



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[W47882]

Machine Id

HITACHI 85USB-5 HCMDEF60K00021559

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (3 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: W47882)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0202335	JR0181420	JR0163824
Sample Date		Client Info		26 Feb 2024	08 Aug 2023	09 Mar 2023
Machine Age	hrs	Client Info		2145	1469	900
Oil Age	hrs	Client Info		676	569	0
Filter Age	hrs	Client Info		676	569	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	11	20	52
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	8	5	5
Lead	ppm	ASTM D5185m	>40	1	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	1	8
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

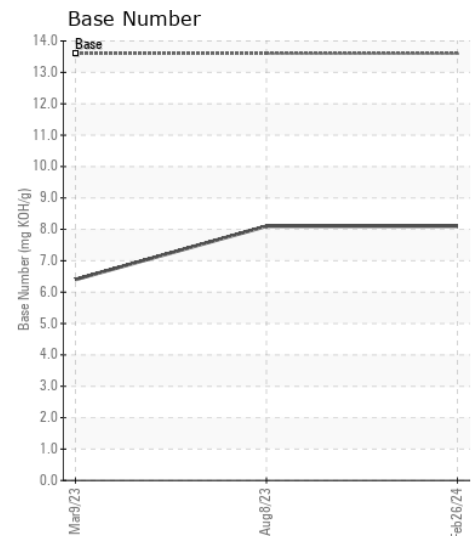
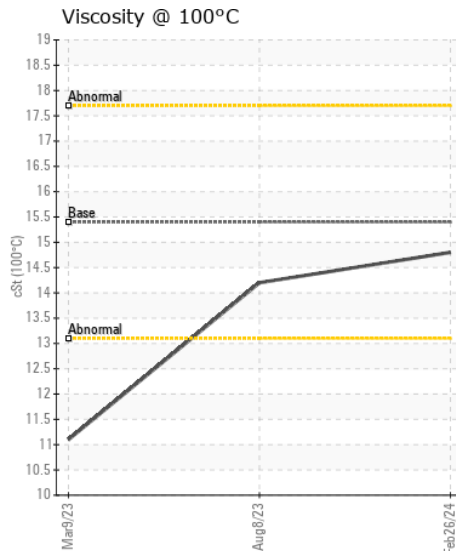
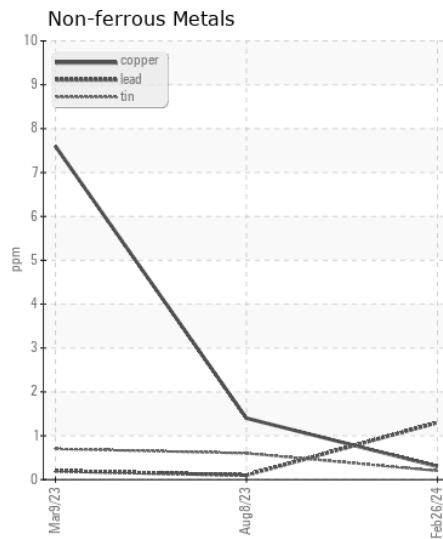
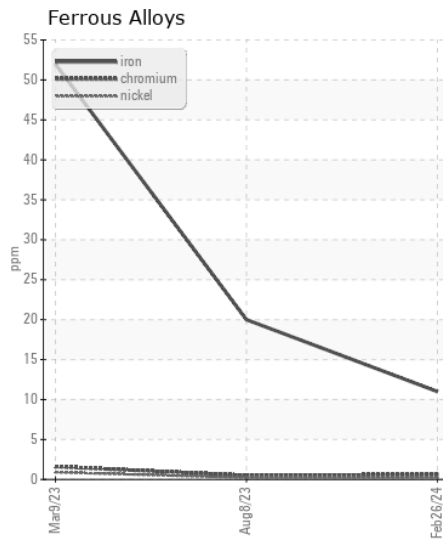
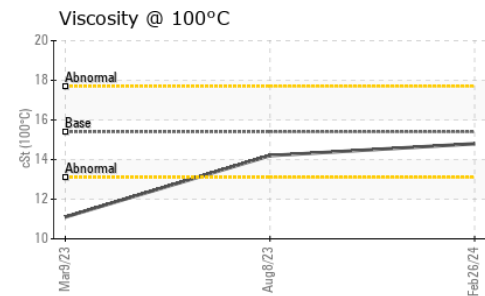
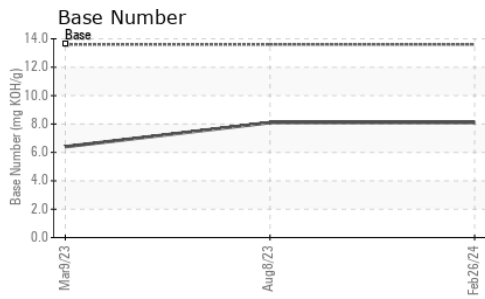
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	14	14	40
Potassium	ppm	ASTM D5185m	>20	3	15	▲ 187
Fuel		WC Method	>5	<1.0	<1.0	1.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	9.4	8.8	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	22.5	20.4
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	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		2	2	9
Boron	ppm	ASTM D5185m		226	229	127
Barium	ppm	ASTM D5185m		<1	0	3
Molybdenum	ppm	ASTM D5185m		243	250	160
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		779	854	144
Calcium	ppm	ASTM D5185m		1696	1600	2213
Phosphorus	ppm	ASTM D5185m		996	869	685
Zinc	ppm	ASTM D5185m		1213	1141	892
Sulfur	ppm	ASTM D5185m		3167	3405	2804
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.9	17.0	15.5
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.1	8.1	6.4
Visc @ 100°C	cSt	ASTM D445	15.4	14.8	14.2	● 11.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0202335 **Received** : 26 Feb 2024
Lab Number : 06100667 **Tested** : 27 Feb 2024
Unique Number : 10898897 **Diagnosed** : 28 Feb 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

JRE - HOPE MILLS/FAYETTEVILLE
 5039 HWY 301 SOUTH
 HOPE MILLS, NC
 US 28348
 Contact: FAYETTEVILLE SHOP
 stephen.mullis@jamesriverequipment.com; panastasio@wearcheck.com

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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F: