



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HITACHI 210LC-5 1FFDCJ70TEE330472

Component
Diesel Engine

Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (5 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0220150	JR0206586	JR0178730
Sample Date		Client Info		15 Jul 2024	01 Mar 2024	02 Aug 2023
Machine Age	hrs	Client Info		9453	8984	8468
Oil Age	hrs	Client Info		469	516	7491
Filter Age	hrs	Client Info		0	516	0
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	12	12	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	6	5
Lead	ppm	ASTM D5185m	>40	4	7	6
Copper	ppm	ASTM D5185m	>330	1	3	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

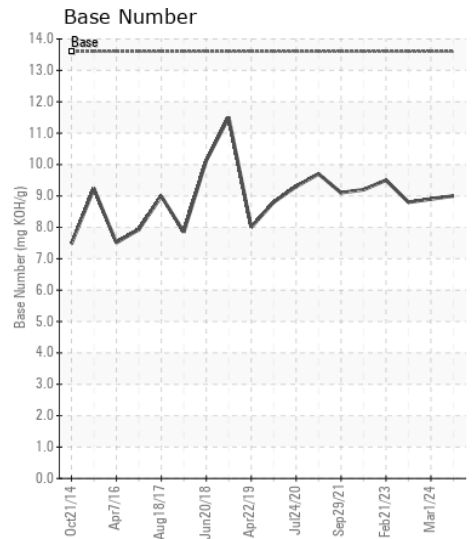
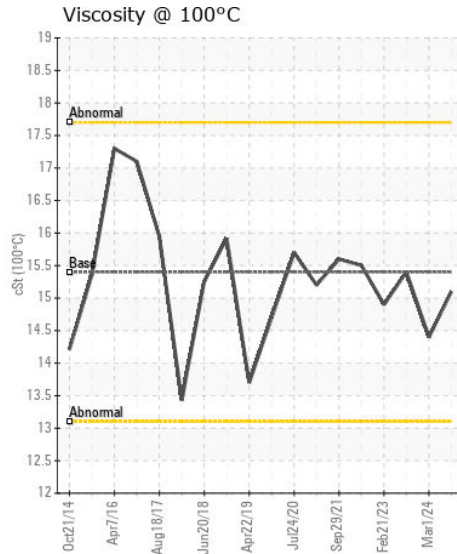
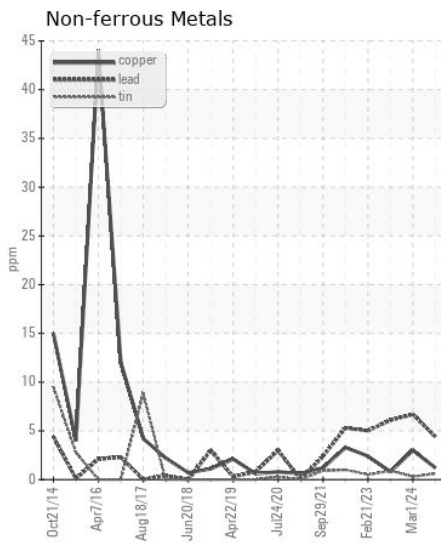
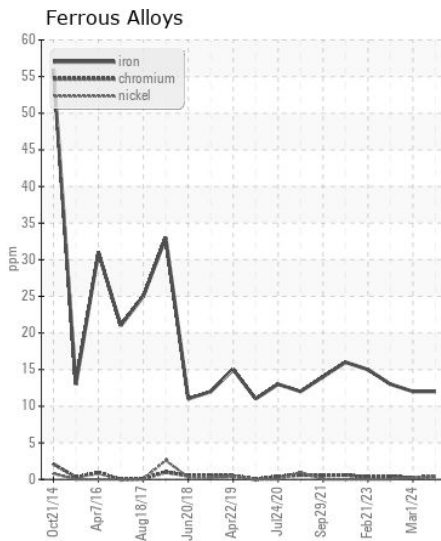
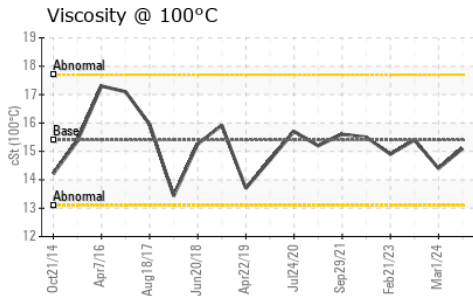
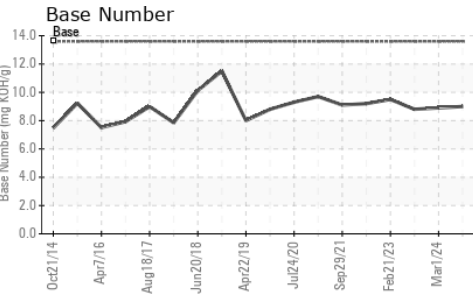
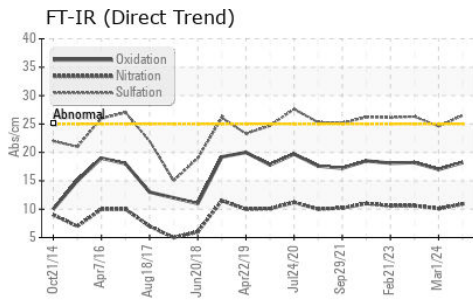
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	6	8
Potassium	ppm	ASTM D5185m	>20	13	1	<1
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	2.3	2	2.2
Nitration	Abs/cm	*ASTM D7624	>20	10.9	10.1	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.5	24.6	26.3
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		5	8	3
Boron	ppm	ASTM D5185m		193	171	185
Barium	ppm	ASTM D5185m		2	<1	0
Molybdenum	ppm	ASTM D5185m		273	228	270
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		802	801	892
Calcium	ppm	ASTM D5185m		1425	1417	1579
Phosphorus	ppm	ASTM D5185m		909	920	943
Zinc	ppm	ASTM D5185m		1107	1080	1164
Sulfur	ppm	ASTM D5185m		3017	2977	3532
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	17.0	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	9.0	8.9	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	15.1	14.4	15.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0220150
Lab Number : 06239005
Unique Number : 11127839
Test Package : CONST (Additional Tests: TBN)

Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 18 Jul 2024 - Wes Davis

JRE - CHARLOTTE
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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)