



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[05W45580]

Machine Id

HITACHI 160LC-6 1FFDC270CMF440314

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (7 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0208161	JR0156379	JR0130208
Sample Date		Client Info		18 Mar 2024	03 Feb 2023	02 Aug 2022
Machine Age	hrs	Client Info		1451	1047	559
Oil Age	hrs	Client Info		500	488	559
Filter Age	hrs	Client Info		500	0	559
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	14	9	14
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	6	5
Lead	ppm	ASTM D5185m	>40	<1	1	2
Copper	ppm	ASTM D5185m	>330	2	2	6
Tin	ppm	ASTM D5185m	>15	2	2	4
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

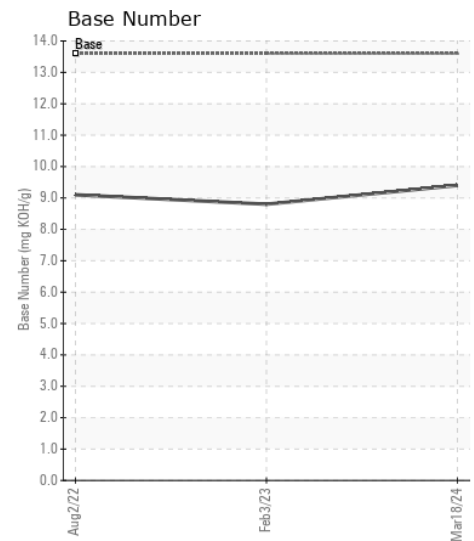
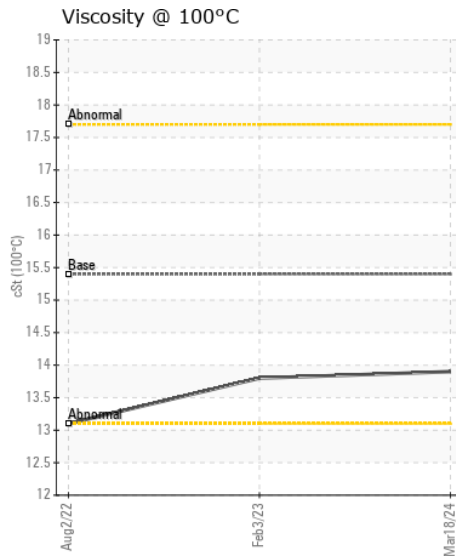
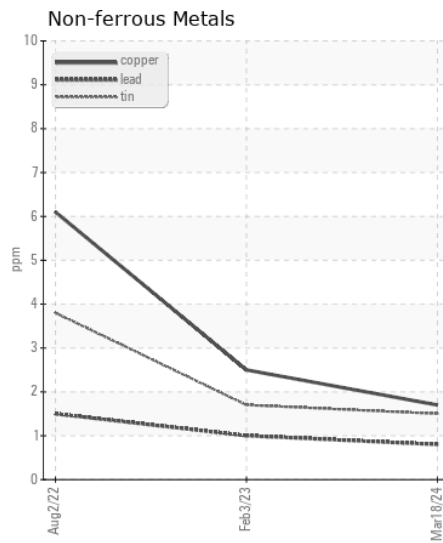
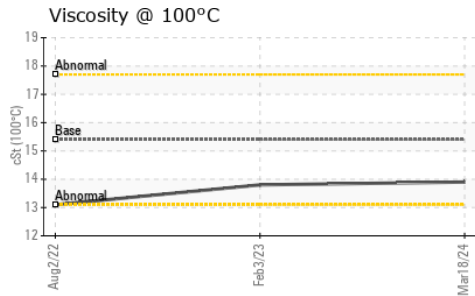
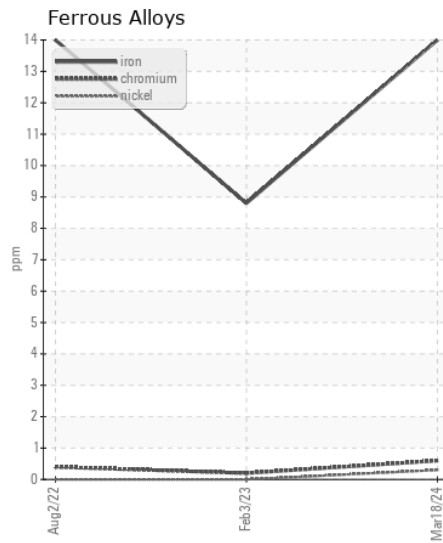
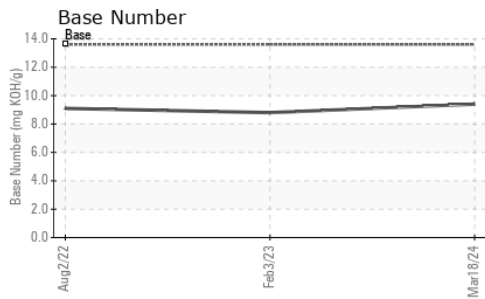
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	10	14	24
Potassium	ppm	ASTM D5185m	>20	4	8	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.3	7.8	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	20.3	17.7
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	>0.2	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	2
Boron	ppm	ASTM D5185m		305	256	166
Barium	ppm	ASTM D5185m		<1	0	<1
Molybdenum	ppm	ASTM D5185m		263	227	1
Manganese	ppm	ASTM D5185m		<1	1	4
Magnesium	ppm	ASTM D5185m		887	733	12
Calcium	ppm	ASTM D5185m		1577	1561	2049
Phosphorus	ppm	ASTM D5185m		1070	892	935
Zinc	ppm	ASTM D5185m		1196	1094	1161
Sulfur	ppm	ASTM D5185m		3692	3597	2871
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	14.4	10.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	9.4	8.8	9.1
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.8	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0208161 **Received** : 21 Mar 2024
Lab Number : 06125440 **Tested** : 22 Mar 2024
Unique Number : 10939591 **Diagnosed** : 22 Mar 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

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

Contact: DON VEST
 dvest@jamesriverequipment.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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