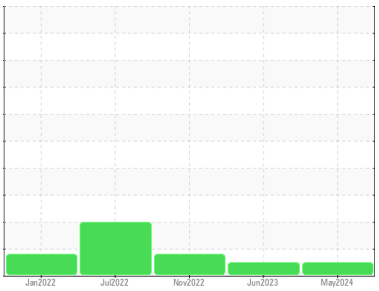
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
JOHN DEERE 410E-II 1DW410ELCMF712211
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**JR0211934**	JR0169069	JR0154285
Sample Date		Client Info		**08 May 2024**	30 Jun 2023	28 Nov 2022
Machine Age	hrs	Client Info		**1986**	1691	1521
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**NORMAL**	NORMAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.21	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	**15**	7	19
Chromium	ppm	ASTM D5185m	>11	**0**	2	<1
Nickel	ppm	ASTM D5185m	>5	**3**	2	6
Titanium	ppm	ASTM D5185m		**0**	2	<1
Silver	ppm	ASTM D5185m	>3	**0**	2	0
Aluminum	ppm	ASTM D5185m	>31	**7**	3	4
Lead	ppm	ASTM D5185m	>26	**3**	5	3
Copper	ppm	ASTM D5185m	>26	**10**	8	13
Tin	ppm	ASTM D5185m	>4	**2**	2	2
Vanadium	ppm	ASTM D5185m		**0**	1	<1
Cadmium	ppm	ASTM D5185m		**0**	2	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**176**	183	121
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**223**	164	219
Manganese	ppm	ASTM D5185m		**1**	2	1
Magnesium	ppm	ASTM D5185m		**779**	612	819
Calcium	ppm	ASTM D5185m		**1361**	1061	1428
Phosphorus	ppm	ASTM D5185m		**907**	641	850
Zinc	ppm	ASTM D5185m		**1044**	784	1071
Sulfur	ppm	ASTM D5185m		**3320**	2632	3312

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>22	**6**	6	6
Sodium	ppm	ASTM D5185m	>31	**4**	4	6
Potassium	ppm	ASTM D5185m	>20	**2**	6	0
Fuel	%	ASTM D3524	>8.0	**1.6**	<1.0	▲ 2.8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**8.8**	7.2	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.9**	20.4	23.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.2**	14.9	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	**7.9**	10.0	9.6

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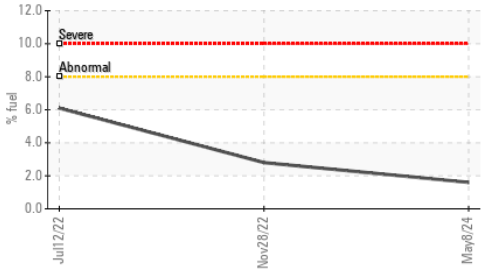
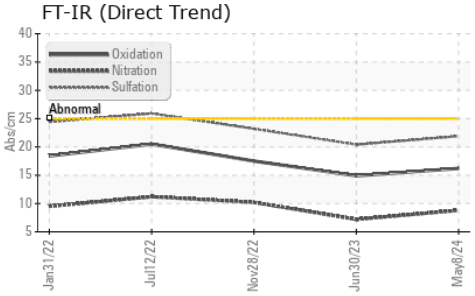
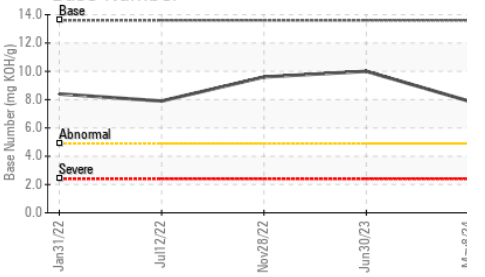
Fuel Dilution



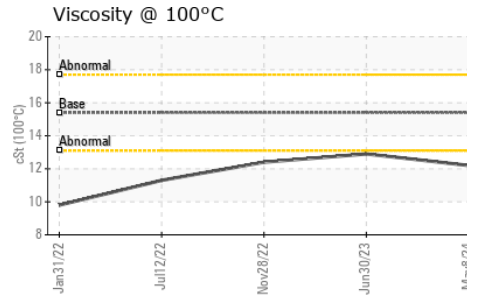
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

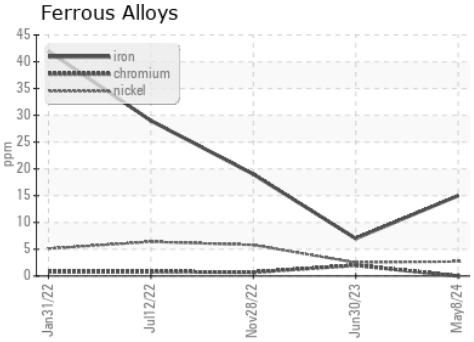


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

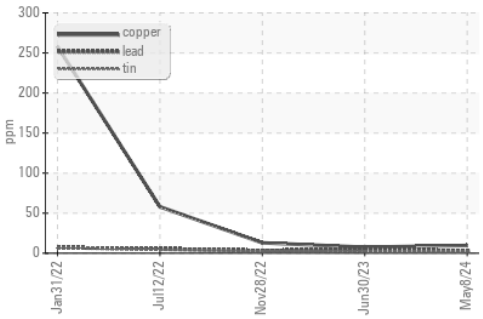
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**12.2**	12.9	12.4

GRAPHS

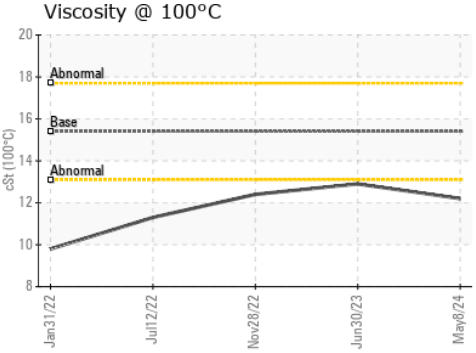
Ferrous Alloys



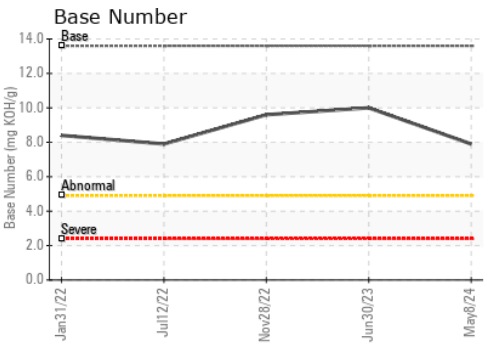
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0211934 **Received** : 10 May 2024
Lab Number : 06175238 **Tested** : 15 May 2024
Unique Number : 11021291 **Diagnosed** : 15 May 2024 - Sean Felton
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, 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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