

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

JOHN DEERE 333G 1T0333GMTLF369758

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

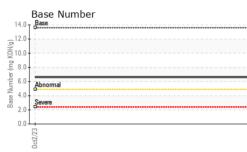
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

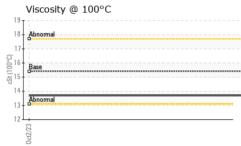
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		JR0179326		
Sample Date		Client Info		02 Oct 2023		
Machine Age	hrs	Client Info		688		
Oil Age	hrs	Client Info		688		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	12		
Chromium	ppm	ASTM D5185m	>11	<1		
Nickel	ppm	ASTM D5185m	>5	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>31	4		
Lead	ppm	ASTM D5185m	>26	<1		
Copper	ppm	ASTM D5185m	>26	3		
Tin	ppm	ASTM D5185m	>4	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
	le le		limit/booo	-	historyd	biotory ()
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current		
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 18 0		
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23		
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1 51		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1 51 2324	 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1 51 2324 967		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1 51 2324 967 1200	 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 18 0 23 <1 51 2324 967	 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1 51 2324 967 1200 3941 current	 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 18 0 23 <1 51 2324 967 1200 3941		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >22 >31	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0	 history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 18 0 23 <1 51 2324 967 1200 3941 current 8	 history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >22 >31	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0	 history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >22 >31 >20	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0 1	 history1 	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >22 >31 >20 limit/base >3	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0 1 current	 history1 history1	 history2 history2
ADDITIVES 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	method ASTM D5185m	limit/base >22 >31 >20 limit/base >3	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0 1 current 0 1 current 0.1	 history1 history1 history1	 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >22 >31 >20 limit/base >3 >20	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0 1 current 0.1 6.7	 history1 history1 	history2 history2
ADDITIVES 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	method ASTM D5185m ASTM D5185m	Iimit/base >22 >31 >20 Iimit/base >3 >20 >30	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0 1 current 0.1 6.7 16.4	 history1 history1	 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7185 method *ASTM D7624 *ASTM D7415 method	limit/base >22 >31 >20 limit/base >3 >20 >30 >30	current 18 0 23 <1 51 2324 967 1200 3941 current 8 0 1 current 0.1 6.7 16.4 current	 history1 history1 history1	history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





Non-ferrous Metals	White Metal		method	limit/base		nistory i	nistory
Yelow Metal scalar Visual NONE Precipitate scalar Visual NONE NONE Sitt scalar Visual NONE NONE Sand/Diri scalar Visual NONE NONE Appearance scalar Visual NORML Appearance scalar Visual NORML Cdor scalar Visual NORML NORML Emulsified Water scalar Visual NORML NORML Free Water scalar Visual NORML NORML Free Water scalar Visual NORML NORML Ferosallops Onon ferrous Metals Obscillop Viscosity @ 100°C Obscillop Obscillop Obscillop Obscillop Obscillop Obscillop Obscillop <td></td> <td>scalar</td> <td>*Visual</td> <td>NONE</td> <td>NONE</td> <td></td> <td></td>		scalar	*Visual	NONE	NONE		
Precipitate scalar 'Visual NONE NONE Sit scalar 'Visual NONE NONE Sand/Dirt scalar 'Visual NONE NONE Sand/Dirt scalar 'Visual NONE NONE Appearance scalar 'Visual NORML NORML Emulsified Water scalar 'Visual >0.21 NEG Free Water scalar 'Visual >0.21 NEG Full D PROPERTIES method imit/base current history1 history Visc @ 10°C cSt ASTM 0445 15.4 13.7 Ferrous Alloys 							
Sith scalar Visual NONE NONE							
Debris scalar Visual NONE NONE Sand/Dirt scalar Visual NONE NONE Appearance scalar Visual NORML NORML Emulsified Water scalar Visual >0.21 NEG Free Water scalar Visual >0.21 NEG Free Water scalar Visual >0.21 NEG GRAPHS Ferrous Alloys 							
Sand/Dirt scalar Visual NORE							
Appearance scalar *Visual NORML NORML Emulsified Water scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.21 NEG Free Water scalar *Visual >0.21 NEG FLUID PROPERTIES method limit/base current history1 history Visc @ 100*C cSt ASTM D445 15.4 13.7 GRAPHS Ferrous Alloys Viscosity @ 100*C Viscosity @ 10*C Viscosity @ 10*							
Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.21 NEG Free Water scalar *Visual NEG FUID PROPERTIES method imit/base current history1 history1 Visc @ 100°C cSt ASTM D445 15.4 13.7 GRAPHS Ferrous Alloys Joint Construction Joint Constructio							
Emulsified Water scalar *Visual >0.21 NEG Free Water scalar *Visual NEG FLUID PROPERTIES method imit/base current history1 histor Visc @ 100°C cSt ASTM D445 15.4 13.7 GRAPHS Ferrous Alloys Von-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C							
Free Water scalar *Visual NEG FUID PROPERTIES method limit/base current history1 history1 Visc @ 100°C cSt ASTM D445 15.4 13.7 GRAPHS Perrous Alloys Image: State							
FLUID PROPERTIES method limit/base current history1 history1 history1 Visc @ 100°C cSt ASTM D445 15.4 13.7 GRAPHS Ferrous Alloys 0 0 0 0 0 0 0 0 0 0				~V.L I			
Visc @ 100°C cSt ASTM D445 15.4 13.7						_	
SRAPHS Ferrous Alloys						history1	histor
Ferrous Alloys The second sec		cSt	ASTM D445	15.4	13.7		
Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Uscosity	GRAPHS						
WearCheck USA - 501 Madison Ave., Cary, NC 2751		ys					
Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Uscosity	iron						
Non-ferrous Metals Viscosity @ 100°C Viscosity @		.m					
Non-ferrous Metals	8-						
Non-ferrous Metals	6-						
Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Uiscosity @	4						
Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Uiscosity @							
Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Uscosity	2						
Non-ferrous Metals							
Non-ferrous Metals	ct2/23			ct2/23			
Viscosity @ 100°C							
Base Base Base Second Base Second Base Second	0						
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHLA	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @			0ct2/23 -			
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL/	Viscosity @			- EZ/2200	Base		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL/	Viscosity @			E2/720 14.0 12.0	Base		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @			E2/720 14.0 12.0	Base		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @			E2/720 14.0 12.0	Base		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @			E2/720 14.0 12.0	Base		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @ 19 18 Abnormal 17 16 Base 14			E2/720 14.0 12.0	Abnormal		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @ Viscosity @ 19 18 Abnormal 17 16 Base 15 14 Abnormal			EZZZZ20 14.0 12.0 (0,10,0 10,0	Abnormal Severe		
: WearCheck USA - 501 Madison Ave., Cary, NC 27513 JRE - ASHL	Viscosity @ Viscosity @ 19 18 Abnomal 17 16 Base 14 13 Abnomal			EZZ(ZHO 14.0 12.0 (0)HOX Bu) Jack 6.0 100 100 100 100 100 100 100 1	Abnormal		
	Viscosity @			E2/720 14.0 12.0	Base		
	Viscosity @ Viscosity @ P Abnomal Base S S S S S S S S S S S S S S S S S S S	100°C JSA - 501 Madis	son Ave., Ca	EZIZED 14.0 12.0 (0)H00 Bull 3-quiring 6.0 Bull 3-quiring 6.0 2.0 2.0 0.0 EZIZED EZIZED EZIZEZIZED EZIZEZIZED EZIZED EZIZED EZIZEIZED EZIZED EZIZEZE	Abnormal Severe		
: 10675239 Diagnostician : Jonathan Hester US 23	Viscosity @ Viscosity @	100°C JSA - 501 Madis Received Diagnose Diagnose	son Ave., Ca I : 04 ad : 06 ician : Jor	EZCCP0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 14.0 12.0 10.0	Abnormal Severe	11047 LE	ADBETTEF ASHLAND US 23
•	Viscosity @ Viscosity @ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁰ ¹⁹ ¹⁰ ¹⁹ ¹⁹ ¹⁰ ¹⁹ ¹⁰ ¹⁹ ¹⁰ ¹⁹ ¹⁰	100°C JSA - 501 Madis Received Diagnose Diagnost ditional Tests: Ti	son Ave., Ca I : 04 ed : 06 ician : Jor BN)	14.0 12.0 (0)(10)(0) 8.0 900 900 900 900 900 900 900 900 900 9	Abnormal Severe	11047 LE Conta	ADBETTEF ASHLAND US 23 ct: DAVID 2

To discuss this sample re * - 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)

Report Id: JAMASH [WUSCAR] 05968688 (Generated: 10/09/2023 07:18:03) Rev: 1

Certificate L2367

ñ

Contact/Location: DAVID ZIEG - JAMASH

F: (804)798-0292