



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

Machine Id  
**HITACHI 50 HCMAED60C00287585**

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>JR0199719</b>	JR0148730	JR0106071
Sample Date		Client Info		<b>21 Feb 2024</b>	17 Nov 2022	04 Jan 2022
Machine Age	hrs	Client Info		<b>3439</b>	2955	2580
Oil Age	hrs	Client Info		<b>0</b>	0	500
Filter Age	hrs	Client Info		<b>0</b>	0	500
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>12</b>	17	20
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	6	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	1
Copper	ppm	ASTM D5185m	>330	<b>1</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

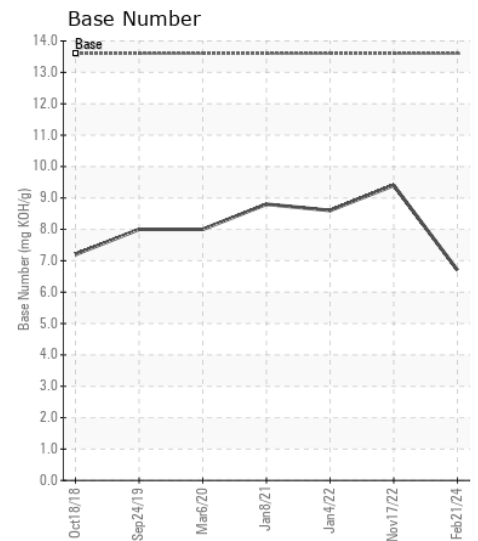
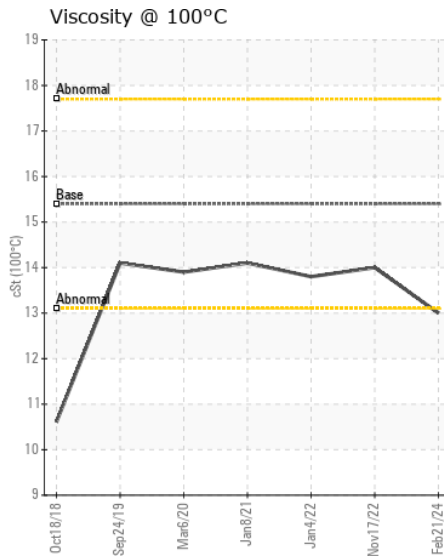
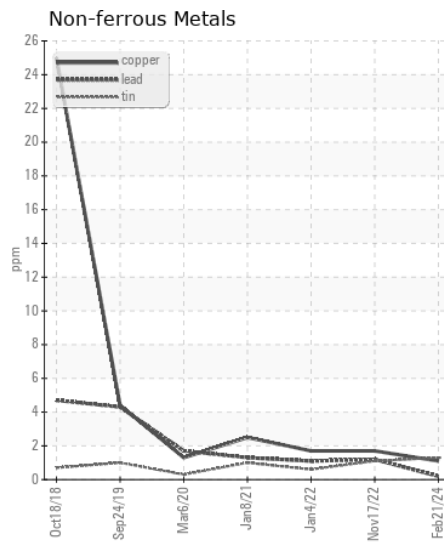
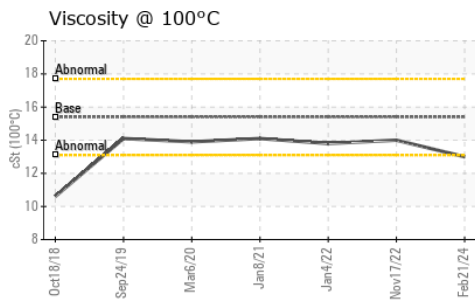
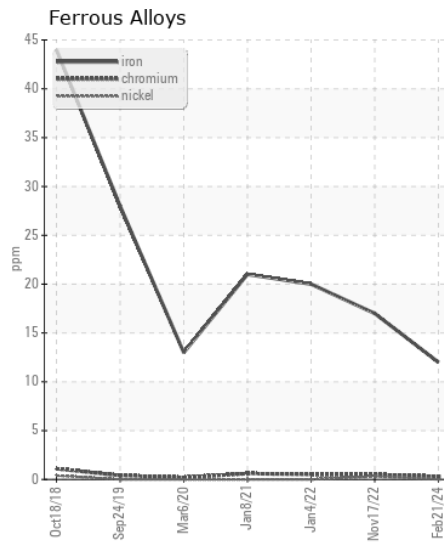
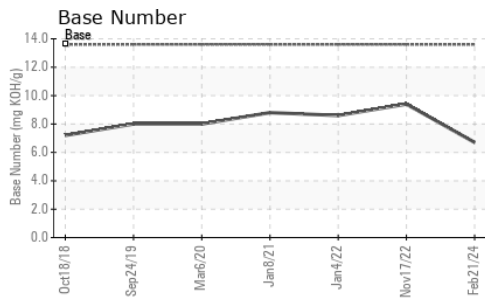
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>11</b>	13	14
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Fuel	%	ASTM D3524	>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>0.2</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	10.6	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.4</b>	24.5	23.8
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>&lt;1</b>	<1	<1
Boron	ppm	ASTM D5185m		<b>170</b>	183	159
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>217</b>	236	237
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>745</b>	825	751
Calcium	ppm	ASTM D5185m		<b>1339</b>	1505	1302
Phosphorus	ppm	ASTM D5185m		<b>786</b>	863	794
Zinc	ppm	ASTM D5185m		<b>972</b>	1137	1025
Sulfur	ppm	ASTM D5185m		<b>2704</b>	3513	2771
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.6</b>	20.2	20.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>6.7</b>	9.4	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.0</b>	14.0	13.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0199719 **Received** : 22 Feb 2024  
**Lab Number** : 06097401 **Tested** : 23 Feb 2024  
**Unique Number** : 10890254 **Diagnosed** : 24 Feb 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: FuelDilution, TBN )

**JRE - ASHLAND**  
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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)