

# WEAR ABNORMAL CONTAMINATION SEVERE FLUID CONDITION NORMAL

Current

LEC0045886

12 Jan 2024

Changed

5013

717

0

History1

26 May 2023

Changed

4296

642

0

History2

02 Dec 2022

Changed

3654

590

0

LEC0040313 LEC0035054



#### Area Store 4 - Fairmont [145965] Machine Id JOHN DEERE 350G 1FF350GXKHF812003 Component Right Propel Gearbox

Test

Sample Number

Sample Date

Machine Age

Oil Age

Filter Age

Oil Changed

UOM

hrs

hrs

hrs

Method

Client Info

**Client Info** 

Client Info

**Client Info** 

Client Info

Client Info

Limit/Abn

JOHN DEERE HY-GARD HYD/TRANS (2 GAL)

## RECOMMENDATION

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.

#### WEAR

Gear wear is indicated.

### CONTAMINATION

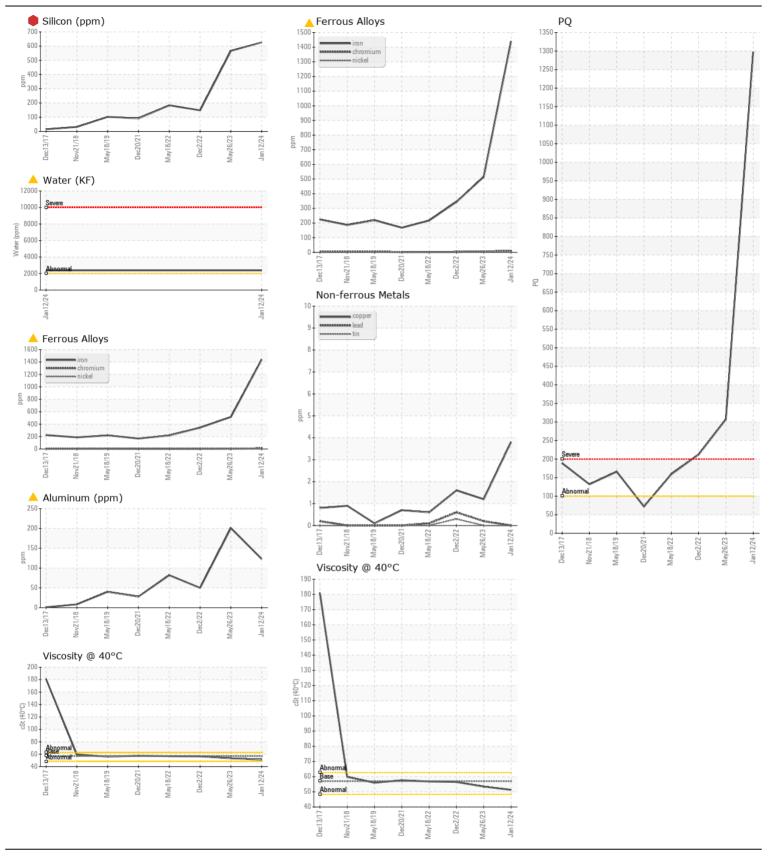
Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress. There is a light concentration of water present in the oil.

Sample StatusSEVERESEVERESEVEREABNORMALPQASTM D81841297307212IronppmASTM D5185m>101439515344ChromiumppmASTM D5185m>10230TitaniumppmASTM D5185m>10230SilverppmASTM D5185m11114SilverppmASTM D5185m12320150LeadppmASTM D5185m412TinppmASTM D5185m412TinppmASTM D5185m412VanadiumppmASTM D5185m </th <th>Filter Changed</th> <th></th> <th>Client Info</th> <th></th> <th>N/A</th> <th>N/A</th> <th>N/A</th>	Filter Changed		Client Info		N/A	N/A	N/A
Iron   ppm   ASTM D5185m   >1250   1439   515   344     Chromium   ppm   ASTM D5185m<>10   A 11   4   3     Nickel   ppm   ASTM D5185m   10   2   3   0     Titanium   ppm   ASTM D5185m   0   0   0   0     Aluminum   ppm   ASTM D5185m   4   123   A 201   A 500     Lead   ppm   ASTM D5185m   4   1   2   1     Copper   ppm   ASTM D5185m   4   1   2   1     Vanadium   ppm   ASTM D5185m   4   1   2   1     Vanadium   ppm   ASTM D5185m   626   6567   148     Potassium   ppm   ASTM D5185m   >20   38   58   12     Water   %   ASTM D5185m   >20   388   58   12     Water   ppm   ASTM D5185m   >20   383	Sample Status				SEVERE	SEVERE	ABNORMAL
Iron   ppm   ASTM D5185m   >1250   1439   515   344     Chromium   ppm   ASTM D5185m<>10   A 11   4   3     Nickel   ppm   ASTM D5185m   10   2   3   0     Titanium   ppm   ASTM D5185m   0   0   0   0     Aluminum   ppm   ASTM D5185m   4   123   A 201   A 500     Lead   ppm   ASTM D5185m   4   1   2   1     Copper   ppm   ASTM D5185m   4   1   2   1     Vanadium   ppm   ASTM D5185m   4   1   2   1     Vanadium   ppm   ASTM D5185m   626   6567   148     Potassium   ppm   ASTM D5185m   >20   38   58   12     Water   %   ASTM D5185m   >20   388   58   12     Water   ppm   ASTM D5185m   >20   383	DO				1007	207	010
Chromium NickelppmASTM D5185m ASTM D5185m>10230Titanium ppmASTM D5185m1111144SilverppmASTM D5185m0000AluminumppmASTM D5185m4123420150LeadppmASTM D5185m4121111CopperppmASTM D5185m4121TinppmASTM D5185m41211VanadiumppmASTM D5185m41211White Metalscalar"VisualNONENONENONENONENONEYellow Metalscalar"VisualNONEMONENONENONENONESiliconppmASTM D5185m>20385812Water%ASTM D5185m>20385812Water%ASTM D5185m>20385812Water%ASTM D5185m>20385812Debrisscalar"VisualNONENONENONENONEDebrisscalar"VisualNONENONENONENONEAppearancescalar"VisualNORMLNORMLNORMLNORMLAppearancescalar"VisualNORMLNORMLNORMLNORMLBoronppmASTM D5185m00<13		nom		. 1050	-		
NickelppmASTM D5185m>10230TitaniumppmASTM D5185m111114SilverppmASTM D5185m000AluminumppmASTM D5185m4123▲ 201▲ 500LeadppmASTM D5185m4122TinppmASTM D5185m412VanadiumppmASTM D5185m41<1VanadiumppmASTM D5185m<1<1<1White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>20385812Water%ASTM D5185m>20385812Water%ASTM D5185m>203885812ppm WaterppmASTM D5185m>2038siliscalar*VisualNONEMODERNONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMNORMNORMGorunppmASTM D5185m1023BariumppmASTM D5185m0000MolybdenumppmASTM D5185m117110115Galar*VisualNORE1							
Titanium   ppm   ASTM D5185m   11   11   4     Silver   ppm   ASTM D5185m   0   0   0     Aluminum   ppm   ASTM D5185m   A   123   201   50     Lead   ppm   ASTM D5185m   0   0   <11							
Silver   ppm   ASTM D5185m   0   0   0     Aluminum   ppm   ASTM D5185m   ▲ 123   ▲ 201   ▲ 50     Lead   ppm   ASTM D5185m   0   <1   <1     Copper   ppm   ASTM D5185m   4   1   2     Tin   ppm   ASTM D5185m   <1   <1   <1     Vanadium   ppm   ASTM D5185m   <1   <1   <1     Vanadium   ppm   ASTM D5185m   <1   <1   <1     Yellow Metal   scalar   'Visual   NONE   NONE   NONE   NONE     Silicon   ppm   ASTM D5185m   ≥0   38   58   12     Water   %   ASTM D5185m   ≥0   38   58   12     Water   %   ASTM D5185m   ≥20   38       ppm Water   ppm   ASTM D5185m   >20   38       Silt   scalar   'Visual				>10		-	
Aluminum   ppm   ASTM D5185m   ▲ 123   ▲ 201   ▲ 50     Lead   ppm   ASTM D5185m   Ø   Ø   <11							
LeadppmASTM D5185m0<1					-		
Copper Image: ppmASTM D5185m412TinppmASTM D5185m00<1VanadiumppmASTM D5185m<1<1<1White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m<0385812Water%ASTM D6304>200 <b>380</b> 5812Water%ASTM D6304>200 <b>4</b> 2380SiliconppmASTM D6304>2000 <b>4</b> 2380NONENONEDebrisscalar*VisualNONEMODERNONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLEmulsified Waterscalar*VisualNORMNORMLNORMLNORMLSodiumppmASTM D5185m60<13BariumppmASTM D5185m11023ManganeseppmASTM D5185m13633ManganeseppmASTM D5185m145117110115CalciumppmASTM D5185m145117110115CalciumppmASTM D5185m145 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Tin   ppm   ASTM D5185m   0   0   <1							
VanadiumppmASTM D5185m<1							
White Metal Yellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m626567148PotassiumppmASTM D5185m>20385812Water%ASTM D6304>0.20.238ppm WaterppmASTM D6304>20002380Siltscalar*VisualNONEMODERNONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNORHNORHNORHNORHNORHAppearancescalar*VisualNORHNORHNORHNORHNORHOdorscalar*VisualNORHNORHNORHNORHNORHBariumppmASTM D5185m00<113BariumppmASTM D5185m00<113MagnesiumppmASTM D5185m1363MagnesiumppmASTM D5185m117110115CalciumppmASTM D5185m120101210371050PhosphorusppmASTM D5185m120101210371223SulfurppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640123112741223SulfurppmA							
Yellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>2038567148PotassiumppmASTM D5185m>20385812Water%ASTM D6304>0.24<0.238ppm WaterppmASTM D6304>20004<2380Siltscalar*VisualNONEMODERNONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENORENOREAppearancescalar*VisualNORMNORMLNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLNORMLBoronppmASTM D5185m60<113BariumppmASTM D5185m00<113MaganeseppmASTM D5185m1363MagnesiumppmASTM D5185m12011021103711050CalciumppmASTM D5185m120101210371050PhosphorusppmASTM D5185m120101210371223PhosphorusppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640123112741223PhosphorusppmASTM D5185m							
Silicon ppm ASTM D5185m ● 6266 567 148   Potassium ppm ASTM D5185m >20 38 58 12   Water % ASTM D6304 >0.23     ppm Water ppm ASTM D6304 >2000 ▲ 2380     Silt scalar *Visual NONE MODER NONE NONE   Debris scalar *Visual NONE NONE NONE NONE NONE   Sand/Dirt scalar *Visual NONE NONE NONE NORE NORE NORE   Appearance scalar *Visual NORM NORML NORML NORML NORML NORML   Cdor scalar *Visual NOR 10 0 2   Sodium ppm ASTM D5185m 6 0 <1 3   Barium ppm ASTM D5185m 0 0 <1 3   Magnesium ppm ASTM D5185m 0 0 <1 3							
Potassium   ppm   ASTM D5185m   >20   38   58   12     Water   %   ASTM D6304   >0.2   ▲ 0.238       ppm Water   ppm   ASTM D6304   >2000   ▲ 2380       Silt   scalar   *Visual   NONE   MODER   NONE   NONE     Debris   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Sand/Dirt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORML   NORML   NORML   NORML   NORML     Odor   scalar   *Visual   NORM   NORML   NORML   NORML   NORML     Boron   ppm   ASTM D5185m   6   0   <1   3     Barium   ppm   ASTM D5185m   0   0   <1   3     Manganese   ppm   ASTM D5185m   145   117   110 <td< th=""><th>Yellow Metal</th><th>scalar</th><th>*Visual</th><th>NONE</th><th>NONE</th><th>NONE</th><th>NONE</th></td<>	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Water%ASTM D6304>0.2▲ 0.238ppm WaterppmASTM D6304>2000▲ 2380Siltscalar*VisualNONEMODERNONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNOR102BoronppmASTM D5185m60<13BariumppmASTM D5185m00<13ManganeseppmASTM D5185m11363MagnesiumppmASTM D5185m145117110115CalciumppmASTM D5185m1290101210371050ZincppmASTM D5185m1290101210371223SulfurppmASTM D5185m1640123112741223SulfurppmASTM D5185m16403447639474274	Silicon	ppm	ASTM D5185m		626	<b>5</b> 67	<b>1</b> 48
ppm WaterppmASTM D6304>2000▲ 2380Siltscalar*VisualNONEMODERNONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%NEGNEGSodiumppmASTM D5185m60<13BariumppmASTM D5185m0000ManganeseppmASTM D5185m11363MangesiumppmASTM D5185m1290101210371050ZincppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640347639474274	Potassium	ppm	ASTM D5185m	>20	38	58	12
PicNONEMODERNONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%NEGNEGSodiumppmASTM D5185m60<13BariumppmASTM D5185m00<13BariumppmASTM D5185m00<13ManganeseppmASTM D5185m11363MagnesiumppmASTM D5185m145117110115CalciumppmASTM D5185m1290101210371050ZincppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640347639474274	Water	%	ASTM D6304	>0.2	<b>6</b> 0.238		
Debrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%NEGNEGSodiumppmASTM D5185m60<13BoronppmASTM D5185m0000MolybdenumppmASTM D5185m00<13ManganeseppmASTM D5185m13633MagnesiumppmASTM D5185m145117110115CalciumppmASTM D5185m1290101210371050ZincppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640347639474274	ppm Water	ppm	ASTM D6304	>2000	<b>A</b> 2380		
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%NEGNEGSodiumppmASTM D5185m60<13BoronppmASTM D5185m60<13BariumppmASTM D5185m0000MolybdenumppmASTM D5185m00<13ManganeseppmASTM D5185m145117110115CalciumppmASTM D5185m3570345637593593PhosphorusppmASTM D5185m1290101210371050ZincppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640347639474274	Silt	scalar	*Visual	NONE	MODER	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*Visual>0.20.2%NEGNEGNEGEmulsified Waterscalar*Visual>0.20.2%NEGNEGSodiumppmASTM D5185m60<13BoronppmASTM D5185m60<13BariumppmASTM D5185m0000MolybdenumppmASTM D5185m00<13ManganeseppmASTM D5185m145117110115CalciumppmASTM D5185m3570345637593593PhosphorusppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640347639474274	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%NEGNEGSodiumppmASTM D5185m102BoronppmASTM D5185m60<13BariumppmASTM D5185m0000MolybdenumppmASTM D5185m00<13ManganeseppmASTM D5185m14511363MagnesiumppmASTM D5185m145117110115CalciumppmASTM D5185m1290101210371050PhosphorusppmASTM D5185m1640123112741223SulfurppmASTM D5185m1640347639474274	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water   scalar   *Visual   >0.2   0.2%   NEG   NEG     Sodium   ppm   ASTM D5185m   1   0   2     Boron   ppm   ASTM D5185m   6   0   <1   3     Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   0   <1   3     Manganese   ppm   ASTM D5185m   13   6   3     Magnesium   ppm   ASTM D5185m   145   117   110   115     Calcium   ppm   ASTM D5185m   3570   3456   3759   3593     Phosphorus   ppm   ASTM D5185m   1290   1012   1037   1050     Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   6   3476   3947   4274	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium   ppm   ASTM D5185m   1   0   2     Boron   ppm   ASTM D5185m   6   0   <1   3     Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   0   <1   3     Manganese   ppm   ASTM D5185m   0   0   <1   3     Magnesium   ppm   ASTM D5185m   145   117   110   115     Calcium   ppm   ASTM D5185m   3570   3456   3759   3593     Phosphorus   ppm   ASTM D5185m   1290   1012   1037   1050     Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   6   39470   4274	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron   ppm   ASTM D5185m   6   0   <1	Emulsified Water	scalar	*Visual	>0.2	0.2%	NEG	NEG
Boron   ppm   ASTM D5185m   6   0   <1	Sodium	mag	ASTM D5185m		1	0	2
Molybdenum   ppm   ASTM D5185m   0   0   <1	Boron		ASTM D5185m	6	0	<1	3
Molybdenum   ppm   ASTM D5185m   0   0   <1	Barium		ASTM D5185m	0	0	0	0
Manganese   ppm   ASTM D5185m   13   6   3     Magnesium   ppm   ASTM D5185m   145   117   110   115     Calcium   ppm   ASTM D5185m   3570   3456   3759   3593     Phosphorus   ppm   ASTM D5185m   1290   1012   1037   1050     Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   G   3476   39477   4274	Molybdenum		ASTM D5185m	0	0	<1	3
Magnesium   ppm   ASTM D5185m   145   117   110   115     Calcium   ppm   ASTM D5185m   3570   3456   3759   3593     Phosphorus   ppm   ASTM D5185m   1290   1012   1037   1050     Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   Gamma   3476   3947   4274	Manganese		ASTM D5185m		13	6	3
Calcium   ppm   ASTM D5185m   3570   3456   3759   3593     Phosphorus   ppm   ASTM D5185m   1290   1012   1037   1050     Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   G   3476   3947   4274	ų.		ASTM D5185m	145	117	110	115
Phosphorus   ppm   ASTM D5185m   1290   1012   1037   1050     Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   C   3476   3947   4274	-		ASTM D5185m	3570	3456	3759	3593
Zinc   ppm   ASTM D5185m   1640   1231   1274   1223     Sulfur   ppm   ASTM D5185m   6   3476   3947   4274	Phosphorus		ASTM D5185m	1290	1012	1037	1050
Sulfur   ppm   ASTM D5185m   3476   3947   4274	•		ASTM D5185m	1640	1231	1274	1223
	Sulfur		ASTM D5185m		3476	3947	4274
	Visc @ 40°C			57.0	51.3	53.4	

**FLUID CONDITION** 

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

Submitted By: STORE 1 - COWEN - JENNIFER ARMENTROUT



LESLIE EQUIPMENT COMPANY Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 16 Jan 2024 105 TENNIS CENTER DR. Sample No. : LEC0045886 Recieved Lab Number MARIETTA, OH : 06061494 : 18 Jan 2024 Diagnosed : 10832876 US 45750-9765 **Unique Number** Diagnostician : Jonathan Hester Test Package : CONST (Additional Tests: KF, PQ) Contact: LEANNE KENDALL Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. KendalLeanne@lec1.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: (740)373-5570 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: STORE 1 - COWEN - JENNIFER ARMENTROUT

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