

#### Machine Id HITACHI HCMDFD60T00700147 Component Right Final Drive Fluid JOHN DEERE GL-5 80W90 (2 GAL)

### RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

#### **WEAR**

Gear wear is indicated.

# CONTAMINATION

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

## FLUID CONDITION

The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0226533	JR0211130	JR0182098
Sample Date		Client Info		12 Jul 2024	29 Mar 2024	11 Aug 2023
Machine Age	hrs	Client Info		7377	6922	6441
Oil Age	hrs	Client Info		5425	5451	5461
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		None	None	N/A
Sample Status				SEVERE	SEVERE	SEVERE
PQ		ASTM D8184		1691	<u> </u>	1471
Iron	ppm	ASTM D5185m	>500	<b>A</b> 7013	<b>6</b> 219	▲ 5919
Chromium	ppm	ASTM D5185m	>10	<b>4</b> 9	<b>4</b> 8	42
Nickel	ppm	ASTM D5185m	>10	<b>1</b> 1	<b>4</b> 24	12
Titanium	ppm	ASTM D5185m		40	42	45
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	9 304	9302	324
Lead	ppm	ASTM D5185m	>25	<1	<1	<1
Copper	ppm	ASTM D5185m	>50	15	13	13
Tin	ppm	ASTM D5185m	>10	0	2	<1
Vanadium	ppm	ASTM D5185m		2	2	2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
			NIGNE			
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	scalar ppm	*Visual ASTM D5185m	>75	NONE	NONE	NONE
Yellow Metal Silicon Potassium	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m	>75 >20	NONE  1880 60	NONE ▲ 1880 60	NONE ▲ 2061 68 NEC
Yellow Metal Silicon Potassium Water	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method	>75 >20 >0.2	NONE  1880  60  NEG  NONE	NONE ▲ 1880 60 NEG	<ul> <li>NONE</li> <li>2061</li> <li>68</li> <li>NEG</li> </ul>
Yellow Metal Silicon Potassium Water Silt	scalar ppm ppm scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual	>75 >20 >0.2 NONE	NONE  1880 60 NEG NONE NONE	NONE ▲ 1880 60 NEG NONE	NONE ▲ 2061 68 NEG NONE
Yellow Metal Silicon Potassium Water Silt Debris	scalar ppm ppm scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>75 >20 >0.2 NONE NONE	NONE 1880 60 NEG NONE NONE	NONE ▲ 1880 60 NEG NONE NONE	▲ 2061 68 NEG NONE NONE
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt	scalar ppm ppm scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NONE	NONE 1880 60 NEG NONE NONE NONE NONE	NONE 1880 60 NEG NONE NONE NONE	<ul> <li>▲ 2061</li> <li>68</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> </ul>
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance	scalar ppm ppm scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NONE NORML	NONE 1880 60 NEG NONE NONE NONE NONE NONE NORML	NONE 1880 60 NEG NONE NONE NONE NONE NONE NORML	NONE 2061 68 NEG NONE NONE NONE NONE NORML
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	scalar ppm ppm scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NONE NORML	NONE 1880 60 NEG NONE NONE NONE NONE NORML NORML	NONE 1880 60 NEG NONE NONE NONE NONE NORML NORML	NONE 2061 68 NEG NONE NONE NONE NONE NORML NORML
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar ppm ppm scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 1880 60 NEG NONE NONE NONE NONE NORML NORML NEG	NONE 1880 60 NEG NONE NONE NONE NORML NORML NEG	NONE 2061 68 NEG NONE NONE NONE NORML NORML NEG
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	scalar ppm ppm scalar scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 1880 60 NEG NONE NONE NONE NORML NORML NEG 7	NONE 1880 60 NEG NONE NONE NONE NORML NORML NEG 10	NONE 2061 68 NEG NONE NONE NONE NORML NORML NEG 11
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 1880 60 NEG NONE NONE NONE NORML NORML NEG 7 28	NONE 1880 60 NEG NONE NONE NORML NORML NEG 10 26	NONE 2061 68 NEG NONE NONE NORML NORML NEG 11 22
Yellow Metal 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	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 1880 60 NEG NONE NONE NORE NORML NEG 7 28 0	NONE 1880 60 NEG NONE NONE NORML NORML NEG 10 26 2	NONE 2061 68 NEG NONE NONE NONE NONE NORML NEG 11 22 0
Yellow Metal 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	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >0.2 NONE NORME NORML >0.2	NONE 1880 60 NEG NONE NONE NORML NORML NEG 7 28 0 6	NONE 1880 60 NEG NONE NONE NORML NORML NEG 10 26 2 5	NONE 2061 68 NEG NONE NONE NONE NORML NORML NEG 11 22 0 5
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75           >20           >0.2           NONE           NONE           NORML           >0.2	NONE 1880 60 NEG NONE NONE NORML NORML NEG 7 28 0 6 54	NONE 1880 60 NEG NONE NONE NORML NORML NEG 10 26 2 5 48	NONE 2061 68 NEG NONE NONE NONE NORML NORML 11 22 0 5 46
Yellow Metal 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 scalar ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75           >20           >0.2           NONE           NONE           NORML           >0.2	NONE 1880 60 NEG NONE NONE NORE NORML NEG 7 28 0 6 54 37	NONE 1880 60 NEG NONE NONE NORE NORML NEG 10 26 2 5 48 42	NONE 2061 68 NEG NONE NONE NONE NONE NORML NEG 11 22 0 5 46 45
Yellow Metal 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	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75           >20           >0.2           NONE           NONE           NORML           NORML           >0.2	NONE 1880 60 NEG NONE NONE NORE NORML NEG 7 28 0 6 54 37 45	NONE 1880 60 NEG NONE NONE NORML NORML NEG 10 26 2 5 48 42 62	NONE 2061 68 NEG NONE NONE NONE NORML NORML 11 22 0 5 46 45 122
Yellow Metal 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	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >0.2 NONE NORME NORML >0.2	NONE 1880 60 NEG NONE NONE NORE NORML NEG 7 28 0 6 54 37 45 327	NONE 1880 60 NEG NONE NONE NORML NEG 10 26 2 5 48 42 62 322	NONE 2061 68 NEG NONE NONE NONE NORML NORML NEG 11 22 0 5 46 45 122 382
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	*Visual 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	>75         >20         >0.2         NONE         NONE         NORML         >0.2	NONE 1880 60 NEG NONE NONE NORE NORML NEG 7 28 0 6 54 37 45 327 18	NONE 1880 60 NEG NONE NONE NORE NORML NEG 10 26 2 5 48 42 62 322 14	NONE 2061 68 NEG NONE NONE NONE NORML NEG 11 22 0 5 46 45 122 382 27
Yellow Metal 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 ppm	*Visual 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	>75           >20           >0.2           NONE           NONE           NORML           NORML           >0.2	NONE 1880 60 NEG NONE NONE NORE NORML NEG 7 28 0 6 54 37 45 327 18 17383	NONE 1880 60 NEG NONE NONE NORML NORML NEG 10 26 2 5 48 42 62 322 14 20361	NONE 2061 68 NEG NONE NONE NONE NORML NORML NEG 11 22 0 5 46 45 122 382 27 20465

Submitted By: TECHNICIAN ACCOUNT



: JR0226533 : 15 Jul 2024 9102 OWENS DR Sample No. Received Lab Number : 06236410 : 16 Jul 2024 MANASSAS PARK, VA Tested Unique Number : 11125244 : 17 Jul 2024 - Sean Felton US 20111 Diagnosed Test Package : CONST (Additional Tests: PQ) Contact: EDDIE GARRETSON Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. egarretson@strittmattercompanies.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (703)335-2255 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (703)335-8095

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