



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**HITACHI 1FFDDR70PMF940961**

Component  
**Diesel Engine**

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

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0157600</b>	JR0160449	JR0150095
Sample Date		Client Info		<b>03 Apr 2023</b>	30 Jan 2023	18 Oct 2022
Machine Age	hrs	Client Info		<b>3445</b>	2947	2462
Oil Age	hrs	Client Info		<b>498</b>	485	510
Filter Age	hrs	Client Info		<b>498</b>	0	510
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>9</b>	11	15
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	12	11
Lead	ppm	ASTM D5185m	>40	<b>0</b>	1	<1
Copper	ppm	ASTM D5185m	>330	<b>4</b>	<1	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

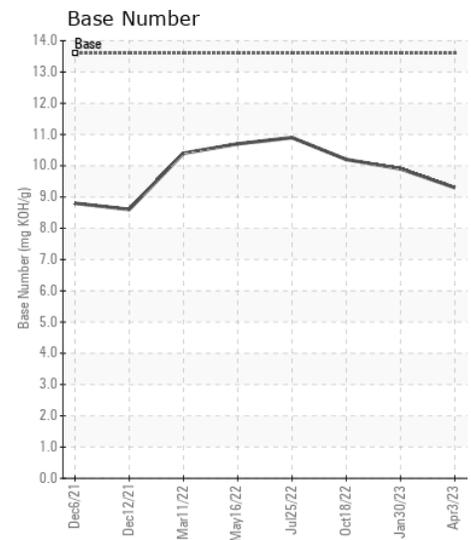
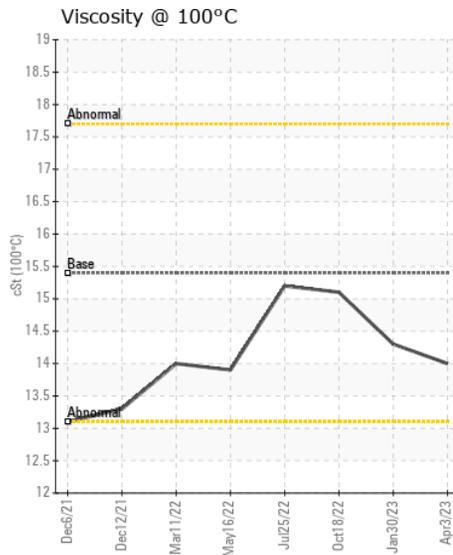
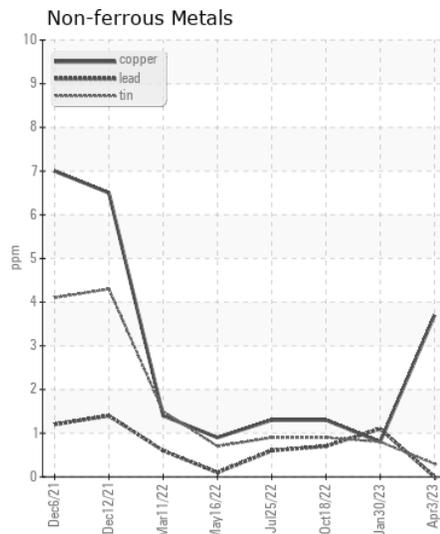
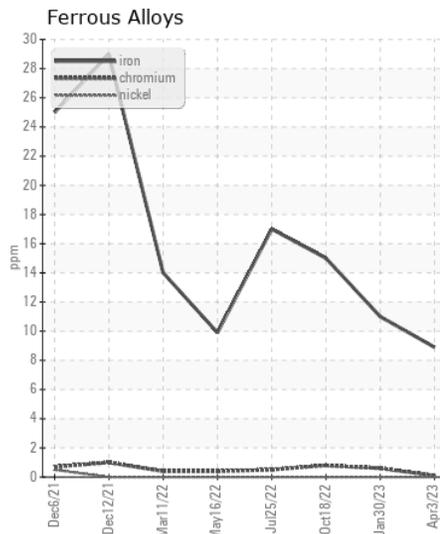
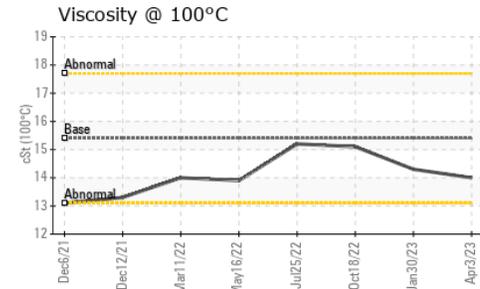
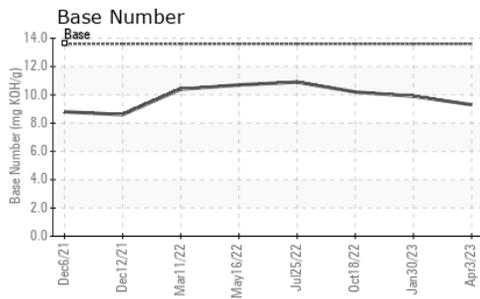
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.6	1.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	8.4	10.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.3</b>	21.5	25.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

### 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.

Sodium	ppm	ASTM D5185m		<b>2</b>	<1	0
Boron	ppm	ASTM D5185m		<b>228</b>	241	211
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>247</b>	243	242
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>851</b>	811	802
Calcium	ppm	ASTM D5185m		<b>1567</b>	1419	1447
Phosphorus	ppm	ASTM D5185m		<b>936</b>	851	862
Zinc	ppm	ASTM D5185m		<b>1120</b>	1066	1030
Sulfur	ppm	ASTM D5185m		<b>3463</b>	3445	3417
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.1</b>	15.2	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>9.3</b>	9.9	10.2
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.0</b>	14.3	15.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0157600 **Received** : 04 Apr 2023  
**Lab Number** : 05810845 **Tested** : 06 Apr 2023  
**Unique Number** : 10413637 **Diagnosed** : 06 Apr 2023 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

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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.

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