



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 410E-II 1DW410ELJNF713284
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0223112	JR0213954	JR0080933
Sample Date		Client Info		17 Jun 2024	08 May 2024	31 Jan 2023
Machine Age	hrs	Client Info		2931	2797	1562
Oil Age	hrs	Client Info		0	312	0
Filter Age	hrs	Client Info		0	312	0
Oil Changed		Client Info		N/A	Not Changd	Changed
Filter Changed		Client Info		N/A	Not Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 62	48	20
Chromium	ppm	ASTM D5185m	>11	1	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>31	● 20	● 14	1
Lead	ppm	ASTM D5185m	>26	15	6	<1
Copper	ppm	ASTM D5185m	>26	20	12	6
Tin	ppm	ASTM D5185m	>4	4	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

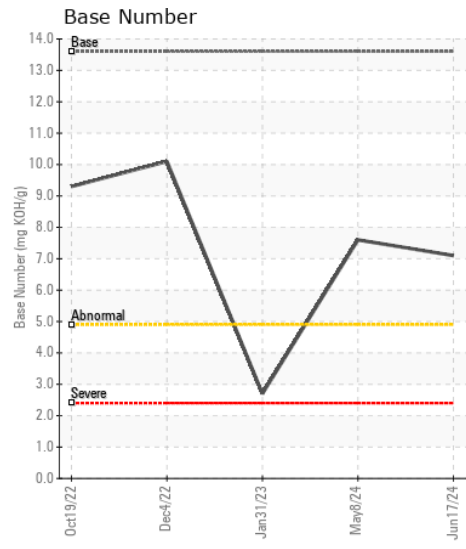
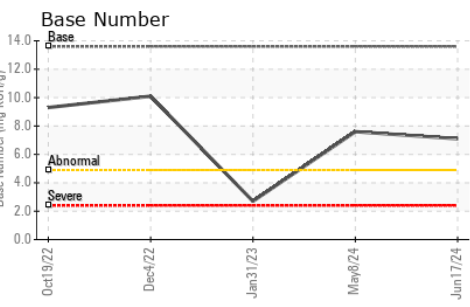
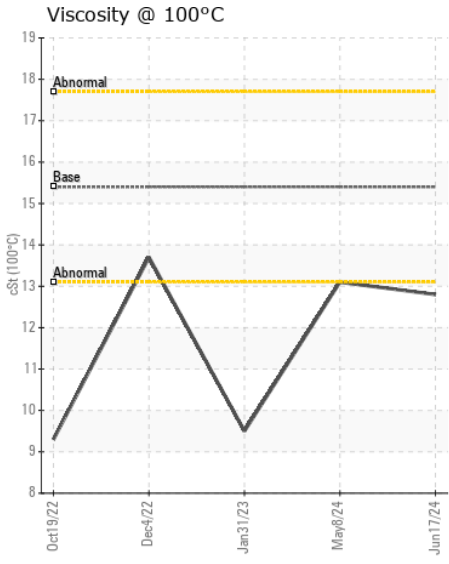
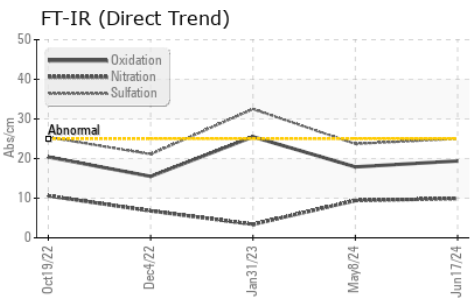
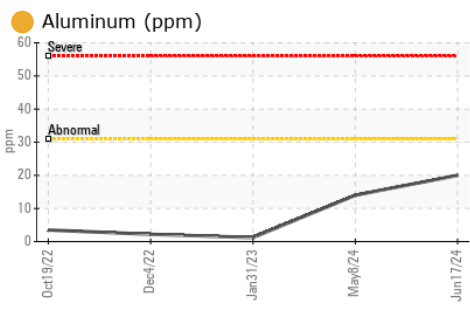
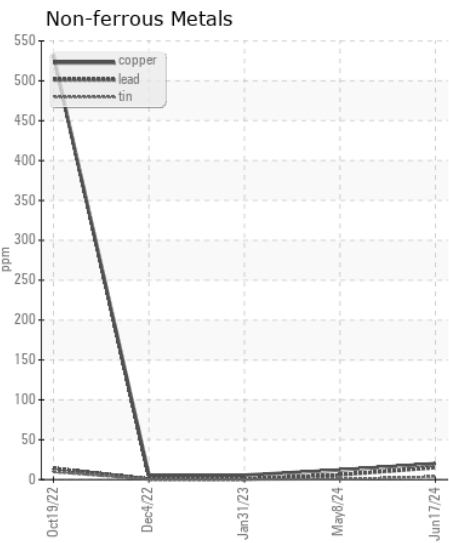
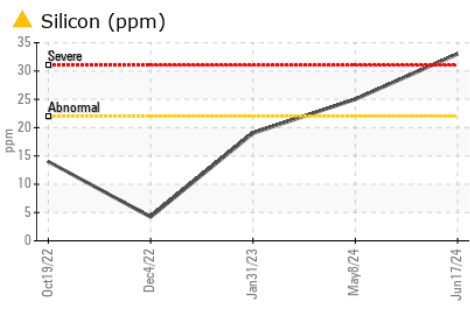
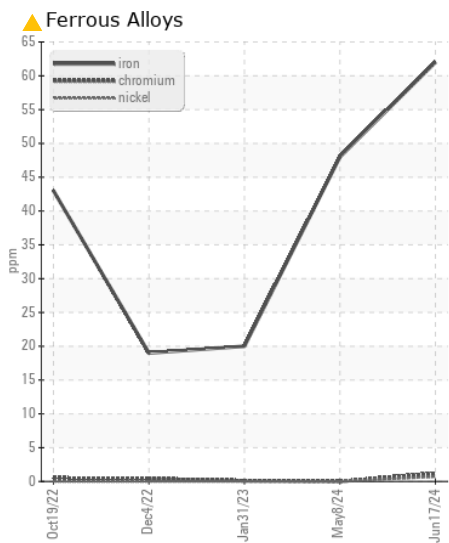
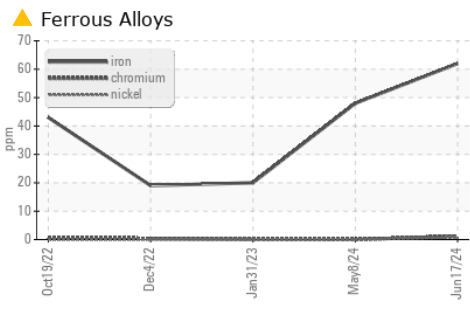
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>22	▲ 33	▲ 25	19
Potassium	ppm	ASTM D5185m	>20	8	2	0
Fuel	%	ASTM D3524	>2.1	<1.0	<1.0	▲ 3.3
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.9	9.4	3.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.0	23.7	32.5
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	>0.21	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	4	4	2
Boron	ppm	ASTM D5185m		83	155	● 10
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		266	258	● 15
Manganese	ppm	ASTM D5185m		3	<1	<1
Magnesium	ppm	ASTM D5185m		782	802	● 64
Calcium	ppm	ASTM D5185m		1380	1446	● 390
Phosphorus	ppm	ASTM D5185m		824	866	● 615
Zinc	ppm	ASTM D5185m		1018	1036	● 764
Sulfur	ppm	ASTM D5185m		3047	3176	● 2479
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	17.9	25.5
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.1	7.6	▲ 2.7
Visc @ 100°C	cSt	ASTM D445	15.4	12.8	13.1	● 9.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0223112 **Received** : 18 Jun 2024
Lab Number : 06213102 **Tested** : 19 Jun 2024
Unique Number : 11085966 **Diagnosed** : 20 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: FuelDilution, 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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