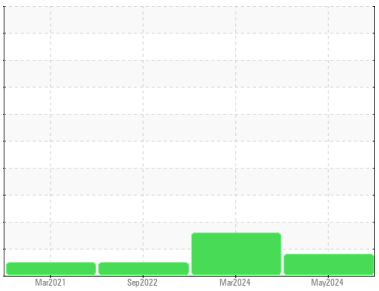
JAMES RIVER EQUIPMENT

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
JOHN DEERE 310L 1T0310LXLJF340157
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

DIAGNOSIS

▲ 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. Note that there appears to be a discrepancy in the total time on this component, when compared to the historical data.

▲ Wear
The lead level is abnormal. All other component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**JR0212118**	JR0199728	JR0147495
Sample Date		Client Info		**29 May 2024**	07 Mar 2024	22 Sep 2022
Machine Age	hrs	Client Info		**3246**	3809	2428
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.21	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	**17**	▲ 60	16
Chromium	ppm	ASTM D5185m	>11	**<1**	2	<1
Nickel	ppm	ASTM D5185m	>5	**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>31	**7**	10	4
Lead	ppm	ASTM D5185m	>26	▲ **49**	▲ 41	19
Copper	ppm	ASTM D5185m	>26	**3**	9	4
Tin	ppm	ASTM D5185m	>4	**2**	3	1
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**63**	26	55
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**248**	262	218
Manganese	ppm	ASTM D5185m		**2**	5	2
Magnesium	ppm	ASTM D5185m		**840**	820	753
Calcium	ppm	ASTM D5185m		**1479**	1521	1412
Phosphorus	ppm	ASTM D5185m		**839**	841	666
Zinc	ppm	ASTM D5185m		**992**	1037	840
Sulfur	ppm	ASTM D5185m		**3530**	3114	3120

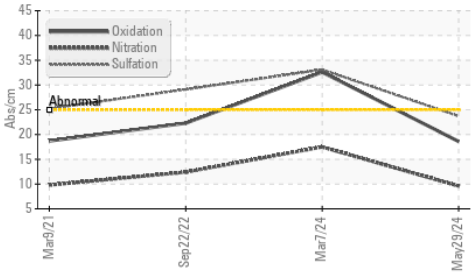
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>22	**11**	9	7
Sodium	ppm	ASTM D5185m	>31	**3**	2	2
Potassium	ppm	ASTM D5185m	>20	**1**	3	<1
Fuel	%	ASTM D3524	>2.1	**<1.0**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.5	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**9.6**	17.5	12.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.7**	33.1	29.1

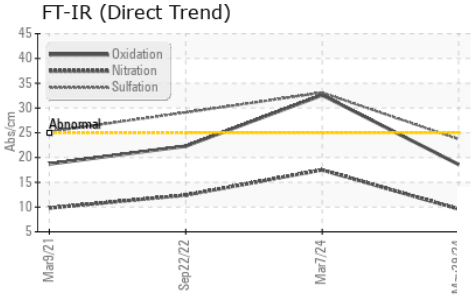
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.6**	32.6	22.3
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	**7.4**	4.5	7.8

OIL ANALYSIS REPORT

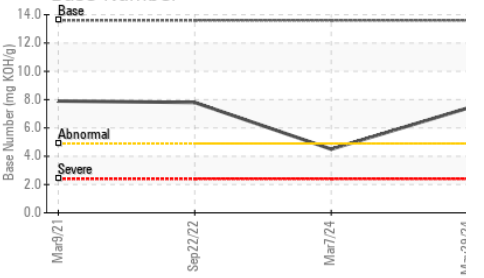
FT-IR (Direct Trend)



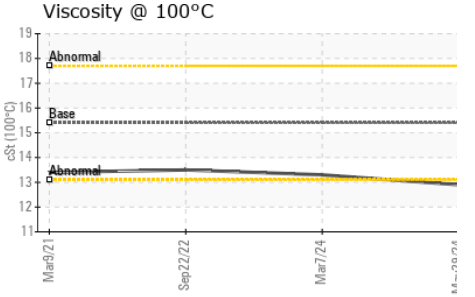
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

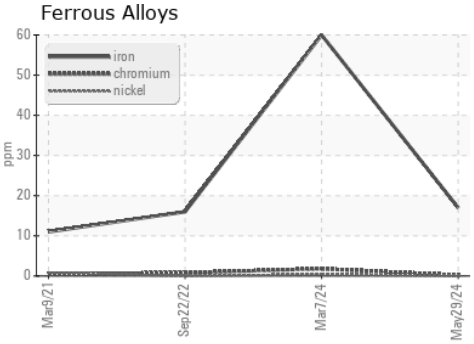


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

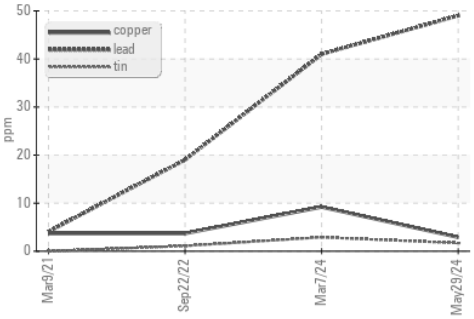
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**12.9**	13.3	13.5

GRAPHS

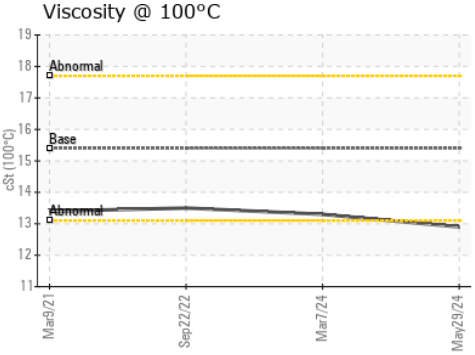
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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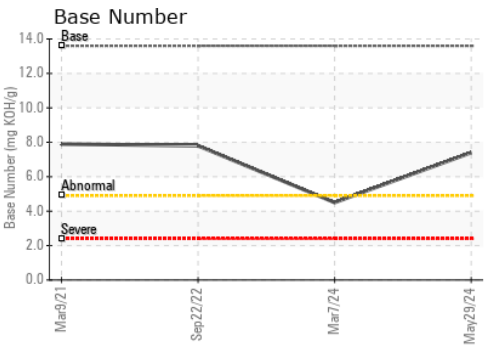

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0212118
Lab Number : 06195299
Unique Number : 11057422
Test Package : CONST (Additional Tests: FuelDilution, TBN)
Received : 30 May 2024
Tested : 31 May 2024
Diagnosed : 01 Jun 2024 - Don Baldridge

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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