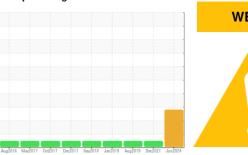


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id JOHN DEERE 250D 1DW250DXKGE673411 Component Hydraulic System

JOHN DEERE HYDRAU (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

An increase in the copper level is noted. All other component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

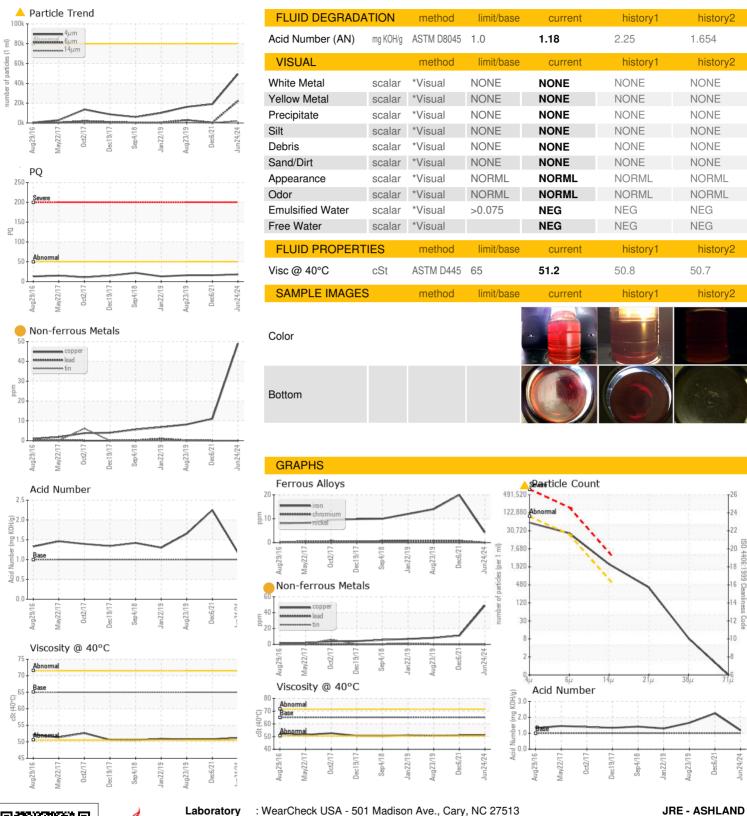
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Date Client Info 24 Jun 2024 06 Dec 2021 23 Aug 2019	o (GAL)						
Sample Date Client Info 24 Jun 2024 06 Dec 2021 23 Aug 2019	SAMPLE INFORMA	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info	Sample Number		Client Info		JR0224975	JR0106095	JRMC471506
Oil Age hrs Client Info Not Changd Not Changed Not Changed Not Changed NormAL No	Sample Date		Client Info		24 Jun 2024	06 Dec 2021	23 Aug 2019
Coli Changed Changed Changed Changed NoRMAL NORMAL NORMAL	Machine Age	hrs	Client Info		4720	4074	3521
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.075 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 >50 18 16 16 Iron ppm ASTM D5185m >23 4 20 14 Chromium ppm ASTM D5185m >9 0 <1	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.075 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D5185m >50 18 16 16 Iron ppm ASTM D5185m >23 4 20 14 Chromium ppm ASTM D5185m >9 0 <1	Oil Changed		Client Info		Not Changd	Changed	Not Changd
Water WC Method >0.075 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 >50 18 16 16 Iron ppm ASTM D8185m >23 4 20 14 Chromium ppm ASTM D8185m >9 0 <1 <1 Nickel ppm ASTM D8185m 50 0 0 <1 Siliver ppm ASTM D8185m 0 0 <1 <1 Siliver ppm ASTM D8185m 0 0 <1 <1 Siliver ppm ASTM D8185m 0 0 <1 <1 Aluminum ppm ASTM D8185m 0 0 <1 <1 Aluminum ppm ASTM D8185m >9 1 2 2 Lead ppm ASTM D8185m 0 0 0 0	Sample Status				ABNORMAL	NORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 >50 18 16 16 Iron ppm ASTM D8185m >23 4 20 14 Chromium ppm ASTM D8185m >9 0 <1 <1 Nickel ppm ASTM D8185m >5 0 0 0 <1 <1 Silver ppm ASTM D8185m >5 0 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	CONTAMINATION		method	limit/base	current	history1	history2
PQ ASTM D8184 >50 18 16 16 Iron ppm ASTM D8185m >23 4 20 14 Chromium ppm ASTM D5185m >9 0 <1 <1	Water		WC Method	>0.075	NEG	NEG	NEG
ASTM D5185m SP ASTM D5185m ASTM D7647 ASTM D7647	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >9 0 <1 <1 Nickel ppm ASTM D5185m >5 0 0 0 Titanium ppm ASTM D5185m 0 0 <1 <1 Silver ppm ASTM D5185m 0 <1 <1 <1 Aluminum ppm ASTM D5185m 9 1 2 2 2 Lead ppm ASTM D5185m >9 1 2 2 2 Lead ppm ASTM D5185m >5 0 0 <1 8 Copper ppm ASTM D5185m >5 0 0 0 0 Copper ppm ASTM D5185m 0 0 0 0 0 Codadium ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 1 1 1	PQ		ASTM D8184	>50	18	16	16
Nickel	Iron	ppm	ASTM D5185m	>23	4	20	14
Titanium ppm ASTM D5185m 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Chromium	ppm	ASTM D5185m	>9	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	0
Aluminum ppm ASTM D5185m >9 1 2 2 2 Lead ppm ASTM D5185m >28 0 0 0 <1 Copper ppm ASTM D5185m >51	Titanium	ppm	ASTM D5185m		0	0	<1
Lead ppm ASTM D5185m >28 0 0 <1 Copper ppm ASTM D5185m >51 ● 49 11 8 Tin ppm ASTM D5185m >5 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1	Silver	ppm	ASTM D5185m		0	<1	<1
Copper ppm ASTM D5185m >51 49 11 8 Tin ppm ASTM D5185m >5 0 0 0 Antimony ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Aluminum	ppm	ASTM D5185m	>9	1	2	2
Tin	Lead	ppm	ASTM D5185m	>28	0	0	<1
Antimony ppm ASTM D5185m	Copper	ppm	ASTM D5185m	>51	49	11	8
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 96 102 102 Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m >31 4 4 3 CONTAMINANTS method limit/ba	Tin	ppm	ASTM D5185m	>5	0	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1	Antimony	ppm	ASTM D5185m			0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 <1 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 96 102 102 Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m >31 4 4 3 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >21 4 4 <1 Potassiu	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 96 102 102 Magnesium ppm ASTM D5185m 96 102 102 Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m >31 4 4 3 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >21 4 4 <1 Potassium ppm ASTM D5185m >20 3 4 6	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 96 102 102 Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 4 Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1	Boron	ppm	ASTM D5185m		0	0	<1
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 96 102 102 Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 96 102 102 Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1 Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 49478 18993 16273 Particles >21μm ASTM D7647 >640 2065 </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td><1</td> <td><1</td>	Molybdenum	ppm	ASTM D5185m		0	<1	<1
Calcium ppm ASTM D5185m 87 3504 3588 3644 Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 727 1005 1039 1060 Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1 Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 49478 18993 16273 Particles >6μm ASTM D7647 >640 2065 22 320 Particles >21μm ASTM D7647 >160 345 6 99 Particles >71μm ASTM D7647 >40 7	Magnesium	ppm	ASTM D5185m		96	102	102
Zinc ppm ASTM D5185m 900 1206 1253 1280 Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1 Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 49478 18993 16273 Particles >6μm ASTM D7647 >20000 22140 471 2878 Particles >1μm ASTM D7647 >160 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	Calcium	ppm	ASTM D5185m	87	3504	3588	3644
Sulfur ppm ASTM D5185m 1500 3904 3006 3157 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1	Phosphorus	ppm	ASTM D5185m	727	1005	1039	1060
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1	Zinc	ppm	ASTM D5185m	900	1206	1253	1280
Silicon ppm ASTM D5185m >31 4 4 3 Sodium ppm ASTM D5185m >21 4 4 <1 Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 ▲ 49478 18993 16273 Particles >6μm ASTM D7647 >20000 ▲ 22140 471 2878 Particles >14μm ASTM D7647 >640 ▲ 2065 22 320 Particles >21μm ASTM D7647 >160 ▲ 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	Sulfur	ppm	ASTM D5185m	1500	3904	3006	3157
Sodium ppm ASTM D5185m >21 4 4 <1 Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 Δ49478 18993 16273 Particles >6μm ASTM D7647 >20000 Δ22140 471 2878 Particles >14μm ASTM D7647 >640 Δ2065 22 320 Particles >21μm ASTM D7647 >160 Δ345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 4 6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 49478 18993 16273 Particles >6μm ASTM D7647 >20000 22140 471 2878 Particles >14μm ASTM D7647 >640 2065 22 320 Particles >21μm ASTM D7647 >160 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	Silicon	ppm	ASTM D5185m	>31	4	4	3
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >80000 ▲ 49478 18993 16273 Particles >6μm ASTM D7647 >20000 ▲ 22140 471 2878 Particles >14μm ASTM D7647 >640 ▲ 2065 22 320 Particles >21μm ASTM D7647 >160 ▲ 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	Sodium	ppm	ASTM D5185m	>21	4	4	<1
Particles >4μm ASTM D7647 >80000 49478 18993 16273 Particles >6μm ASTM D7647 >20000 22140 471 2878 Particles >14μm ASTM D7647 >640 2065 22 320 Particles >21μm ASTM D7647 >160 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	Potassium	ppm	ASTM D5185m	>20	3	4	6
Particles >6μm ASTM D7647 >20000 Δ 22140 471 2878 Particles >14μm ASTM D7647 >640 Δ 2065 22 320 Particles >21μm ASTM D7647 >160 Δ 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	FLUID CLEANLINE	SS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >640 Δ 2065 22 320 Particles >21μm ASTM D7647 >160 Δ 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0	Particles >4µm		ASTM D7647	>80000	49478	18993	16273
Particles >21μm ASTM D7647 >160 ▲ 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0 0	Particles >6µm		ASTM D7647	>20000	<u>^</u> 22140	471	2878
Particles >21μm ASTM D7647 >160 ▲ 345 6 99 Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0 0	Particles >14µm		ASTM D7647	>640	2065	22	320
Particles >38μm ASTM D7647 >40 7 0 10 Particles >71μm ASTM D7647 >10 0 0 0	Particles >21µm		ASTM D7647	>160	4 345	6	99
Particles >71μm ASTM D7647 >10 0 0	Particles >38µm						
·	Particles >71µm						
	Oil Cleanliness		ISO 4406 (c)	>23/21/16	23/22/18	21/16/12	21/19/15



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number

: JR0224975 : 06219597 Unique Number : 11097794

Received **Tested**

Diagnosed : 26 Jun 2024 - Don Baldridge Test Package : CONST (Additional Tests: PQ) To discuss this sample report, contact Customer Service at 1-800-237-1369.

: 25 Jun 2024

: 26 Jun 2024

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Report Id: JAMASH [WUSCAR] 06219597 (Generated: 06/27/2024 12:56:04) Rev: 1

Contact/Location: DAVID ZIEG - JAMASH

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US 23005

11047 LEADBETTER RD

Contact: DAVID ZIEG