



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

Machine Id  
**HITACHI 190W-6 HCMLBH60V00005009**

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>JR0221956</b>	JR0209228	JR0156698
Sample Date		Client Info		<b>18 Jun 2024</b>	10 Apr 2024	28 Dec 2022
Machine Age	hrs	Client Info		<b>5563</b>	5019	2553
Oil Age	hrs	Client Info		<b>544</b>	2466	2553
Filter Age	hrs	Client Info		<b>544</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>13</b>	39	12
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>1</b>	8	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>10</b>	▲ 22	11
Lead	ppm	ASTM D5185m	>40	<b>1</b>	2	1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	5	21
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	2	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

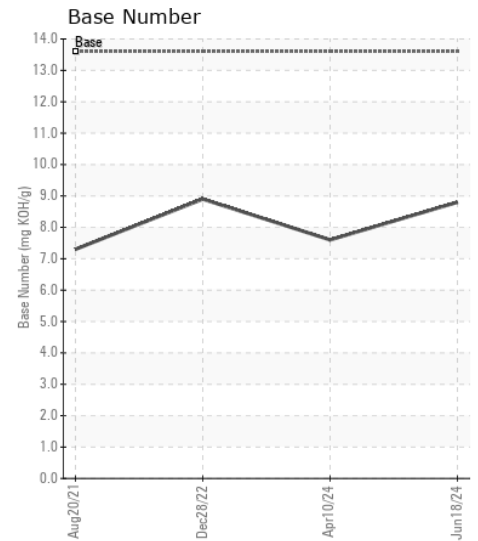
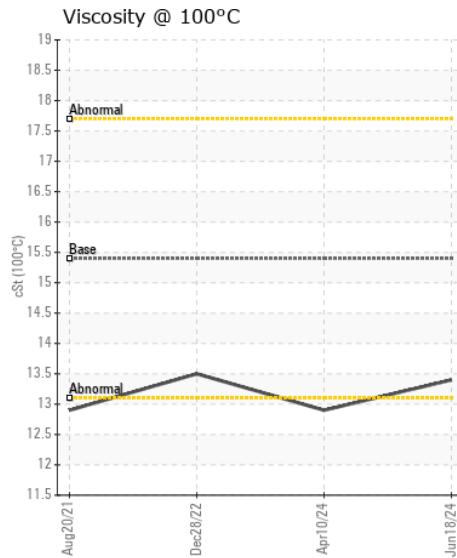
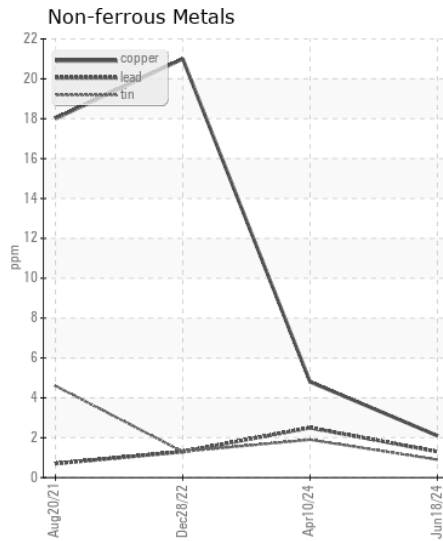
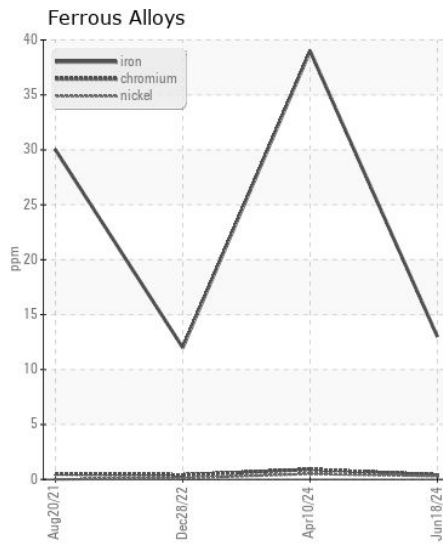
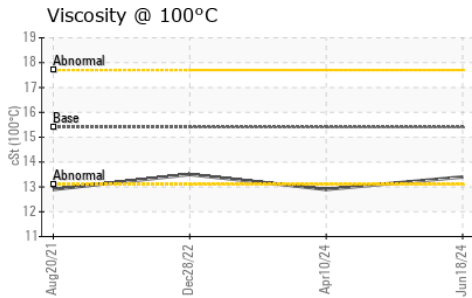
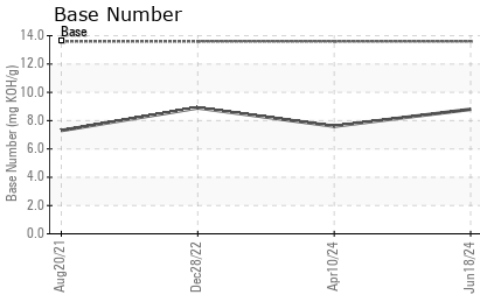
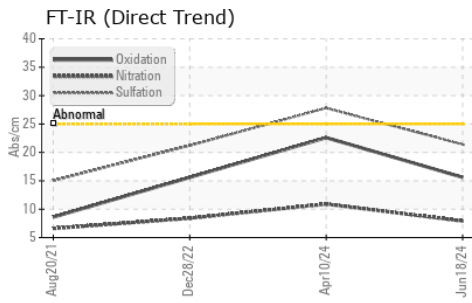
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>15</b>	24	11
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	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>0.3</b>	1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.9</b>	10.9	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.4</b>	27.8	21.2
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>	4	2
Boron	ppm	ASTM D5185m		<b>298</b>	37	212
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>305</b>	229	252
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>941</b>	804	808
Calcium	ppm	ASTM D5185m		<b>1641</b>	1575	1597
Phosphorus	ppm	ASTM D5185m		<b>1016</b>	920	918
Zinc	ppm	ASTM D5185m		<b>1227</b>	1105	1160
Sulfur	ppm	ASTM D5185m		<b>3426</b>	3605	3481
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.6</b>	22.6	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.8</b>	7.6	8.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.4</b>	12.9	13.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0221956 **Received** : 20 Jun 2024  
**Lab Number** : 06215483 **Tested** : 21 Jun 2024  
**Unique Number** : 11088347 **Diagnosed** : 21 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**JRE - GARNER**  
 4161 AUBURN CHURCH RD  
 GARNER, NC  
 US 27529

Contact: RALEIGH SHOP  
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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)

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