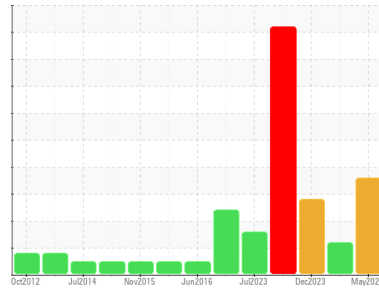


OIL ANALYSIS REPORT

Machine Id
JOHN DEERE 844K 1DW844KXHCD643325
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (10 GAL)

Sample Rating Trend



WEAR



DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

Cylinder, crank, or cam shaft wear is indicated. Bearing and/or bushing wear is indicated.

Contamination

There is a moderate amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		JR0210001	JR0195611	JR0184599
Sample Date	Client Info		10 May 2024	06 Feb 2024	08 Dec 2023
Machine Age	hrs	Client Info	19960	19472	19280
Oil Age	hrs	Client Info	19472	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	MARGINAL	ABNORMAL

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	▲ 87	31	16
Chromium	ppm	ASTM D5185m >11	4	2	<1
Nickel	ppm	ASTM D5185m >5	0	<1	<1
Titanium	ppm	ASTM D5185m	0	<1	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >31	4	3	4
Lead	ppm	ASTM D5185m >26	13	7	8
Copper	ppm	ASTM D5185m >26	▲ 48	38	▲ 41
Tin	ppm	ASTM D5185m >4	▲ 5	6	▲ 6
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	180	275	261
Barium	ppm	ASTM D5185m	<1	0	0
Molybdenum	ppm	ASTM D5185m	231	254	234
Manganese	ppm	ASTM D5185m	2	2	9
Magnesium	ppm	ASTM D5185m	852	812	773
Calcium	ppm	ASTM D5185m	1363	1340	1280
Phosphorus	ppm	ASTM D5185m	893	869	867
Zinc	ppm	ASTM D5185m	1078	1067	1027
Sulfur	ppm	ASTM D5185m	3093	2944	3019

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >22	14	16	17
Sodium	ppm	ASTM D5185m >31	8	2	17
Potassium	ppm	ASTM D5185m >20	0	3	4
Fuel	%	ASTM D3524 >2.1	▲ 5.3	▲ 3.2	▲ 3.3

INFRA-RED

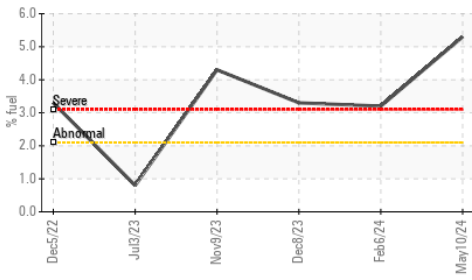
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.1	0.6	0.2
Nitration	Abs/cm	*ASTM D7624 >20	9.0	7.8	6.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.2	21.3	19.9

FLUID DEGRADATION

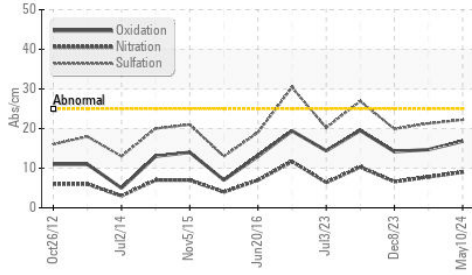
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.8	14.7	14.2
Base Number (BN)	mg KOH/g	ASTM D2896 13.6	7.7	8.6	9.6

OIL ANALYSIS REPORT

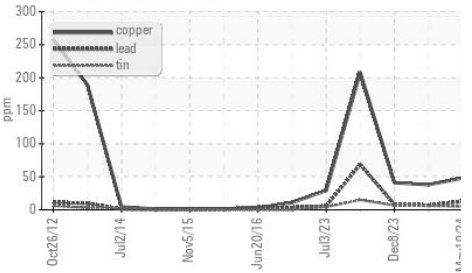
▲ Fuel Dilution



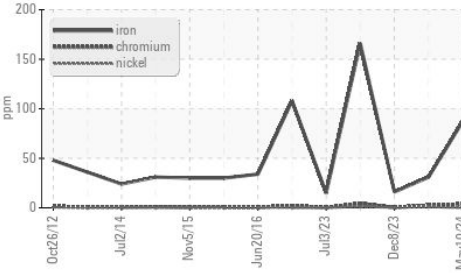
▲ FT-IR (Direct Trend)



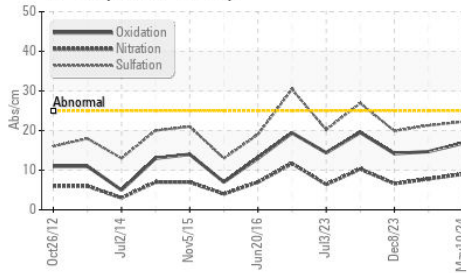
▲ Non-ferrous Metals



▲ Ferrous Alloys



▲ FT-IR (Direct Trend)

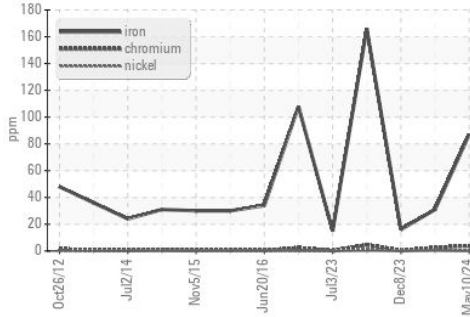


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

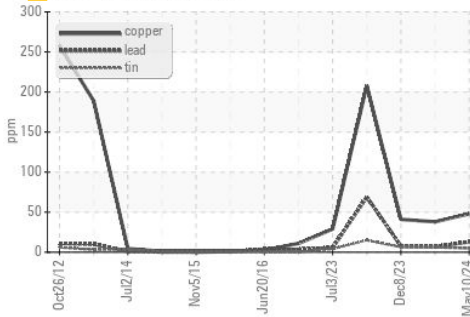
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.5	▲ 12.4

GRAPHS

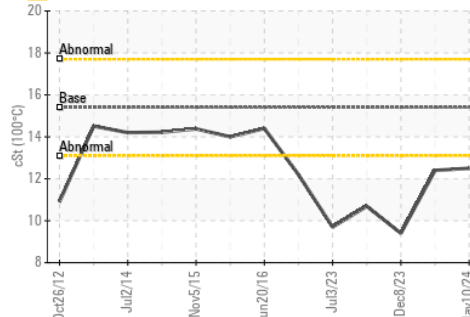
▲ Ferrous Alloys



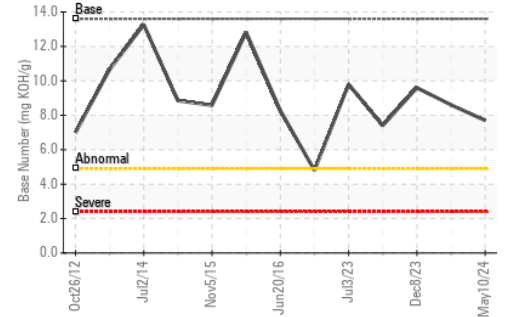
▲ Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : JR0210001

Lab Number : 06183634

Unique Number : 11034960

Test Package : CONST (Additional Tests: FUELDILUTION, PercentFuel, TBN)

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)

Received : 17 May 2024

Tested : 28 May 2024

Diagnosed : 28 May 2024 - Jonathan Hester

JRE - STEPHENSON

245 YARDMASTER COURT

STEPHENSON, VA

US 22656-1761

Contact: PHIL DAUGHERTY

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T: x:

F: (540)693-2588