



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
[W52559]

Machine Id
JOHN DEERE 333E 1T0333EMCGE298722

Component
Diesel Engine

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0211771	JR0124646	JR0040791
Sample Date		Client Info		14 Jun 2024	31 Aug 2022	11 May 2020
Machine Age	hrs	Client Info		2036	1649	1125
Oil Age	hrs	Client Info		500	500	600
Filter Age	hrs	Client Info		500	500	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 192	▲ 174	▲ 172
Chromium	ppm	ASTM D5185m	>11	2	1	<1
Nickel	ppm	ASTM D5185m	>5	<1	1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>31	9	8	9
Lead	ppm	ASTM D5185m	>26	<1	<1	0
Copper	ppm	ASTM D5185m	>26	9	13	25
Tin	ppm	ASTM D5185m	>4	<1	2	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

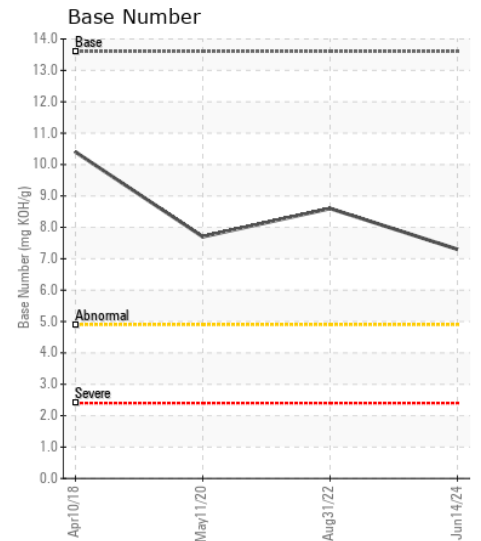
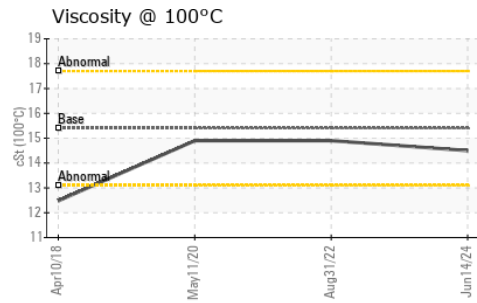
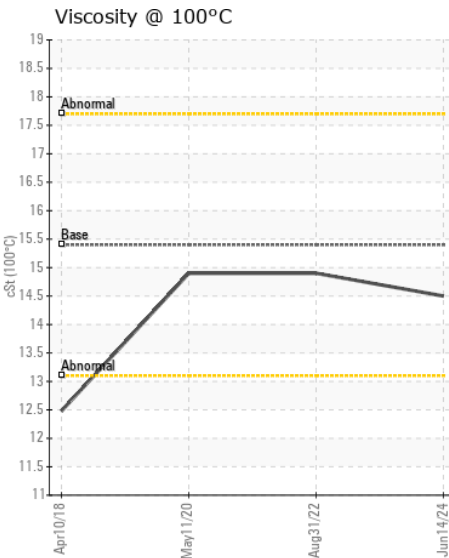
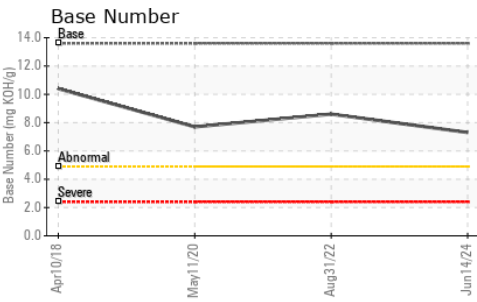
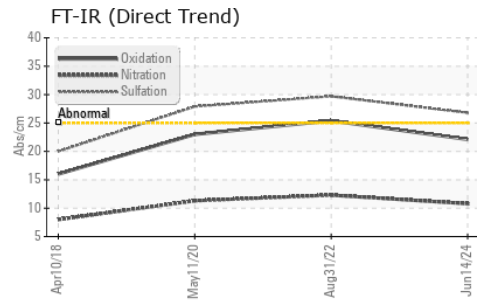
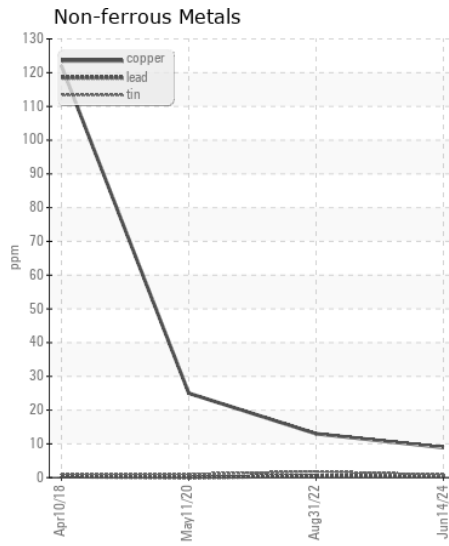
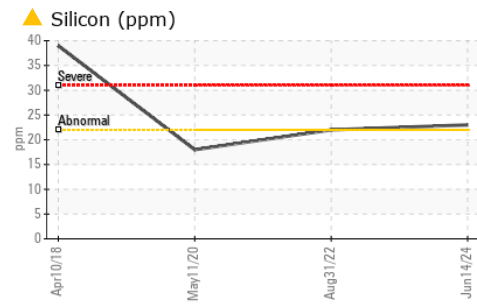
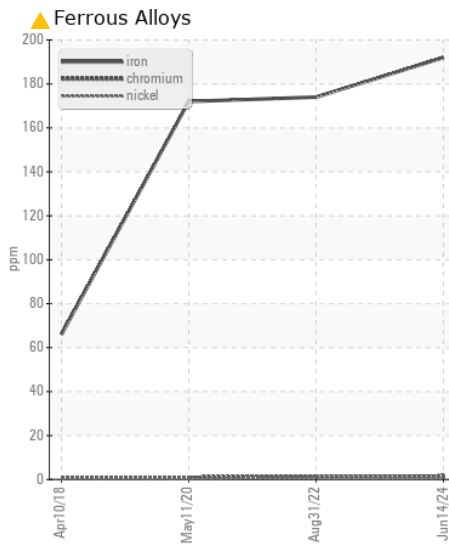
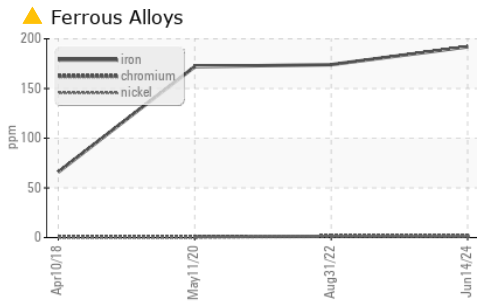
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>22	▲ 23	▲ 22	18
Potassium	ppm	ASTM D5185m	>20	4	0	2
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	10.8	12.3	11.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.8	29.7	27.9
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>31	2	3	8
Boron	ppm	ASTM D5185m		95	101	97
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		274	240	200
Manganese	ppm	ASTM D5185m		2	1	2
Magnesium	ppm	ASTM D5185m		808	758	675
Calcium	ppm	ASTM D5185m		1595	1640	1545
Phosphorus	ppm	ASTM D5185m		907	908	879
Zinc	ppm	ASTM D5185m		1145	1122	998
Sulfur	ppm	ASTM D5185m		2911	2858	2612
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.1	25.4	23
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.3	8.6	7.7
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.9	14.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0211771 **Received** : 18 Jun 2024
Lab Number : 06213082 **Tested** : 19 Jun 2024
Unique Number : 11085946 **Diagnosed** : 20 Jun 2024 - Don Baldrige
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)

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