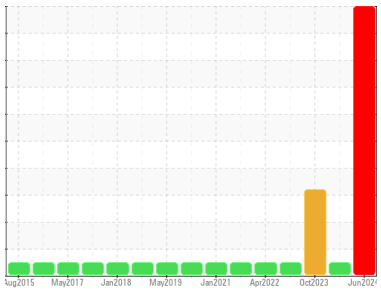
PROBLEM SUMMARY

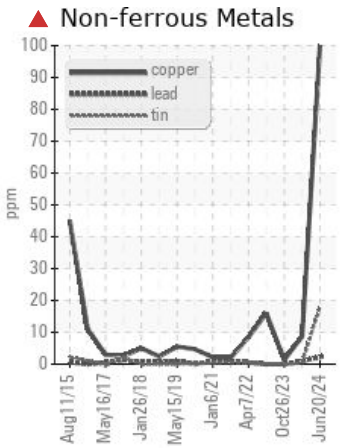
Area
[W52450]
Machine Id
JOHN DEERE 700K 1T0700KXPEE270345
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

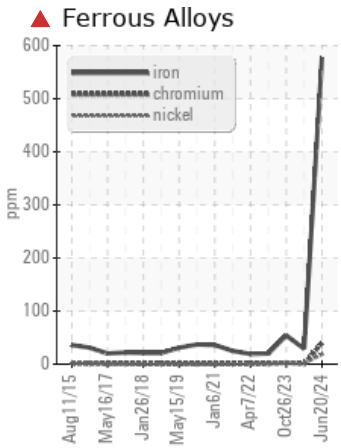
Sample Rating Trend

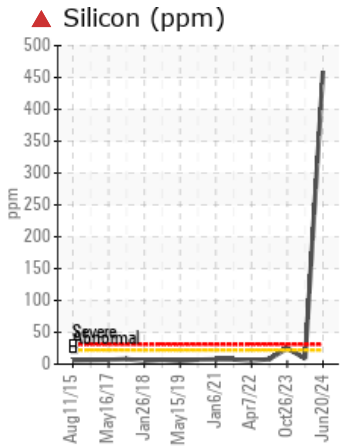


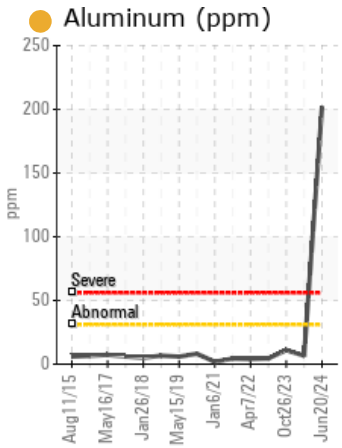
WEAR

COMPONENT CONDITION SUMMARY









RECOMMENDATION

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>51	▲ **577**	29	▲ 54
Chromium	ppm	ASTM D5185m	>11	▲ **40**	<1	3
Nickel	ppm	ASTM D5185m	>5	▲ **18**	1	2
Copper	ppm	ASTM D5185m	>26	▲ **100**	9	1
Tin	ppm	ASTM D5185m	>4	▲ **18**	<1	0
Silicon	ppm	ASTM D5185m	>22	▲ **459**	9	▲ 25

Customer Id: JAMASH
Sample No.: JR0212056
Lab Number: 06216563
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

NORMAL

09 May 2024 Diag: Wes Davis
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

DIRT

26 Oct 2023 Diag: Don Baldridge
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

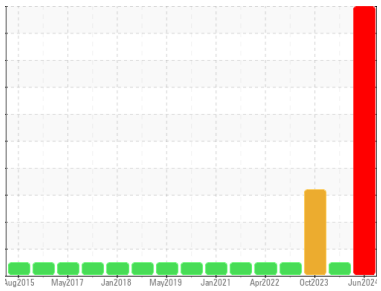
NORMAL

27 Apr 2023 Diag: Wes Davis
Resample at the next service interval to monitor.All component wear rates are normal. The water content is negligible. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
[W52450]
Machine Id
JOHN DEERE 700K 1T0700KXPEE270345
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

DIAGNOSIS

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**JR0212056**	JR0211540	JR0190260
Sample Date		Client Info		**20 Jun 2024**	09 May 2024	26 Oct 2023
Machine Age	hrs	Client Info		**7152**	6989	6438
Oil Age	hrs	Client Info		**163**	0	5110
Oil Changed		Client Info		**Not Changd**	Changed	N/A
Sample Status				**SEVERE**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	▲ **577**	29	▲ 54
Chromium	ppm	ASTM D5185m	>11	▲ **40**	<1	3
Nickel	ppm	ASTM D5185m	>5	▲ **18**	1	2
Titanium	ppm	ASTM D5185m		**9**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>31	● **202**	7	● 11
Lead	ppm	ASTM D5185m	>26	**2**	<1	0
Copper	ppm	ASTM D5185m	>26	▲ **100**	9	1
Tin	ppm	ASTM D5185m	>4	▲ **18**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**230**	179	166
Barium	ppm	ASTM D5185m		**<1**	0	4
Molybdenum	ppm	ASTM D5185m		**217**	226	258
Manganese	ppm	ASTM D5185m		**9**	<1	<1
Magnesium	ppm	ASTM D5185m		**685**	784	772
Calcium	ppm	ASTM D5185m		**1523**	1703	1276
Phosphorus	ppm	ASTM D5185m		**924**	948	910
Zinc	ppm	ASTM D5185m		**1109**	1131	1003
Sulfur	ppm	ASTM D5185m		**3015**	3486	2598

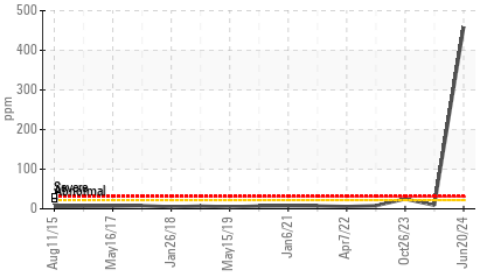
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>22	▲ **459**	9	▲ 25
Sodium	ppm	ASTM D5185m	>31	**4**	4	5
Potassium	ppm	ASTM D5185m	>20	**23**	2	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**7.8**	9.9	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.6**	24.5	24.5

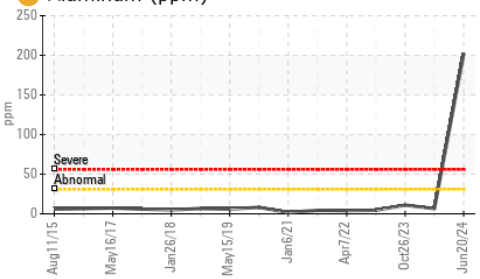
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.3**	18.5	19.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	**8.7**	8.4	7.9

OIL ANALYSIS REPORT

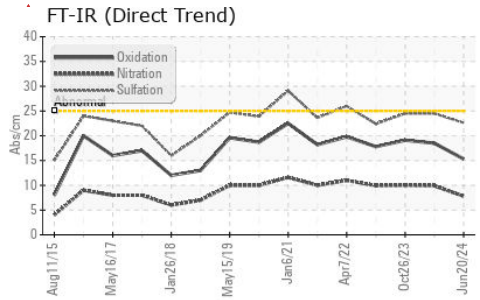
Silicon (ppm)



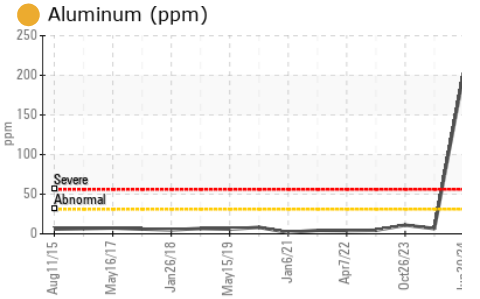
Aluminum (ppm)



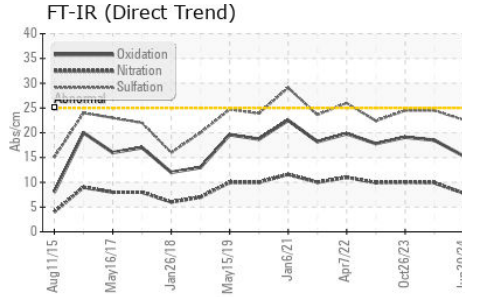
FT-IR (Direct Trend)



Aluminum (ppm)



FT-IR (Direct Trend)

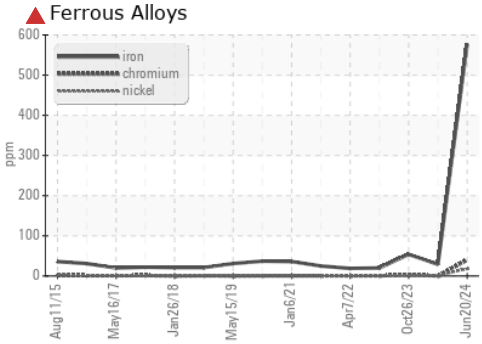


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

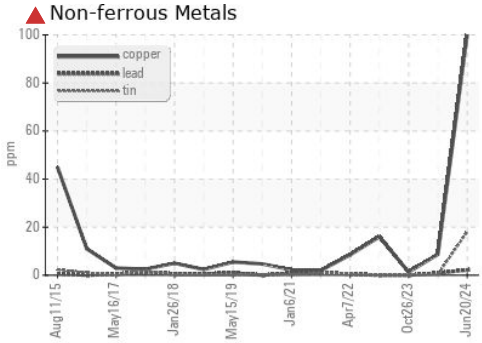
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.3**	13.8	14.8

GRAPHS

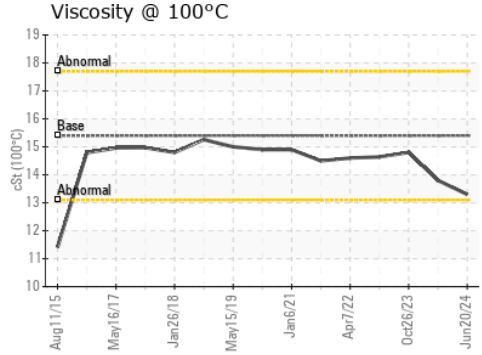
Ferrous Alloys



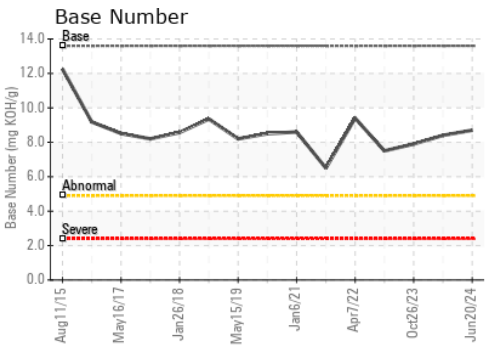
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0212056
Lab Number : 06216563
Unique Number : 11089427
Test Package : CONST (Additional Tests: TBN)

Received : 21 Jun 2024
Tested : 24 Jun 2024
Diagnosed : 24 Jun 2024 - Sean Felton

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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