

### **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



# JOHN DEERE 748L 1DW748LBVLF707417

**Diesel Engine** 

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

				Guirein		
Sample Number		Client Info		WE0007537	WE0000698	
Sample Date		Client Info		19 Jun 2024	15 Nov 2021	
Machine Age	hrs	Client Info		7919	2509	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	Changed	
Sample Status				NORMAL	ABNORMAL	
				-		
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0	<1.0	
Water		WC Method	>0.21	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	8	18	
Chromium	ppm	ASTM D5185m	>11	<1	<1	
Nickel	ppm	ASTM D5185m	>5	<1	2	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>31	4	6	
Lead	ppm	ASTM D5185m	>26	0	<1	
Copper	ppm	ASTM D5185m	>26	<1	<u> </u>	
Tin	ppm	ASTM D5185m	>4	0	<1	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 254	history1 74	history2
			limit/base			
Boron Barium	ppm	ASTM D5185m	limit/base	254	74	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	254 0	74 0	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	254 0 260	74 0 11	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	254 0 260 0	74 0 11 1	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	254 0 260 0 844 1364	74 0 11 1 47 2455	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	254 0 260 0 844 1364 927	74 0 11 1 47	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	254 0 260 0 844 1364	74 0 11 1 47 2455 1050	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		254 0 260 0 844 1364 927 1096 3092	74 0 11 1 47 2455 1050 1160 2738	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	254 0 260 0 844 1364 927 1096 3092 current	74 0 11 1 47 2455 1050 1160 2738 history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	limit/base	254 0 260 0 844 1364 927 1096 3092 current 10	74 0 11 1 47 2455 1050 1160 2738 history1 6	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base >22 >31	254 0 260 0 844 1364 927 1096 3092 <u>current</u> 10 <1	74 0 11 1 47 2455 1050 1160 2738 history1 6 3	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	limit/base	254 0 260 0 844 1364 927 1096 3092 current 10	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base >22 >31	254 0 260 0 844 1364 927 1096 3092 <u>current</u> 10 <1	74 0 11 1 47 2455 1050 1160 2738 history1 6 3	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20	254 0 260 0 844 1364 927 1096 3092 <u>current</u> 10 <1 2 <u>current</u>	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27 history1 0.5	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base	254 0 260 0 844 1364 927 1096 3092 current 10 <1 2 2	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27 history1	    history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3	254 0 260 0 844 1364 927 1096 3092 <u>current</u> 10 <1 2 <u>current</u> 0.1	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27 history1 0.5	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3 >20	254 0 260 0 844 1364 927 1096 3092 current 10 <1 2 current 0.1 6.4	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27 history1 0.5 9.2	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3 >20 >30	254 0 260 0 844 1364 927 1096 3092 <u>current</u> 10 <1 2 <u>current</u> 0.1 6.4 20.3	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27 history1 0.5 9.2 22.6	    history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >22 >31 >20 limit/base >3 >20 >30	254 0 260 0 844 1364 927 1096 3092 <i>current</i> 10 <1 2 <i>current</i> 0.1 6.4 20.3 <i>current</i>	74 0 11 1 47 2455 1050 1160 2738 history1 6 3 27 history1 0.5 9.2 22.6 history1	     history2  history2  history2  history2

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3

30

25 4ps/cm 20

10

Vov15/21

14.0 T Ba

0.21 (mg K0H/g) 0.8 (mg K0H/g) 0.9 (mg K0H/g) Base Number

Viscosity @ 100°C

4.0 2.0 0.0

20

19 18 \_ Abno

13 12 12/51/0N

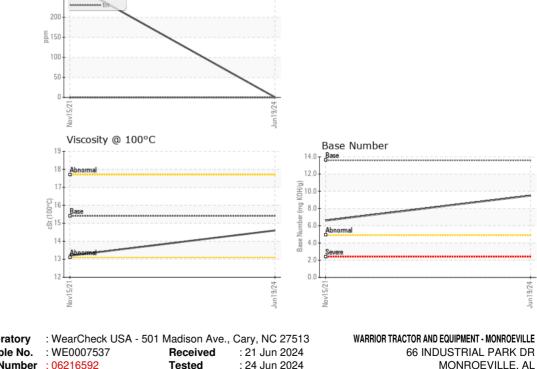
FT-IR (Direct Trend)

Oxidation

Nitration Sulfation

## **OIL ANALYSIS REPORT**

VISUAL		method	limit/base	current	history1	histo
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPER	TIES	method	limit/base	current	history1	histo
Visc @ 100°C	cSt	ASTM D445	15.4	14.6	13.2	
GRAPHS						
Ferrous Alloys						
<sup>18</sup>						
16 iron						
iron iron iron iron nickel						
iron chromium 2						
iron chromium 14			/			
18 16 iron 14nickel		<u> </u>	/			
iron iron iron iron iron iron iron iron	<u> </u>	<u> </u>	<u> </u>			
8 6 4 4 2 0 0 8 6			<u> </u>			
8         irao.           irao.         irao.           irao.						
18 16 14 12 10 8 6 4			Junt 9/24			



Laboratory Sample No. 66 INDUSTRIAL PARK DR Lab Number : 06216592 Tested : 24 Jun 2024 MONROEVILLE, AL Unique Number : 11089456 Diagnosed : 24 Jun 2024 - Wes Davis US 36460 Test Package : CONST (Additional Tests: TBN) Contact: SCOTT WILLIAMSON Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. swilliamson@warriortractor.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (251)575-7111 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

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Report Id: WARMONAL [WUSCAR] 06216592 (Generated: 07/05/2024 07:07:39) Rev: 1

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