

Machine Id JOHN Component Rear D Fluid JOHN

JOHN DEERE 310E 1DW310EXTKF697898

Rear Differential

JOHN DEERE HY-GARD HYD/TRANS (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

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Bearing and/or bushing wear is indicated.

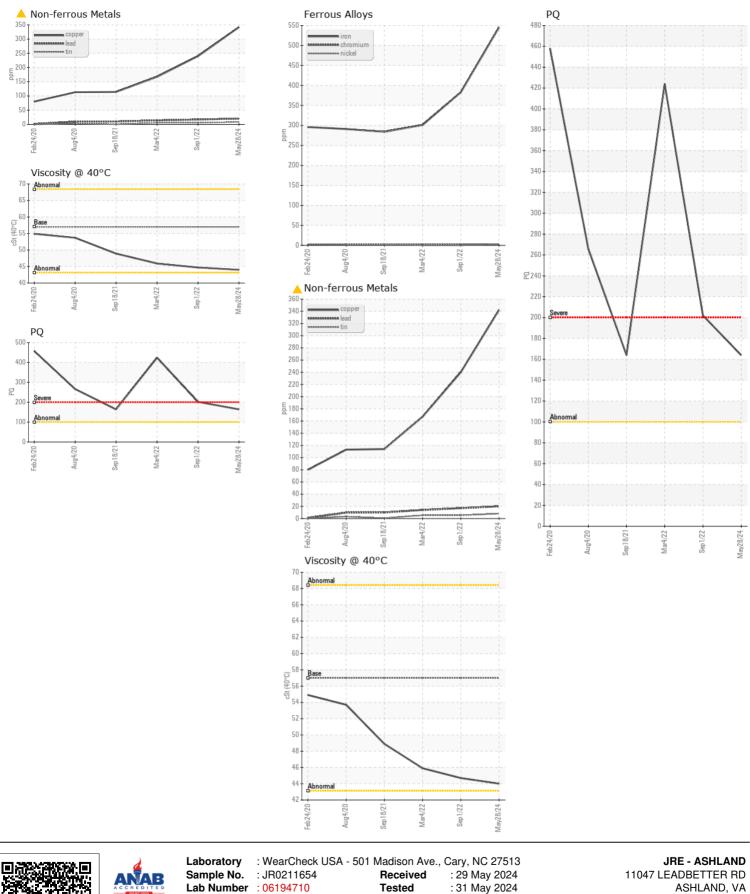
CONTAMINATION

There is no indication of any contamination in the oil.

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

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0211654	JR0135954	JR0110276
Sample Date		Client Info		28 May 2024	01 Sep 2022	04 Mar 2022
Machine Age	hrs	Client Info		4359	3515	2957
Oil Age	hrs	Client Info		4359	1468	910
Filter Age	hrs	Client Info		4359	558	910
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
PQ		ASTM D8184		164	202	424
Iron	ppm	ASTM D5185m	>500	545	383	301
Chromium	ppm	ASTM D5185m	>10	2	2	1
Nickel	ppm	ASTM D5185m	>10	2	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	<1	<1
Aluminum	ppm	ASTM D5185m	>25	1	2	2
Lead	ppm	ASTM D5185m	>25	20	17	14
Copper	ppm	ASTM D5185m	>100	4 342	4 240	1 67
Tin	ppm	ASTM D5185m	>10	8	5	5
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	MODER	MODER
 Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
 Silicon	ppm	ASTM D5185m	>75	NONE 15	NONE 13	NONE 12
 Silicon	ppm	ASTM D5185m	>75	15	13	12
 Silicon Potassium	ppm	ASTM D5185m ASTM D5185m	>75 >20	15 2	13 2	12 0
 Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>75 >20 >.2	15 2 NEG	13 2 NEG	12 0 NEG
 Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>75 >20 >.2 NONE	15 2 NEG NONE	13 2 NEG NONE	12 0 NEG NONE
 Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>75 >20 >.2 NONE NONE	15 2 NEG NONE NONE	13 2 NEG NONE NONE	12 0 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	15 2 NEG NONE NONE NONE	13 2 NEG NONE NONE NONE	12 0 NEG NONE NONE NONE
 Silicon 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 >.2 NONE NONE NONE NORML	15 2 NEG NONE NONE NONE NORML	13 2 NEG NONE NONE NONE NORML	12 0 NEG NONE NONE NONE NORML
 Silicon 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 >.2 NONE NONE NONE NORML NORML	15 2 NEG NONE NONE NONE NORML NORML NEG	13 2 NEG NONE NONE NONE NORML NORML NEG	12 0 NEG NONE NONE NORML NORML NEG
 Silicon 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 >.2 NONE NONE NORML NORML >.2	15 2 NEG NONE NONE NORML NORML NEG 3	13 2 NEG NONE NONE NORML NORML NEG 2	12 0 NEG NONE NONE NORML NORML NEG 0
 Silicon 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 >.2 NONE NONE NORML >.2	15 2 NEG NONE NONE NORML NORML NEG 3 61	13 2 NEG NONE NONE NORML NORML NEG 2 57	12 0 NEG NONE NONE NORML NORML NEG 0 55
 Silicon 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 >.2 NONE NONE NORML NORML >.2	15 2 NEG NONE NONE NORML NORML NEG 3 61 3	13 2 NEG NONE NONE NORML NORML NEG 2 57 0	12 0 NEG NONE NONE NORML NORML NEG 0 55 0
 Silicon Potassium Water Silt Debris Sand/Dirt Sand/Dirt Appearance Odor Emulsified Water Sodium 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 >.2 NONE NONE NORML >.2	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 2	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 2
 Silicon 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 >.2 NONE NONE NORML NORML >.2 6 0	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 61 3 2 11	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2 8	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 2 7
 Silicon 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 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 6 0 0 0	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 2 11 59	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2 57 0 2 8 8	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 2 2 7 60
 Silicon Potassium Water Silt Debris Sand/Dirt Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium	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	 >75 >20 >.2 NONE NORME NORML >.2 6 0 0 145 3570 	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 2 11 59 3350	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2 57 0 2 8 54 3363	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 2 7 60 3389
 Silicon Potassium Water Silt Debris Sand/Dirt Sand/Dirt Appearance Odor Emulsified Water Sodium 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 >.2 NONE NONE NORM NORM >.2 6 0 0 0 145 3570 1290	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 61 3 2 11 59 3350 1171	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2 57 0 2 8 57 0 2 3363 1063	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 55 0 2 7 60 3389 1055
 Silicon Potassium Vater Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Sodium Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm pm 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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >75 >20 >.2 NONE NORME NORML >.2 6 0 0 145 3570 	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 2 11 59 3350 1171 1354	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2 57 0 2 57 0 2 57 3 3 54 3363 1063 1315	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 22 7 60 3389 1055 1260
 Silicon Potassium Water Silt Debris Sand/Dirt Sand/Dirt Appearance Odor Emulsified Water Sodium 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 >.2 NONE NONE NORM NORM >.2 6 0 0 0 145 3570 1290	15 2 NEG NONE NONE NORML NORML NEG 3 61 3 61 3 2 11 59 3350 1171	13 2 NEG NONE NONE NORML NORML NEG 2 57 0 2 57 0 2 8 57 0 2 3363 1063	12 0 NEG NONE NONE NORML NORML NEG 0 55 0 55 0 2 7 60 3389 1055



 Sample No.
 : JR0211654
 Received
 : 29 May 2024
 11047 LEADBETTER RD

 Lab Number
 : 06194710
 Tested
 : 31 May 2024
 ASHLAND, VA

 Unique Number
 : 11056833
 Diagnosed
 : 31 May 2024 - Don Baldridge
 US 23005

 Certificate L337
 Test Package
 : CONST (Additional Tests: PQ)
 Contact: DAVID ZIEG

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 dzieg@jamesriverequipment.com

 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 T: (804)798-6001

 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)
 F: (804)798-0292