



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[W8459]

Machine Id

HITACHI 160LC-6 1FFDBP70AMF240388

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (18 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: W8459)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0197168	JR0180253	JR0149922
Sample Date		Client Info		09 Feb 2024	08 Sep 2023	30 Oct 2022
Machine Age	hrs	Client Info		2015	1830	1467
Oil Age	hrs	Client Info		500	400	462
Filter Age	hrs	Client Info		500	400	462
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	9	8	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	5	3	3
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	12	10	42
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

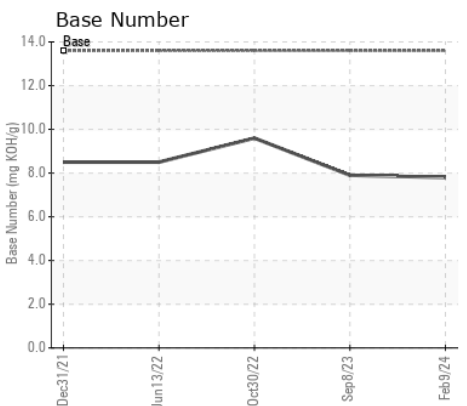
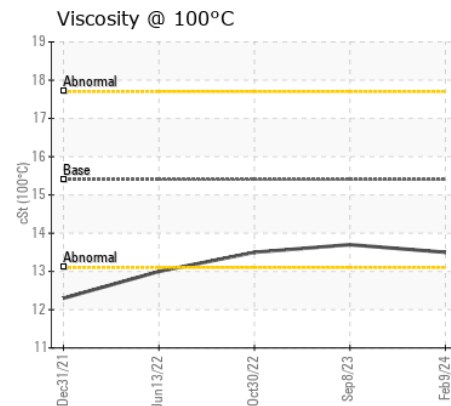
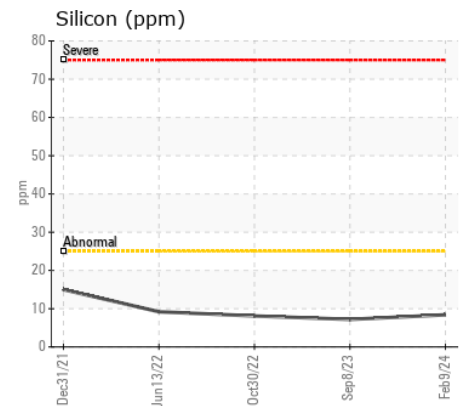
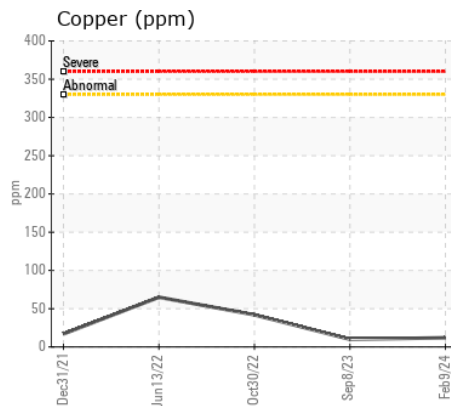
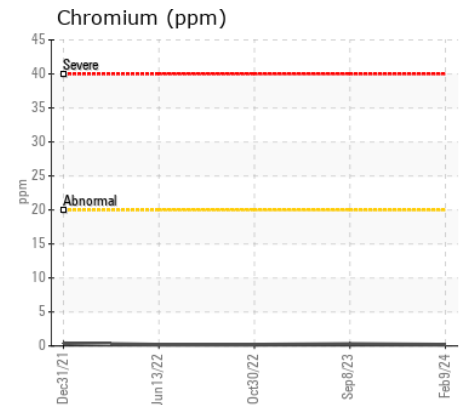
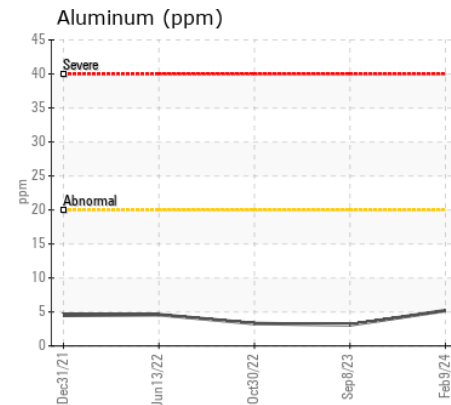
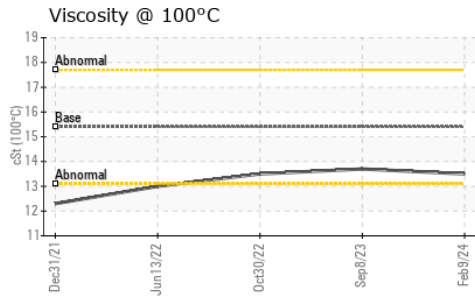
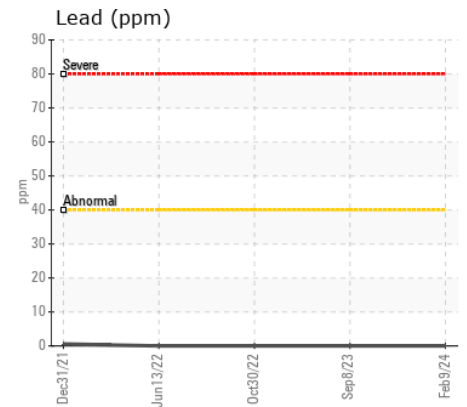
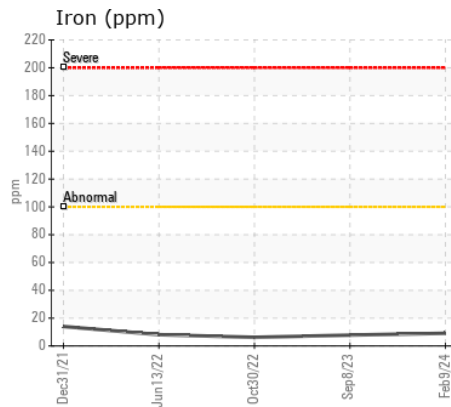
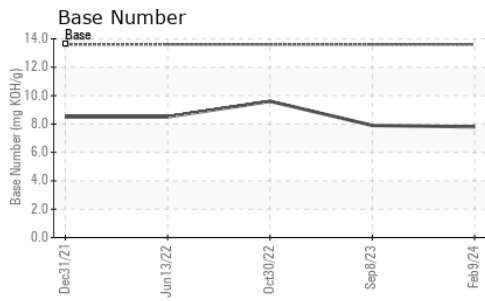
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	7	8
Potassium	ppm	ASTM D5185m	>20	5	2	2
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	0.7	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.3	10.7	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	26.1	24.5
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		0	2	1
Boron	ppm	ASTM D5185m		267	257	214
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		290	258	256
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		863	860	824
Calcium	ppm	ASTM D5185m		1456	1530	1530
Phosphorus	ppm	ASTM D5185m		877	928	898
Zinc	ppm	ASTM D5185m		1145	1139	1126
Sulfur	ppm	ASTM D5185m		2849	3552	3267
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	19.9	18.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.8	7.9	9.6
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.7	13.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0197168

Lab Number : 06087095

Unique Number : 10874540

Test Package : MOBCE (Additional Tests: TBN)

Received : 13 Feb 2024

Tested : 14 Feb 2024

Diagnosed : 14 Feb 2024 - Don Baldrige

JRE - HOPE MILLS/FAYETTEVILLE

5039 HWY 301 SOUTH

HOPE MILLS, NC

US 28348

Contact: FAYETTEVILLE SHOP

stephen.mullis@jamesriverequipment.com;canastasio@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: