



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 310 P 1DW310PAEPFB06520

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		JR0198786	JR0192619	JR0178749
Sample Date		Client Info		17 Jan 2024	16 Nov 2023	22 Aug 2023
Machine Age	hrs	Client Info		1423	1184	602
Oil Age	hrs	Client Info		239	582	602
Filter Age	hrs	Client Info		0	0	602
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	>51	11	2	35
Chromium	ppm	ASTM D5185m	>11	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	1	<1	6
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	3	4	4
Lead	ppm	ASTM D5185m	>26	0	0	1
Copper	ppm	ASTM D5185m	>26	19	13	▲ 377
Tin	ppm	ASTM D5185m	>4	0	<1	2
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

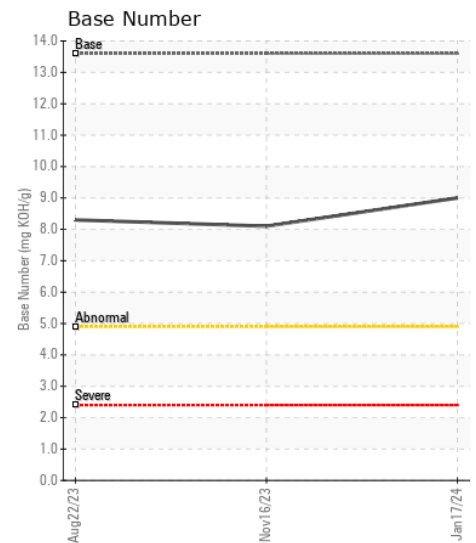
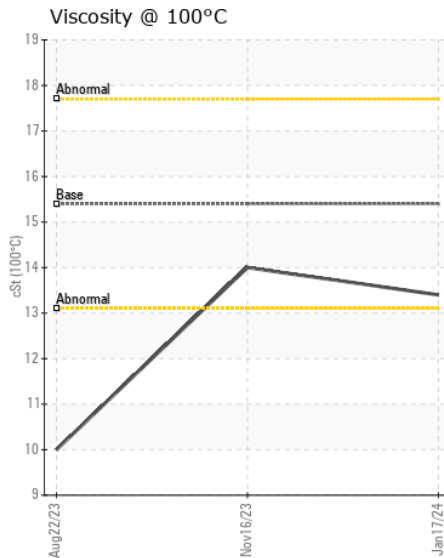
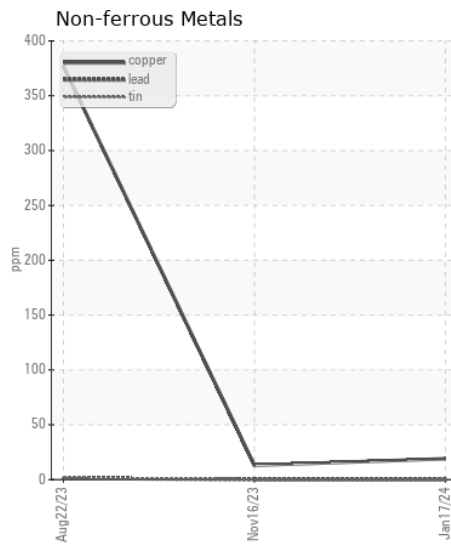
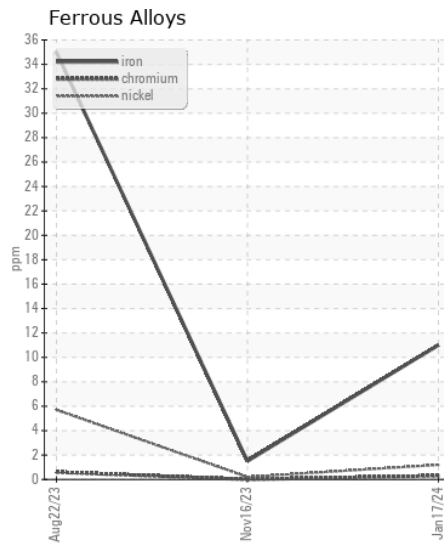
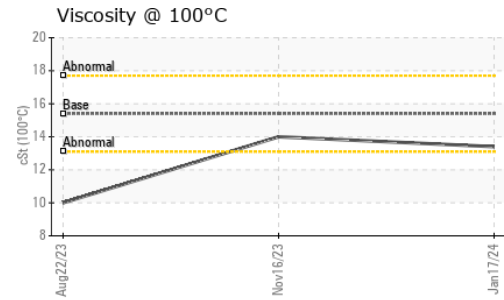
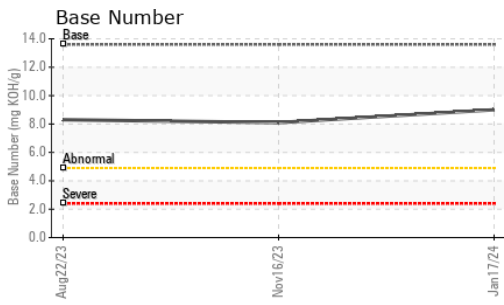
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	6	6	9
Potassium	ppm	ASTM D5185m	>20	1	2	10
Fuel		WC Method	>2.1	<1.0	<1.0	0.1
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.8	5.6	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	19.2	21.0
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

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	>31	1	0	7
Boron	ppm	ASTM D5185m		249	276	244
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		250	237	261
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m		887	829	868
Calcium	ppm	ASTM D5185m		1402	1318	1477
Phosphorus	ppm	ASTM D5185m		961	906	904
Zinc	ppm	ASTM D5185m		1161	1093	1109
Sulfur	ppm	ASTM D5185m		3302	2992	3513
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.7	14.0	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	9.0	8.1	8.3
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	14.0	▲ 10.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0198786 **Received** : 19 Jan 2024
Lab Number : 06065433 **Diagnosed** : 22 Jan 2024
Unique Number : 10836815 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

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)

JRE - CHARLOTTE
 9550 STATESVILLE ROAD
 CHARLOTTE, NC
 US 28269
 Contact: CHARLOTTE SHOP
 myoung@jamesriverequipment.com
 T: (704)597-0211
 F: (704)596-6198