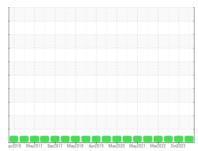


OIL ANALYSIS REPORT

Sample Rating Trend









JOHN DEERE 644K 1DW644KAVDE654303

Diesel Engine

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (7 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

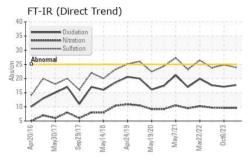
Fluid Condition

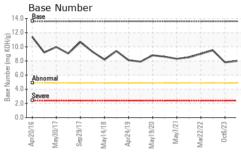
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

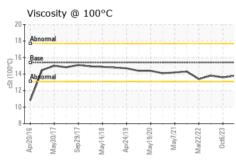
Sample Number Client Info JR0212330 JR0180798 JR0180798	PLUS 50 II 15W40 (/ GAL)	.pr2016 May20	017 Sep2017 May2018 Ap	or2019 May2020 May2021 Mar2022	Oct2023	
Client Info	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 11950 11447 1091 1001	Sample Number		Client Info		JR0212330	JR0180798	JR0123994
Dil Age	Sample Date		Client Info		08 May 2024	06 Oct 2023	09 Aug 2022
Client Info	Machine Age	hrs	Client Info		11950	11447	10917
CONTAMINATION	Dil Age	hrs	Client Info		0	0	0
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Value	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.21 NEG NEG NI Glycol WC Method NEG NEG NI WEAR METALS method limit/base current history1 ron ppm ASTM D5185m >51 19 18 10 Chromium ppm ASTM D5185m >11 <1	CONTAMINATION	J .	method	limit/base	current	history1	history2
WEAR METALS	uel		WC Method	>2.1	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 ron ppm ASTM D5185m >51 19 18 10 Chromium ppm ASTM D5185m >11 <1	<i>N</i> ater		WC Method	>0.21	NEG	NEG	NEG
Potential	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Sickel	ron	ppm	ASTM D5185m	>51	19	18	10
Silver	Chromium	ppm	ASTM D5185m	>11	<1	0	0
Silver	Vickel	ppm	ASTM D5185m	>5	<1	0	0
Aluminum	Γitanium	ppm	ASTM D5185m		<1	0	0
Deed	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >26 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	Aluminum	ppm	ASTM D5185m	>31	5	3	3
Tin	_ead	ppm	ASTM D5185m	>26	0	<1	0
Canadium	Copper	ppm	ASTM D5185m	>26	1	<1	<1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 1 Boron ppm ASTM D5185m 190 161 26 Barium ppm ASTM D5185m <1	Γin	ppm	ASTM D5185m	>4	<1	<1	<1
ADDITIVES	/anadium	ppm	ASTM D5185m		<1	0	0
Boron ppm ASTM D5185m 190 161 26	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 250 246 25 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 806 849 77 Calcium ppm ASTM D5185m 1383 1510 13 Phosphorus ppm ASTM D5185m 946 917 89 Zinc ppm ASTM D5185m 946 917 89 Zinc ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 Instraction Soliticon ppm ASTM D5185m >22 7 6 5 Soliticon ppm ASTM D5185m >31 3 4 <1 Potassium ppm ASTM D5185m >20 3 <1 2 INFRA-RED method limit/base current history1 Instraction Abs/cm *ASTM D7624 >20	3oron	ppm	ASTM D5185m		190	161	269
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 806 849 77 Calcium ppm ASTM D5185m 1383 1510 13 Phosphorus ppm ASTM D5185m 946 917 88 Zinc ppm ASTM D5185m 1134 1167 10 Sulfur ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 Instruction history1 Instruction ASTM D5185m >22 7 6 5 1 2 2 <	3arium	ppm	ASTM D5185m		<1	0	0
Magnesium ppm ASTM D5185m 806 849 77 Calcium ppm ASTM D5185m 1383 1510 13 Phosphorus ppm ASTM D5185m 946 917 89 Zinc ppm ASTM D5185m 1134 1167 10 Sulfur ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 limit/base Solicon ppm ASTM D5185m >22 7 6 5 Sodium ppm ASTM D5185m >31 3 4 <1	Molybdenum	ppm	ASTM D5185m		250	246	254
Calcium ppm ASTM D5185m 1383 1510 1388 Phosphorus ppm ASTM D5185m 946 917 888 Zinc ppm ASTM D5185m 1134 1167 10 Sulfur ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 If Silicon ppm ASTM D5185m >22 7 6 5 Sodium ppm ASTM D5185m >31 3 4 <1	Vanganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 946 917 88 Zinc ppm ASTM D5185m 1134 1167 10 Sulfur ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 Initial construction Sollicon ppm ASTM D5185m >22 7 6 5 Soldium ppm ASTM D5185m >31 3 4 <1	Magnesium	ppm	ASTM D5185m		806	849	776
Zinc ppm ASTM D5185m 1134 1167 10 Sulfur ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 5 Silicon ppm ASTM D5185m >22 7 6 5 Sodium ppm ASTM D5185m >31 3 4 <1 Potassium ppm ASTM D5185m >20 3 <1 2 INFRA-RED method limit/base current history1 Instraction Soot % % *ASTM D7844 >3 0.6 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 Instruction	Calcium	ppm	ASTM D5185m		1383	1510	1385
Sulfur ppm ASTM D5185m 3326 3123 30 CONTAMINANTS method limit/base current history1 bistory1 Silicon ppm ASTM D5185m >22 7 6 5 Sodium ppm ASTM D5185m >31 3 4 <1	Phosphorus	ppm	ASTM D5185m		946	917	894
CONTAMINANTS method limit/base current history1 I Silicon ppm ASTM D5185m >22 7 6 5 Sodium ppm ASTM D5185m >31 3 4 <1	Zinc	ppm	ASTM D5185m		1134	1167	1081
Silicon ppm ASTM D5185m >22 7 6 5 Sodium ppm ASTM D5185m >31 3 4 <1 Potassium ppm ASTM D5185m >20 3 <1 2 INFRA-RED method limit/base current history1 Instruction Soot % % *ASTM D7844 >3 0.6 0.8 0.6 Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 history1	Sulfur	ppm	ASTM D5185m		3326	3123	3058
Sodium ppm ASTM D5185m >31 3 4 <1 Potassium ppm ASTM D5185m >20 3 <1 2 INFRA-RED method limit/base current history1 Instruction Soot % % *ASTM D7844 >3 0.6 0.8 0.3 Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 history1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 <1 2 INFRA-RED method limit/base current history1 limit/base Soot % % *ASTM D7844 >3 0.6 0.8 0.8 Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 history1	Silicon	ppm	ASTM D5185m	>22	7	6	5
INFRA-RED	Sodium	ppm	ASTM D5185m	>31	3	4	<1
Soot % % *ASTM D7844 >3 0.6 0.8 0.6 Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 History1	Potassium	ppm	ASTM D5185m	>20	3	<1	2
Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.5 Sulfation Abs/.1mm *ASTM D7615 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 History1	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 9.6 9.6 9.5 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 history1	Soot %	%	*ASTM D7844	>3	0.6	0.8	0.5
Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.8 23 FLUID DEGRADATION method limit/base current history1 limit/base							9.7
							23.8
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Dxidation	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	17.1	17.6
							9.5

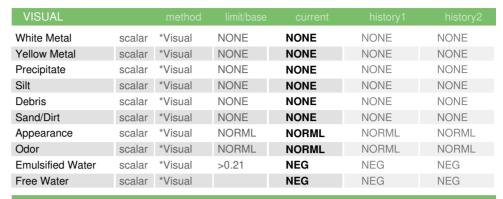


OIL ANALYSIS REPORT



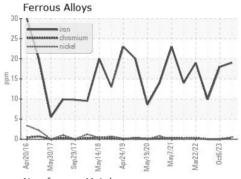


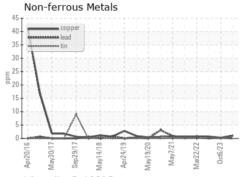


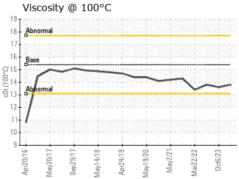


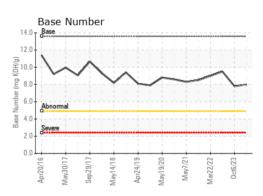
FLUID PROPER	TIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.6	13.8

GRAPHS













Certificate 12367

Laboratory Sample No.

: JR0212330 Lab Number : 06178511

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** Unique Number : 11029837

: 14 May 2024 : 15 May 2024 Diagnosed : 15 May 2024 - Wes Davis Test Package : CONST (Additional Tests: TBN)

11047 LEADBETTER RD ASHLAND, VA

JRE - ASHLAND

US 23005 Contact: DAVID ZIEG dzieg@jamesriverequipment.com

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (804)798-6001 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (804)798-0292

Report Id: JAMASH [WUSCAR] 06178511 (Generated: 05/20/2024 07:21:13) Rev: 1

Contact/Location: DAVID ZIEG - JAMASH