



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

Area

**BLYTHE**

Machine Id

**HAMM HD110IVT H2090226**

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>JR0209719</b>	JR0202224	JR0168215
Sample Date		Client Info		<b>12 Jun 2024</b>	07 Feb 2024	17 May 2023
Machine Age	hrs	Client Info		<b>5126</b>	4864	4350
Oil Age	hrs	Client Info		<b>262</b>	514	0
Filter Age	hrs	Client Info		<b>262</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>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>17</b>	5	4
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>7</b>	5	4
Lead	ppm	ASTM D5185m	>40	<b>2</b>	2	0
Copper	ppm	ASTM D5185m	>330	<b>3</b>	0	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	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.

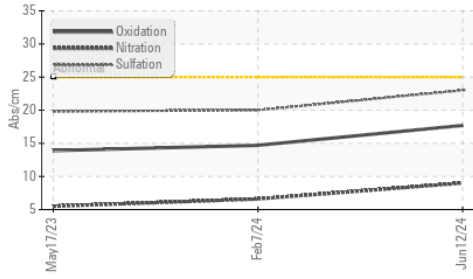
Silicon	ppm	ASTM D5185m	>25	<b>15</b>	5	8
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	2
Fuel	%	ASTM D3524	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	6.6	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.0</b>	20.0	19.8
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
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

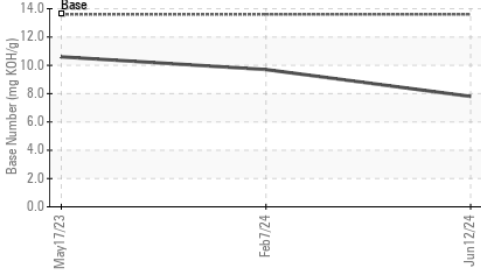
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	1	2
Boron	ppm	ASTM D5185m		<b>176</b>	259	263
Barium	ppm	ASTM D5185m		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>247</b>	242	244
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>784</b>	779	809
Calcium	ppm	ASTM D5185m		<b>1469</b>	1277	1467
Phosphorus	ppm	ASTM D5185m		<b>729</b>	859	876
Zinc	ppm	ASTM D5185m		<b>1038</b>	1001	1065
Sulfur	ppm	ASTM D5185m		<b>3046</b>	2795	3441
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.7</b>	14.7	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.8</b>	9.7	10.6
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.0</b>	13.9	14.4

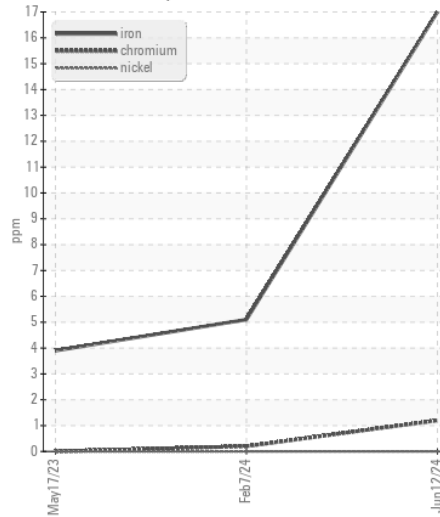
**FT-IR (Direct Trend)**



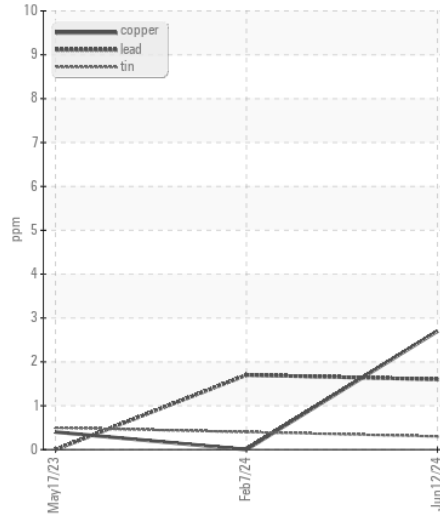
**Base Number**



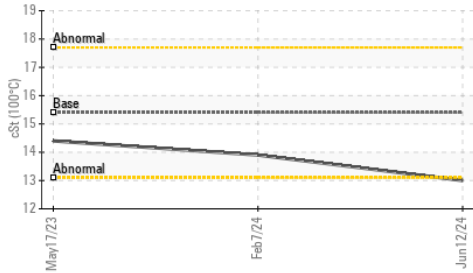
**Ferrous Alloys**



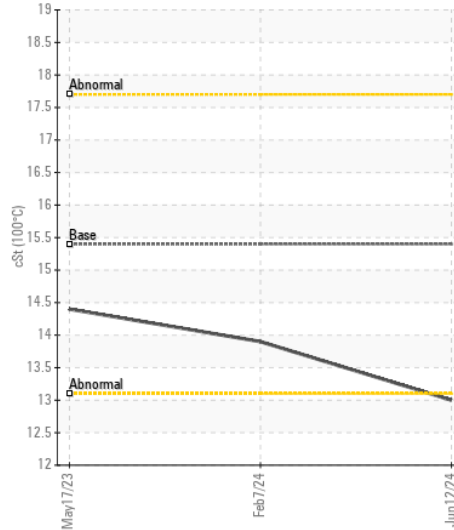
**Non-ferrous Metals**



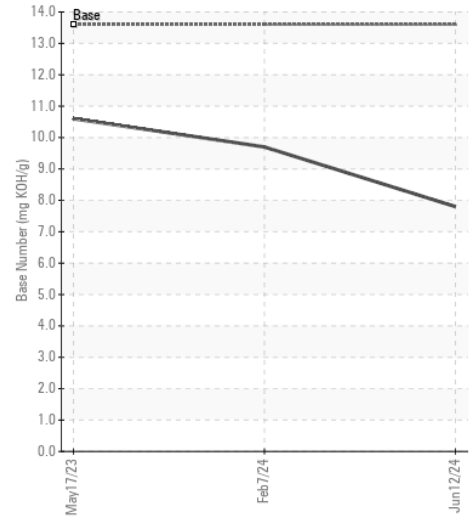
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0209719 **Received** : 14 Jun 2024  
**Lab Number** : 06209882 **Tested** : 17 Jun 2024  
**Unique Number** : 11082746 **Diagnosed** : 17 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: FuelDilution, TBN )

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

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

Contact: RALEIGH SHOP  
 sean.betts@jamesriverequipment.com; catherine.anastasio@wearcheck.com

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (919)614-2260

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

F: (919)779-5432