WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL

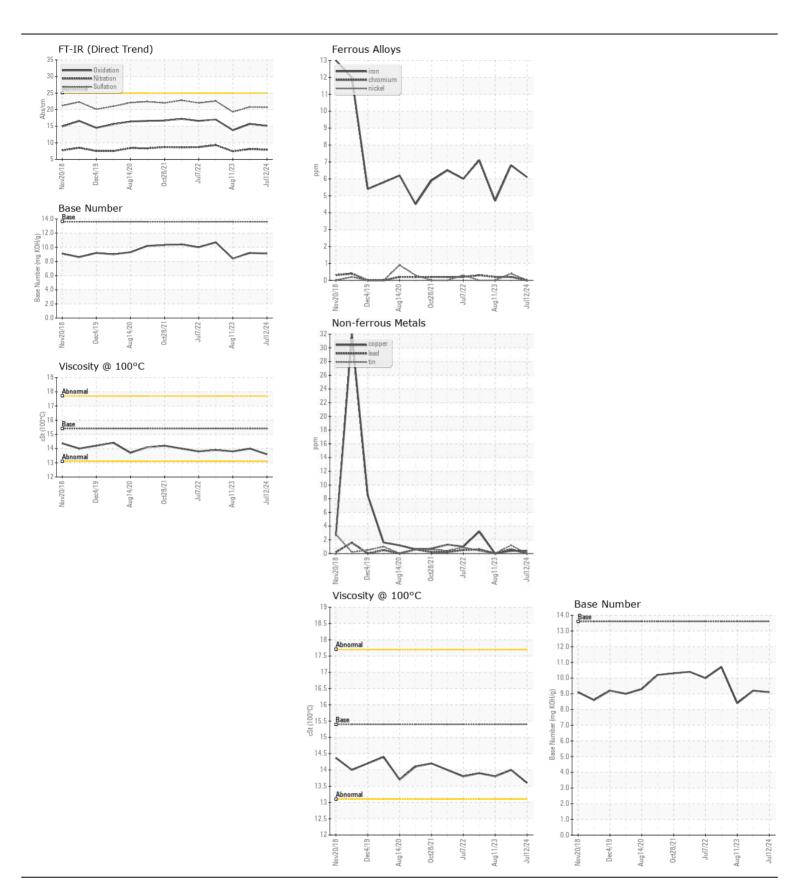
Machine Id

HITACHI HCMDFD60T00700147

Diesel Engine

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (24 QTS)

Sample Number Client Info J80226528 JR0211133 JR018210 Sample Date Machine Age hrs Client Info Client Info T377 6922 6441 Mg 2004 Mg 200	JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (24 Q1S)						
Sample Number Client Info JR0226526 JR021113 JR018200 Sample Date Client Info Client Info Tay Sample Date Client Info Changed Changed Client Info Changed Change	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Date Client Info 12 Jul 2024 3 Mar 2004 1 11 Aug 2024 Machine Age his Client Info College Paris Client Info College Client Info College Paris Client Info College Client Info College Client Info College Client Info College Client Info Changed Client Info Changed Client Info Changed	Resample at the next service interval to monitor.	Sample Number				JR0226528	JR0211133	JR0182100
Oil Age		Sample Date		Client Info		12 Jul 2024	29 Mar 2024	11 Aug 2023
Filter Age Dic Changed Client Info Changed Cha		Machine Age	hrs	Client Info		7377	6922	6441
Oil Changed Client Info Changed Changed NA Changed NA Changed NA Changed NA NORMAL NO		Oil Age	hrs	Client Info		455	5941	5951
Filter Changed Chent Info Changed NA NORMAL N		Filter Age	hrs	Client Info		0	5941	0
Name		Oil Changed		Client Info		Changed	Changed	N/A
Iron		Filter Changed		Client Info		Changed	Changed	N/A
All component wear rates are normal. Chromium ppm ASTM (25185m > 20 0 -1 0 0 0 0 0 0 0 0 0		Sample Status				NORMAL	NORMAL	NORMAL
All component wear rates are normal. Chromium ppm ASTM (25185m > 20 0 -1 0 0 0 0 0 0 0 0 0	WEAR	Iron	maa	ASTM D5185m	>100	6	7	5
Nickel ppm ASTM D5165m 34 0 0 0 0	WEAIT							
Titanium ppm ASTM D5185m 3 0 0 0 0 0 0 0 0 0	All component wear rates are normal.							
Silver								
Aluminum ppm ASTM D5185m >20 4 6 3					~3			
Lead ppm ASTM D5185m 340 0 <1 0 0 Copper ppm ASTM D5185m 330 <1 <1 0 0 0 1 0 0 0								
Copper								
Tim								
Vanadium ppm ASTM D5185m NONE								
White Metal Scalar "Visual NONE NO					713			
Silicon					NONE	-		
Silicon ppm ASTM D5185m >25 6 6 4								
Potassium ppm ASTM 05185m 20 <1 3 0	<u></u>		Scalai	Visuai	INOINL	INONE	INOINE	INOINE
There is no indication of any contamination in the oil. Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.	CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	6		
Water WC Method Sol NEG NE	There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	<1	3	0
Glycol		Fuel		WC Method	>5	<1.0	<1.0	<1.0
Soot %		Water			>0.2	NEG	NEG	NEG
Nitration		Glycol		WC Method		NEG	NEG	NEG
Sulfation Abs/.1mm *ASTM D7415 >30 20.7 20.8 19.3		Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Silt scalar *Visual NONE NO		Nitration	Abs/cm	*ASTM D7624	>20	7.9	8.1	7.4
Debris Scalar *Visual NONE		Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	20.8	19.3
Sand/Dirt Scalar *Visual NONE NONE NONE NONE Appearance Scalar *Visual NORML N		Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance Scalar *Visual NORML NORM		Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Codor Scalar *Visual NORML NOR		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG		Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185m 240 261 212		Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185m 240 261 212		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Boron ppm ASTM D5185m 240 261 212	ELLID CONDITION	Sodium	nnm	ASTM D5185m		3	10	0
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185m 252 252 191 Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 820 852 678 Calcium ppm ASTM D5185m 1514 1593 1574 Phosphorus ppm ASTM D5185m 945 955 906 Zinc ppm ASTM D5185m 1059 1162 1137 Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.tmm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4	I LOID CONDITION							
Molybdenum ppm ASTM D5185m 252 252 191 Manganese ppm ASTM D5185m 21 252 252 151 Molybdenum ppm ASTM D5185m 21 252 252 191 Manganese ppm ASTM D5185m 21 252 252 151 Molybdenum ppm ASTM D5185m 21 252 252 151 Molybdenum ppm ASTM D5185m 21 252 252 151 Molybdenum ppm ASTM D5185m 21 252 252 252 151 Molybdenum ppm ASTM D5185m 21 252 252 252 252 252 252 Molybdenum ppm ASTM D5185m 21 252 252 252 252 252 252 252 252 252	The BN result indicates that there is suitable alkalinity remaining in the							
Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 820 852 678 Calcium ppm ASTM D5185m 1514 1593 1574 Phosphorus ppm ASTM D5185m 945 955 906 Zinc ppm ASTM D5185m 1059 1162 1137 Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4	oil. The condition of the oil is suitable for further service.							
Magnesium ppm ASTM D5185m 820 852 678 Calcium ppm ASTM D5185m 1514 1593 1574 Phosphorus ppm ASTM D5185m 945 955 906 Zinc ppm ASTM D5185m 1059 1162 1137 Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4								
Calcium ppm ASTM D5185m 1514 1593 1574 Phosphorus ppm ASTM D5185m 945 955 906 Zinc ppm ASTM D5185m 1059 1162 1137 Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4								
Phosphorus ppm ASTM D5185m 945 955 906 Zinc ppm ASTM D5185m 1059 1162 1137 Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4								
Zinc ppm ASTM D5185m 1059 1162 1137 Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4								
Sulfur ppm ASTM D5185m 3571 3942 4022 Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4								
Oxidation Abs/.1mm *ASTM D7414 >25 15.1 15.7 13.8 Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4								
Base Number (BN) mg KOH/g ASTM D2896 13.6 9.1 9.2 8.4					- OF			
VISC @ 100°C CST ASIM D445 15.4 13.6 14.0 13.8								
		visc @ 100°C	COI	ASTM D445	15.4	13.6	14.0	13.8







Certificate L2367

Laboratory Sample No.

: JR0226528 Lab Number : 06235695

Unique Number : 11124529

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 15 Jul 2024 **Tested**

Diagnosed Test Package : CONST (Additional Tests: TBN)

: 16 Jul 2024 : 16 Jul 2024 - Wes Davis **CWS-STRITTMATTER** 9102 OWENS DR

MANASSAS PARK, VA US 20111

Contact: EDDIE GARRETSON

egarretson@strittmattercompanies.com T: (703)335-2255

* - 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)

F: (703)335-8095