE NORML NORML >.2 >170 400 200 12 12 	NONE 68 7 NEG LIGHT NONE NONE NORML NEG 0 49 2 2 2 6 4	NONE 176 12 NEG NONE NONE NONE NORML NORML NEG 3 165 0 0 11 5	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NONE NORML NORML >.2 >170 400 200 12 12 150 	NONE 68 7 NEG LIGHT NONE NORML NORML NEG 0 49 2 2 2 6 4 89	NONE 176 12 NEG NONE NONE NORML NORML NEG 3 165 0 0 11 5 42	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NONE NORML NORML >.2 >170 400 200 12 12 150 1650 	NONE 68 7 NEG LIGHT NONE NORML NORML NEG 0 49 2 2 6 4 89 413	NONE 176 12 NEG NONE NONE NORML NORML NEG 3 165 0 0 11 5 42 1204	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NONE NORML NORML >.2 >170 400 200 12 150 125 125 	NONE 68 7 NEG LIGHT NONE NORE NORML NEG 0 49 2 2 2 6 4 89 413 250	NONE 176 12 NEG NONE NONE NONE NORML NORML NEG 3 165 0 0 11 5 42 1204 42	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NONE NORML NORML >.2 >170 400 200 12 120 1650 125 22500 	NONE 68 7 NEG LIGHT NONE NORML NORML NEG 0 49 2 2 6 4 89 413 250 4434	NONE 176 12 NEG NONE NONE NORML NORML NEG 3 165 0 11 5 42 1204 42 23131	

WEAR

CONTAMINATION

FLUID CONDITION

ABNORMAL

ABNORMAL

NORMAL

Submitted By: TECHNICIAN ACCOUNT



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 983 - Sugar Land Hauling Sample No. Received 16011 West Belfort Street : GFL0112039 : 18 Apr 2024 Lab Number : 06153536 Tested Sugar Land, TX : 19 Apr 2024 Unique Number : 10983614 Diagnosed : 22 Apr 2024 - Sean Felton US 77498 Test Package : FLEET Contact: TECHNICIAN ACCOUNT Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wcgfldemo@gmail.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Submitted By: TECHNICIAN ACCOUNT Page 2 of 2