

## Machine Id **5051** Component **Right Final Drive** Fluid **{not provided} (--- GAL)**

RECOMMENDATION

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We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

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The chromium 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 oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	Historv1	Historv2
Sample Number		Client Info		JR0221832	JR0195532	JR0195083
Sample Date		Client Info		17 Jun 2024	16 Feb 2024	30 Nov 2023
Machine Age	hrs	Client Info		2469	1772	1389
Oil Age	hrs	Client Info		2000	500	500
Filter Age	hrs	Client Info		2000	500	500
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	ABNORMAL	NORMAL
PQ		ASTM D8184		36	37	15
Iron	ppm	ASTM D5185m	>500	189	118	70
Chromium	ppm	ASTM D5185m	>10	<b>1</b> 6	8	8
Nickel	ppm	ASTM D5185m	>10	1	1	0
Titanium	ppm	ASTM D5185m		6	4	<1
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>8</b> 4	47	10
Lead	ppm	ASTM D5185m	>25	<1	<1	0
Copper	ppm	ASTM D5185m	>50	<1	1	0
Tin	ppm	ASTM D5185m	>10	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Mallan, Mastel						
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	scalar	*Visual	NONE	NONE	NONE	NONE 38
Silicon Potassium	scalar ppm	*Visual ASTM D5185m ASTM D5185m	>75	NONE  223 24	NONE 135	38 0
Silicon Potassium Water	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method	>75 >20 >0.2	NONE  223 24 NEG	NONE 135 13 NFG	38 0 NEG
Silicon Potassium Water Silt	scalar ppm ppm scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual	<ul> <li>&gt;75</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> </ul>	NONE 223 24 NEG NONE	NONE 135 13 NEG NONE	38 0 NEG NONE
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 223 24 NEG NONE NONE	NONE 135 13 NEG NONE NONE	38 0 NEG NONE NONE
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 223 24 NEG NONE NONE NONE	NONE 135 13 NEG NONE NONE NONE	38 0 NEG NONE NONE NONE
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	NONE 223 24 NEG NONE NONE NONE NONE NONE	NONE 135 13 NEG NONE NONE NONE NONE NONE	NONE 38 0 NEG NONE NONE NONE NONE NONE
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	NONE >75 >20 >0.2 NONE NONE NONE NORML	NONE 223 24 NEG NONE NONE NONE NONE NORML NORML	NONE 135 13 NEG NONE NONE NONE NONE NORML NORML	NONE 38 0 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	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	NONE >75 >20 >0.2 NONE NONE NORME NORML >0.2	NONE 223 24 NEG NONE NONE NONE NORE NORML NEG	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG	NONE 38 0 NEG NONE NONE NONE NORML NORML NEG
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	NONE >75 >20 >0.2 NONE NONE NORME NORML >0.2	NONE 223 24 NEG NONE NONE NONE NORML NORML NEG	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG	NONE 38 0 NEG NONE NONE NORML NORML NEG
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	scalar ppm scalar scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NONE NORML >0.2	NONE 223 24 NEG NONE NONE NORE NORML NEG 14	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG <1	NONE 38 0 NEG NONE NONE NORE NORML NEG 2
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	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	NONE >75 >20 >0.2 NONE NONE NONE NORML >0.2	NONE 223 24 NEG NONE NONE NONE NORML NORML NEG 14 0	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG <1 1 </</th <th>NONE 38 0 NEG NONE NONE NORML NORML NEG 2 0</th>	NONE 38 0 NEG NONE NONE NORML NORML NEG 2 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar ppm scalar scalar scalar scalar scalar scalar scalar ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 223 24 NEG NONE NONE NONE NORML NORML NEG 14 0 <1	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG <1 5	NONE 38 0 NEG NONE NONE NORML NORML NEG 2 0 0 0
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 223 24 NEG NONE NONE NONE NORML NORML NEG 14 0 <1 3	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG <1 <1 5 2	NONE 38 0 NEG NONE NONE NONE NORML NEG 2 0 0 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar ppm 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	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 223 24 NEG NONE NONE NORE NORML NEG 14 0 <1 3 4	NONE 135 13 NEG NONE NONE NORML NORML NEG <1 <1 5 2 3	38         0         NEG         NONE         NONE         NONE         NORML         NORML         NORML         NEG         2         0         0         <1
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 223 24 NEG NONE NONE NORML NORML NEG 14 0 <1 3 4 23	NONE 13 13 NEG NONE NONE NORML NORML NEG <1 <1 <1 5 2 3 8	38         0         NEG         NONE         NONE         NORML         NORML         NEG         2         0         <1         <1         2         1         2
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	NONE >75 >20 >0.2 NONE NONE NONE NORML NORML >0.2	NONE 223 24 NEG NONE NONE NORE NORML NEG 14 0 <1 3 4 23 177	NONE 135 13 NEG NONE NONE NONE NONE NORML NEG <1 <1 5 2 3 8 92	38         0         NEG         NONE         NONE         NONE         NORML         NORML         NORML         NORML         0         2         0            2         0                  2         0 </th
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML >0.2	NONE 223 24 NEG NONE NONE NONE NORML NEG 14 0 <1 3 4 23 177 146	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG <1 <1 5 2 3 8 92 102	38         0         NEG         NONE         NONE         NONE         NORML         NORML         NORML         NORML         NORML         0         2         0         0         <1         2         101         189
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 *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 NONE NONE NONE NORML NORML >0.2	NONE 223 24 NEG NONE NONE NORML NORML NEG 14 0 <1 3 4 23 177 146 70	NONE 135 13 NEG NONE NONE NORML NORML NEG <1 <1 5 2 3 8 92 102 31	38         0         NEG         NONE         NONE         NORML         NORML         NORML         NEG         2         0         <1         2         101         189         140
Yeilow Metai Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	scalar ppm scalar scalar scalar scalar scalar scalar 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 ASTM D5185m	NONE >75 >20 >0.2 NONE NORME NORML >0.2	NONE 223 24 NEG NONE NONE NORML NORML NEG 14 0 <1 3 4 23 177 146 70 863	NONE 135 13 NEG NONE NONE NONE NORML NORML NEG 1 </1 </1 </1 </1 </1 </1 </1 </1 </1</th <th>38         0         NEG         NONE         NONE         NORML         NORML         NORML         NEG         2         0         &lt;11         2         101         189         140         1478</th>	38         0         NEG         NONE         NONE         NORML         NORML         NORML         NEG         2         0         <11         2         101         189         140         1478

Submitted By: BRANDON STEVENS



: WearCheck USA - 501 Madison Ave., Cary, NC 27513 PATRIOT DEVELOPMENT CORP Laboratory Sample No. : JR0221832 Received : 21 Jun 2024 22721 LADBROOK DRIVE STE 120 Lab Number : 06217094 Tested STERLING, VA : 24 Jun 2024 Unique Number : 11089958 Diagnosed : 24 Jun 2024 - Sean Felton US 20166 Test Package : CONST (Additional Tests: PQ) Contact: ROBERT MOSS Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. robert.moss@patriotdev.net \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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