

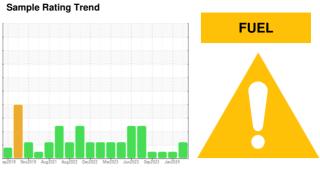
OIL ANALYSIS REPORT

[W51222]

JOHN DEERE 844K 1DW844KAEJF688182

Diesel Engine

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

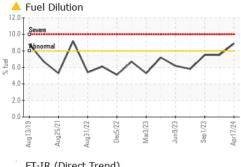
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

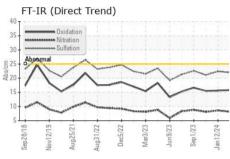
Sample Number Client Info JR0200059 JR0165980 JR0179108 Sample Date Client Info 17 Apr 2024 12 Jan 2024 16 Oct 2023 Machine Age hrs Client Info 8929 8426 7945	io (GAL)						
Sample Date Client Info 17 Apr 2024 12 Jan 2024 16 Oct 2023	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		JR0200059	JR0165980	JR0179108
Oil Age hrs Client Info Changed Read Carrent Inistory2 Marker Weder Meder Asset Current Inistory2 Meder	Sample Date		Client Info		17 Apr 2024	12 Jan 2024	16 Oct 2023
Coli Changed Changed Changed Changed NORMAL NORMAL NORMAL NORMAL NORMAL	Machine Age	hrs	Client Info		8929	8426	7945
ABNORMAL NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Water WC Method >0.21 NEG NEG NEG Glycol WC Method Inititibase Current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >51 12 16 8 Chromium ppm ASTM D5185m >51 0 0 0 Nickel ppm ASTM D5185m >5 0 0 0 Silver ppm ASTM D5185m >5 0 0 0 Silver ppm ASTM D5185m >31 5 7 6 Lead ppm ASTM D5185m >26 5 3 3 3 Copper ppm ASTM D5185m >26 9 10 8 Tin ppm ASTM D5185m <4 2 1 1 Vanadium ppm ASTM D5185m <1 <1 <1	Sample Status				ABNORMAL	NORMAL	NORMAL
WEAR METALS	CONTAMINATION	V	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >51 12 16 8 Chromium ppm ASTM D5185m >11 <1	Water		WC Method	>0.21	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
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Nickel	ron	ppm	ASTM D5185m	>51	12	16	8
Description	Chromium	ppm	ASTM D5185m	>11	<1	<1	<1
Description	Nickel	ppm	ASTM D5185m	>5	0	0	0
Silver	Titanium		ASTM D5185m		0	0	0
Aluminum	Silver		ASTM D5185m	>3	0	0	0
Lead ppm ASTM D5185m >26 5 3 3 Copper ppm ASTM D5185m >26 9 10 8 Tin ppm ASTM D5185m >4 2 1 1 Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 178 173 183 Barium ppm ASTM D5185m 219 219 243 Manganese ppm ASTM D5185m 219 219 243 Magnesium ppm ASTM D5185m 740 767 787 Calcium ppm ASTM D5185m 787 773 848 Zinc ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base	Aluminum		ASTM D5185m	>31	5	7	6
Copper ppm ASTM D5185m >26 9 10 8 Tin ppm ASTM D5185m >4 2 1 1 Vanadium ppm ASTM D5185m <1	Lead	ppm	ASTM D5185m	>26	5	3	3
Tin	Copper		ASTM D5185m	>26	9	10	8
Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 178 173 183 Barium ppm ASTM D5185m <1 0 1 Molybdenum ppm ASTM D5185m 219 219 243 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 740 767 787 Calcium ppm ASTM D5185m 787 773 848 Zinc ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >20 1<	• •		ASTM D5185m	>4	2	1	1
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Boron	Cadmium		ASTM D5185m			0	0
Barium ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 219 219 243 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		178	173	183
Manganese ppm ASTM D5185m <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 <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 <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th><1</th> <td>0</td> <td>1</td>	Barium	ppm	ASTM D5185m		<1	0	1
Magnesium ppm ASTM D5185m 740 767 787 Calcium ppm ASTM D5185m 1331 1309 1322 Phosphorus ppm ASTM D5185m 787 773 848 Zinc ppm ASTM D5185m 894 984 1033 Sulfur ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D5185m >20 1 4 3 Fuel % ASTM D5185m >20 1 4 3 Fuel % ASTM D5185m >20 1 4 3 Fuel <td< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>219</th><td>219</td><td>243</td></td<>	Molybdenum	ppm	ASTM D5185m		219	219	243
Calcium ppm ASTM D5185m 1331 1309 1322 Phosphorus ppm ASTM D5185m 787 773 848 Zinc ppm ASTM D5185m 894 984 1033 Sulfur ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D5185m >20 1 4 3 Soot % % A	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 787 773 848 Zinc ppm ASTM D5185m 894 984 1033 Sulfur ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D5185m >20 1 4 3 Fuel % ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 8.9 7.5 <1.0	Magnesium	ppm	ASTM D5185m		740	767	787
Zinc ppm ASTM D5185m 894 984 1033 Sulfur ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 8.9 7.5 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.1 8.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.	Calcium	ppm	ASTM D5185m		1331	1309	1322
Sulfur ppm ASTM D5185m 3226 2785 2948 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 8.9 7.5 <1.0	Phosphorus	ppm	ASTM D5185m		787	773	848
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 8.9 7.5 <1.0	Zinc	ppm	ASTM D5185m		894	984	1033
Silicon ppm ASTM D5185m >22 6 9 8 Sodium ppm ASTM D5185m >31 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 8.9 7.5 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.1 8.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.6 15.5	Sulfur	ppm	ASTM D5185m		3226	2785	2948
Sodium ppm ASTM D5185m >31 3 4 Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 ▲ 8.9 7.5 <1.0	CONTAMINANTS	5	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 4 3 Fuel % ASTM D3524 >8.0 ▲ 8.9 7.5 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.1 8.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.6 15.5	Silicon	ppm	ASTM D5185m	>22	6	9	8
Fuel % ASTM D3524 >8.0 ▲ 8.9 7.5 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.1 8.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.6 15.5	Sodium	ppm	ASTM D5185m	>31	3	3	4
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.1 8.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.6 15.5	Potassium	ppm	ASTM D5185m	>20	1	4	3
Soot % *ASTM D7844 >3 0.2 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.1 8.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.6 15.5	Fuel	%	ASTM D3524	>8.0	<u>A</u> 8.9	7.5	<1.0
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Sulfation Abs/.1mm *ASTM D7415 >30 22.0 22.4 21.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.6 15.5	Vitration	Abs/cm	*ASTM D7624	>20	8.1	8.6	8.1
Oxidation			*ASTM D7415				
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
I.I III III III III III III III II	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	15.6	15.5

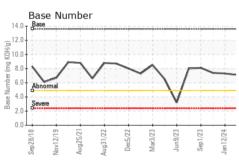


OIL ANALYSIS REPORT



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15-	Nov12/19 -	Aug25/21	Aug31/22	Dec5/22	Mar3/23 - ((Jun9/23	Sep1/23 -	Jan12/24

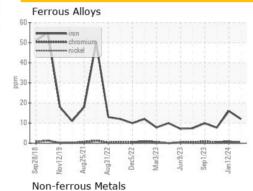


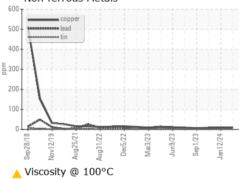


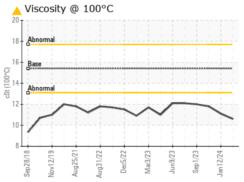
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
ELLIN DDODEDT	TIEC	mothod	limit/base	ourront	history1	hictory?

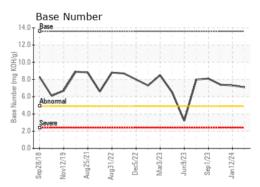
I LOID I HOI LI	TILO	memou	IIIIIII Dase	Current	History	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	15.4	10.6	11.1	11.8

GRAPHS













Certificate 12367

Report Id: JAMASH [WUSCAR] 06154138 (Generated: 04/23/2024 11:11:45) Rev: 1

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

: JR0200059 Lab Number : 06154138 Unique Number : 10989561

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Received : 19 Apr 2024 **Tested**

: 23 Apr 2024 Diagnosed

: 23 Apr 2024 - Wes Davis

Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: DAVID ZIEG dzieg@jamesriverequipment.com

T: (804)798-6001 F: (804)798-0292

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: DAVID ZIEG - JAMASH

JRE - ASHLAND

ASHLAND, VA

US 23005

11047 LEADBETTER RD