



Machine Id  
**JOHN DEERE 331G 1T0331GKCNF421644**  
 Component  
**Diesel Engine**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0198646	---	---
Sample Date		Client Info		14 Jun 2024	---	---
Machine Age	hrs	Client Info		1726	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	21	---	---
Chromium	ppm	ASTM D5185m	>11	<1	---	---
Nickel	ppm	ASTM D5185m	>5	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	<1	---	---
Aluminum	ppm	ASTM D5185m	>31	7	---	---
Lead	ppm	ASTM D5185m	>26	0	---	---
Copper	ppm	ASTM D5185m	>26	6	---	---
Tin	ppm	ASTM D5185m	>4	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

### CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

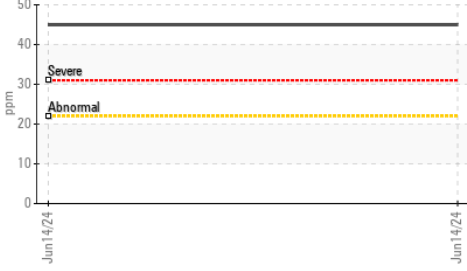
Silicon	ppm	ASTM D5185m	>22	45	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel		WC Method	>2.1	<1.0	---	---
Water		WC Method	>0.21	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.3	---	---
Nitration	Abs/cm	*ASTM D7624	>20	9.4	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.8	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.21	NEG	---	---

### FLUID CONDITION

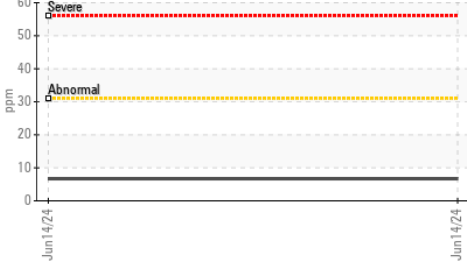
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m	>31	3	---	---
Boron	ppm	ASTM D5185m		165	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		247	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		893	---	---
Calcium	ppm	ASTM D5185m		1553	---	---
Phosphorus	ppm	ASTM D5185m		973	---	---
Zinc	ppm	ASTM D5185m		1165	---	---
Sulfur	ppm	ASTM D5185m		3395	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.7	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.5	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	---	---

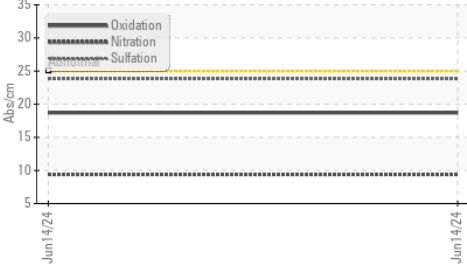
▲ Silicon (ppm)



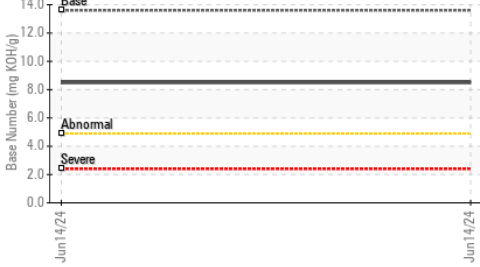
● Aluminum (ppm)



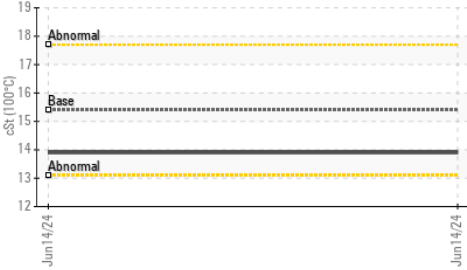
FT-IR (Direct Trend)



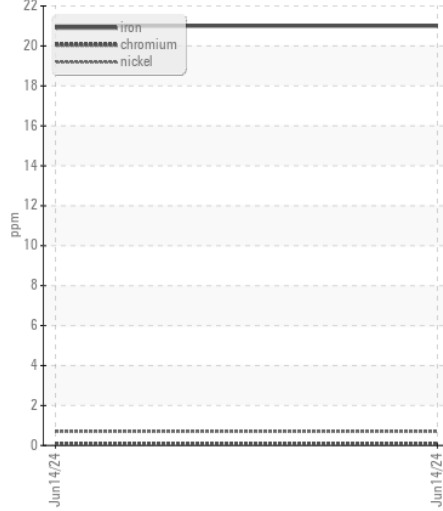
Base Number



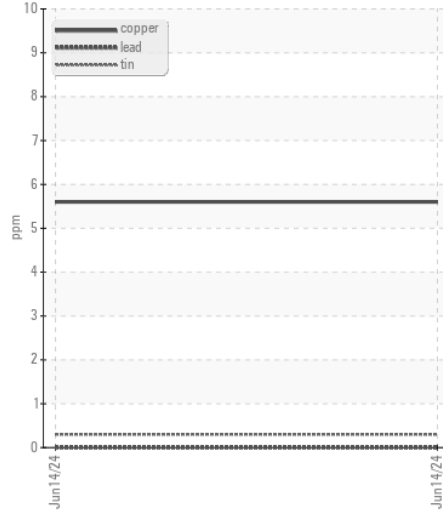
Viscosity @ 100°C



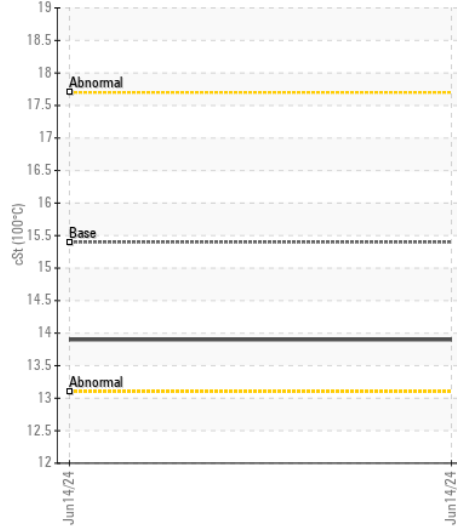
Ferrous Alloys



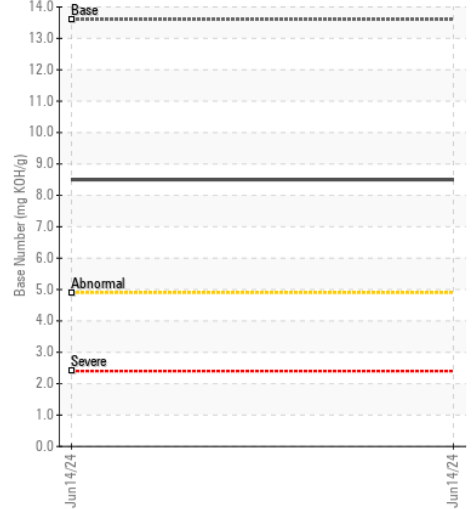
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0198646

Lab Number : 06211435

Unique Number : 11084299

Test Package : CONST ( Additional Tests: TBN )

Received : 17 Jun 2024

Tested : 19 Jun 2024

Diagnosed : 19 Jun 2024 - Don Baldrige

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)

JRE - MONROE

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Contact: MONROE SHOP

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