

#### Machine Id HITACHI 210-6 1ffdc571jmf341002 Component Left Final Drive Fluid JOHN DEERE GL-5 80W90 (--- 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 is no longer serviceable due to the presence of contaminants.

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	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		JR0205128	JR0204981	JR0182605
	Sample Date		Client Info		11 Apr 2024	19 Mar 2024	24 Aug 2023
	Machine Age	hrs	Client Info		2925	2924	2007
	Oil Age	hrs	Client Info		0	0	0
	Filter Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		Not Changd	N/A	N/A
	Filter Changed		Client Info		N/A	N/A	N/A
	Sample Status				SEVERE	SEVERE	SEVERE
	PQ		ASTM D8184	>1250	612	1220	1132
	Iron	ppm	ASTM D5185m	>750	▲ 3030	▲ 2321	▲ 3385
	Chromium	ppm	ASTM D5185m	>9	▲ 27	▲ 21	▲ 38
	Nickel	ppm	ASTM D5185m	>10	7	4	7
	Titanium	ppm	ASTM D5185m		12	15	, 11
	Silver	ppm	ASTM D5185m		0	0	0
	Aluminum	ppm	ASTM D5185m	>40	<b>120</b>	133	119
	Lead	ppm	ASTM D5185m	>15	1	0	0
	Copper	ppm	ASTM D5185m	>40	6	4	8
	Tin	ppm	ASTM D5185m	>10	1	0	<1
	Vanadium	ppm	ASTM D5185m		2	<1	2
	White Metal	scalar	*Visual	NONE	NONE	NONE	MODER
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
			Violaal	1 CILL			
	Silicon	ppm	ASTM D5185m	>75	<b>▲</b> 693	<b>▲</b> 628	<b>▲</b> 728
	Potassium		ASTM D5185m ASTM D5185m	>75 >20	▲ 693 27	▲ 628 13	<ul><li>728</li><li>38</li></ul>
	Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>75 >20 >0.075	▲ 693 27 NEG	▲ 628 13 NEG	<ul> <li>728</li> <li>38</li> <li>NEG</li> </ul>
	Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>75 >20 >0.075 NONE	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> </ul>
	Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>75 >20 >0.075 NONE NONE	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> </ul>
	Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>75 >20 >0.075 NONE NONE NONE	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>75 >20 >0.075 NONE NONE NONE NORML	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>
	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 >0.075 NONE NONE NONE NORML	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul>
     	Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>75 >20 >0.075 NONE NONE NONE NORML	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>
	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 >0.075 NONE NONE NONE NORML	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> </ul>
       	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NEG</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> </ul>
       	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	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 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> <li>10</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> <li>&lt;1</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> <li>2</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> <li>10</li> <li>26</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> <li>&lt;1</li> <li>20</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> <li>2</li> <li>35</li> </ul>
	Potassium 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 WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> <li>10</li> <li>26</li> <li>45</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> <li>&lt;1</li> <li>20</li> <li>17</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> <li>2</li> <li>35</li> <li>11</li> </ul>
	Potassium 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 ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> <li>10</li> <li>26</li> <li>45</li> <li>51</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> <li>&lt;1</li> <li>20</li> <li>17</li> <li>23</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> <li>2</li> <li>35</li> <li>11</li> <li>50</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm pm scalar scalar scalar scalar scalar ppm 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	>75 >20 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> <li>10</li> <li>26</li> <li>45</li> <li>51</li> <li>700</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> <li>&lt;1</li> <li>20</li> <li>17</li> <li>23</li> <li>589</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> <li>2</li> <li>35</li> <li>11</li> <li>50</li> <li>550</li> </ul>
	Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm scalar scalar scalar scalar scalar ppm ppm 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 >0.075 NONE NONE NORML NORML >0.075	<ul> <li>693</li> <li>27</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>15</li> <li>44</li> <li>3</li> <li>10</li> <li>26</li> <li>45</li> <li>51</li> <li>700</li> <li>48</li> </ul>	<ul> <li>628</li> <li>13</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>10</li> <li>33</li> <li>2</li> <li>41</li> <li>20</li> <li>17</li> <li>23</li> <li>589</li> <li>14</li> <li>21805</li> <li>151</li> </ul>	<ul> <li>728</li> <li>38</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>20</li> <li>94</li> <li>5</li> <li>2</li> <li>35</li> <li>11</li> <li>50</li> <li>550</li> <li>51</li> </ul>



