



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HITACHI ZX210LC E-26 (S/N 1FFDCJ70CFE330715)

Component
Diesel Engine

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

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR06233112	JR0173382	JR0153893
Sample Date		Client Info		10 Jul 2024	16 Nov 2023	20 Mar 2023
Machine Age	hrs	Client Info		8247	2781	7243
Oil Age	hrs	Client Info		466	538	468
Filter Age	hrs	Client Info		0	538	468
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	10	6	7
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	6	4
Lead	ppm	ASTM D5185m	>40	1	3	1
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

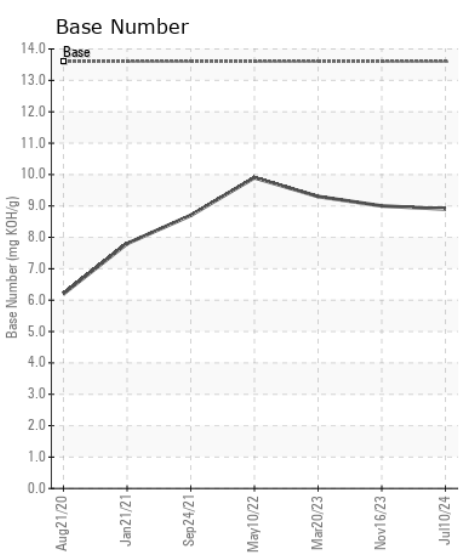
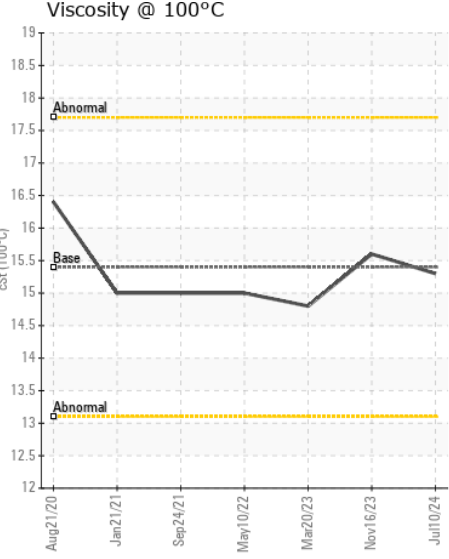
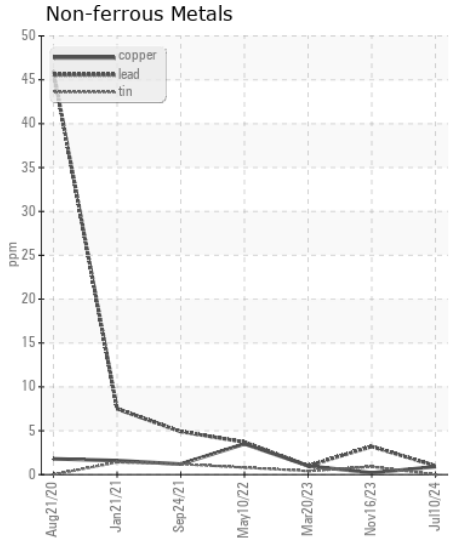
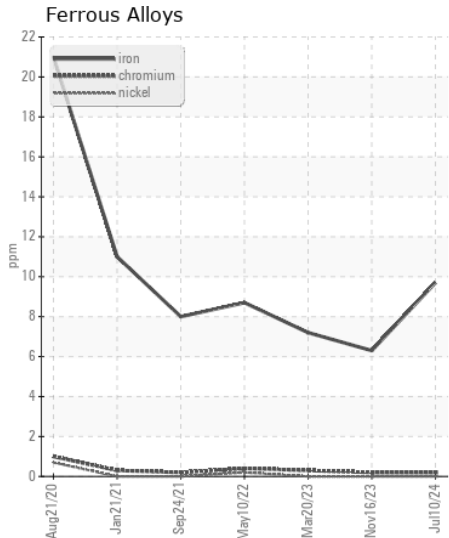
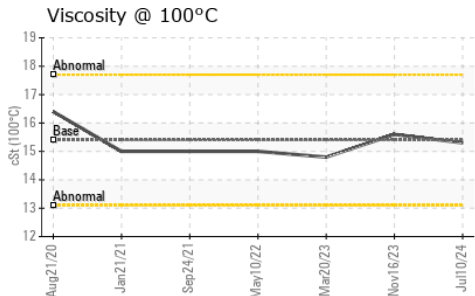
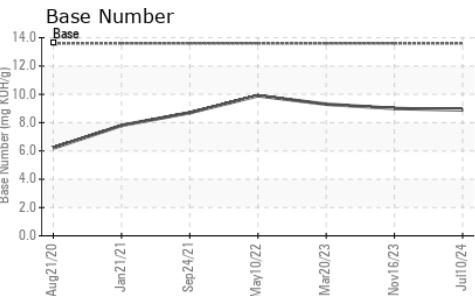
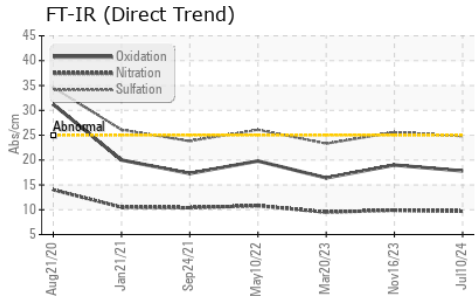
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	6	6
Potassium	ppm	ASTM D5185m	>20	<1	<1	3
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	1.4	1.4	1.1
Nitration	Abs/cm	*ASTM D7624	>20	9.7	9.9	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.8	25.6	23.3
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		3	<1	2
Boron	ppm	ASTM D5185m		199	182	218
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		275	258	250
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		907	892	781
Calcium	ppm	ASTM D5185m		1609	1494	1446
Phosphorus	ppm	ASTM D5185m		934	933	850
Zinc	ppm	ASTM D5185m		1130	1159	1054
Sulfur	ppm	ASTM D5185m		3317	2880	2650
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.8	19.0	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.9	9.0	9.3
Visc @ 100°C	cSt	ASTM D445	15.4	15.3	15.6	14.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR06233112 **Received** : 11 Jul 2024
Lab Number : 06233112 **Tested** : 12 Jul 2024
Unique Number : 11116605 **Diagnosed** : 12 Jul 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

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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)