



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 333E 1T0333EMAFE281041
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 10W30 (--- QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0225543	JR0176127	JR0051916
Sample Date		Client Info		03 Jul 2024	09 Jun 2023	25 Jun 2020
Machine Age	hrs	Client Info		4113	3676	2497
Oil Age	hrs	Client Info		0	1180	0
Filter Age	hrs	Client Info		0	0	0
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	▲ 88	▲ 174	11
Chromium	ppm	ASTM D5185m	>11	2	2	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m		1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>31	● 9	8	7
Lead	ppm	ASTM D5185m	>26	<1	1	0
Copper	ppm	ASTM D5185m	>26	12	▲ 36	10
Tin	ppm	ASTM D5185m	>4	<1	<1	<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

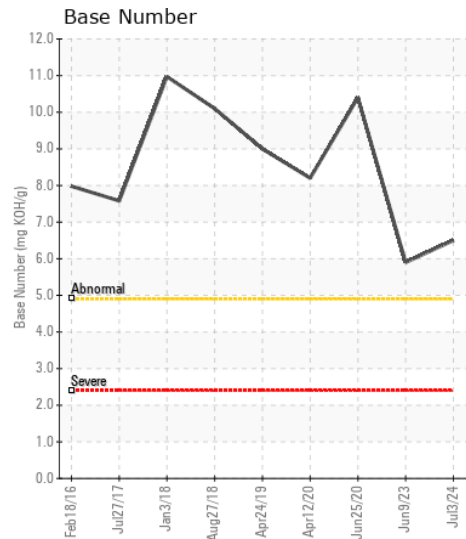
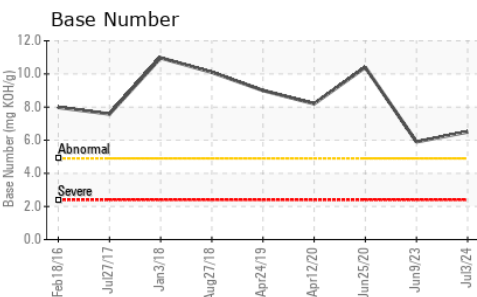
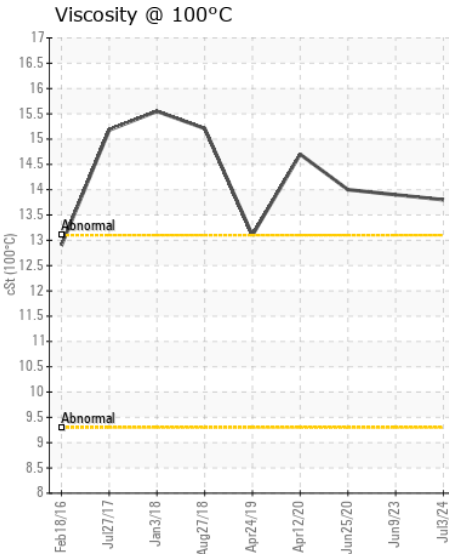
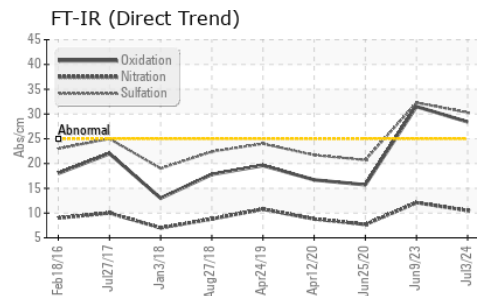
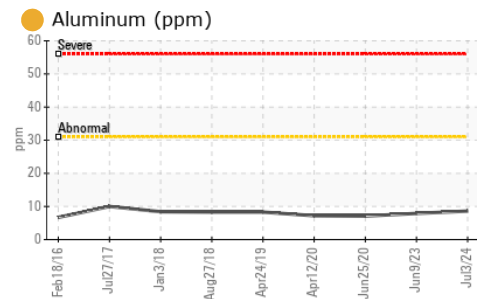
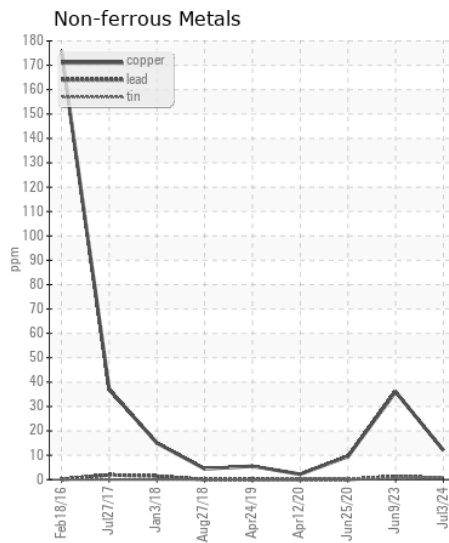
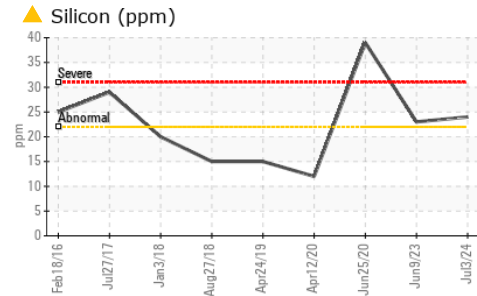
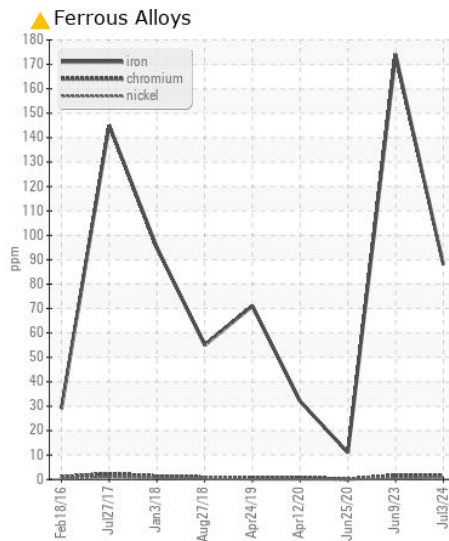
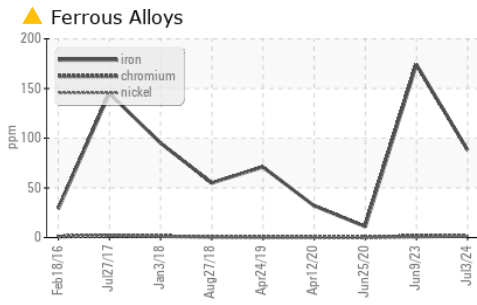
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>22	▲ 24	▲ 23	▲ 39
Potassium	ppm	ASTM D5185m	>20	4	<1	<1
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	0.6	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.5	12.1	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.3	32.3	20.7
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	3	4	10
Boron	ppm	ASTM D5185m		151	52	246
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		280	255	248
Manganese	ppm	ASTM D5185m		2	2	<1
Magnesium	ppm	ASTM D5185m		906	801	748
Calcium	ppm	ASTM D5185m		1637	1850	1577
Phosphorus	ppm	ASTM D5185m		949	934	851
Zinc	ppm	ASTM D5185m		1219	1225	1034
Sulfur	ppm	ASTM D5185m		2860	3261	1828
Oxidation	Abs/.1mm	*ASTM D7414	>25	28.4	31.5	15.7
Base Number (BN)	mg KOH/g	ASTM D2896		6.5	5.9	10.4
Visc @ 100°C	cSt	ASTM D445		13.8	13.9	14.0



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0225543 **Received** : 08 Jul 2024
Lab Number : 06229957 **Tested** : 09 Jul 2024
Unique Number : 11113450 **Diagnosed** : 09 Jul 2024 - Don Baldridge
Test Package : CONST (Additional Tests: TBN)

JRE - MANASSAS PARK
 9107 OWENS DRIVE
 MANASSAS PARK, VA
 US 20111
 Contact: DON VEST
 dvest@jamesriverequipment.com
 T: (703)631-8500
 F: (703)631-4715

Certificate L2367
 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)