



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 331G 1T0331GKJKF358149
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0199204	JR0139973	JR0095313
Sample Date		Client Info		17 Jan 2024	09 Aug 2022	05 Aug 2021
Machine Age	hrs	Client Info		2035	1353	846
Oil Age	hrs	Client Info		682	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 61	33	52
Chromium	ppm	ASTM D5185m	>11	<1	<1	1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>31	11	6	2
Lead	ppm	ASTM D5185m	>26	<1	<1	1
Copper	ppm	ASTM D5185m	>26	19	▲ 36	▲ 222
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

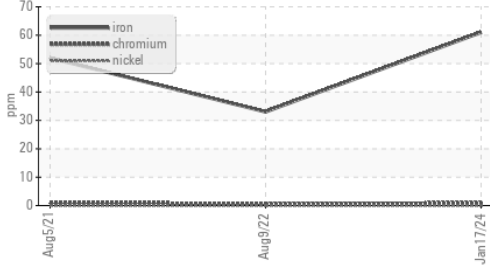
Silicon	ppm	ASTM D5185m	>22	21	17	▲ 36
Potassium	ppm	ASTM D5185m	>20	3	0	2
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	11.9	12.0	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.0	28.0	29.7
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	NEG

FLUID CONDITION

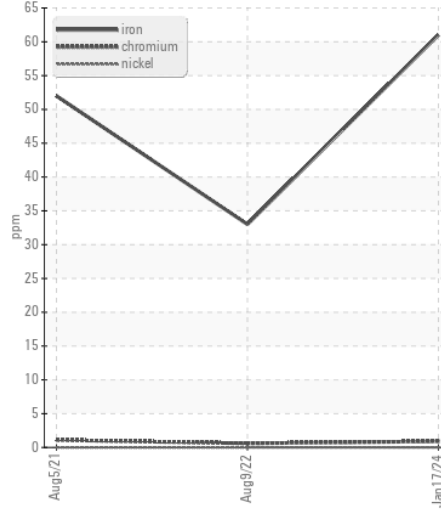
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>31	2	3	9
Boron	ppm	ASTM D5185m		74	173	67
Barium	ppm	ASTM D5185m		<1	<1	2
Molybdenum	ppm	ASTM D5185m		268	253	240
Manganese	ppm	ASTM D5185m		1	<1	2
Magnesium	ppm	ASTM D5185m		803	774	591
Calcium	ppm	ASTM D5185m		1701	1624	2158
Phosphorus	ppm	ASTM D5185m		992	871	998
Zinc	ppm	ASTM D5185m		1229	1113	1224
Sulfur	ppm	ASTM D5185m		2870	2697	2577
Oxidation	Abs/.1mm	*ASTM D7414	>25	30.2	24.5	28.5
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	6.4	8.9	5.9
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.9	13.0

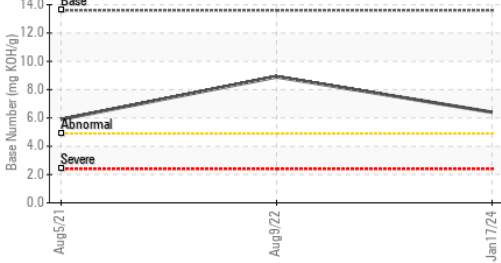
▲ Ferrous Alloys



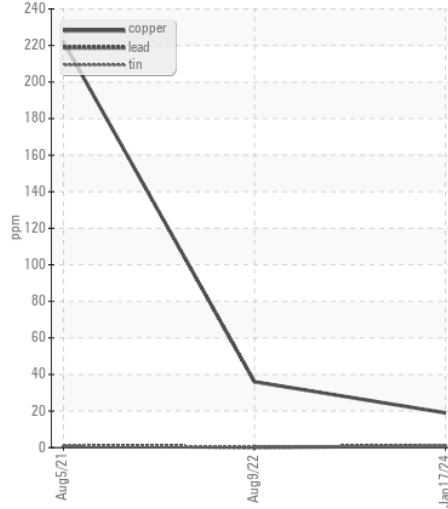
▲ Ferrous Alloys



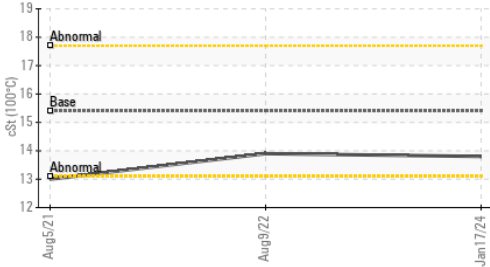
Base Number



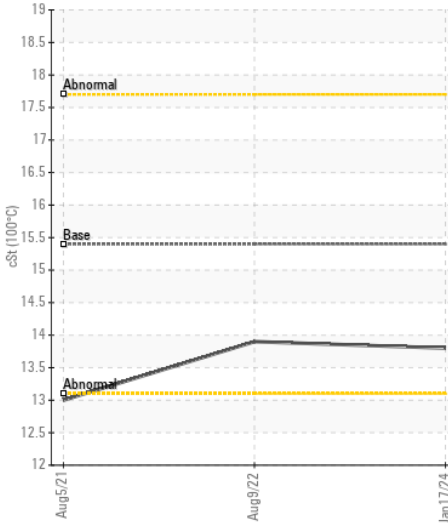
Non-ferrous Metals



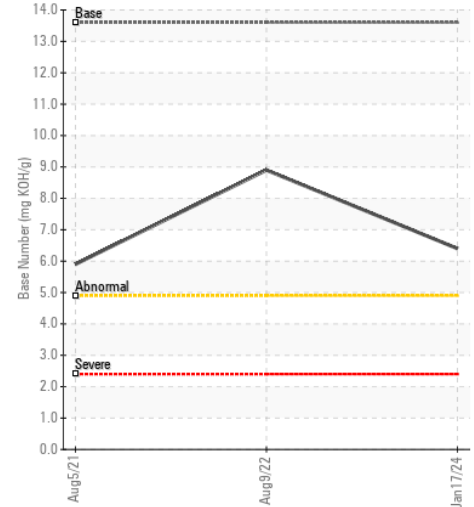
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0199204 **Received** : 18 Jan 2024
Lab Number : 06064975 **Diagnosed** : 22 Jan 2024
Unique Number : 10836357 **Diagnostician** : Sean Felton
Test Package : CONST (Additional Tests: TBN)

JRE - MANASSAS PARK
 9107 OWENS DRIVE
 MANASSAS PARK, VA
 US 20111

Contact: DON VEST
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 F: (703)631-4715

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)