



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area

[05W44443]

Machine Id

JOHN DEERE 000478

Component

Diesel Engine

Fluid

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

RECOMMENDATION

The oil 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		JR0199071	JR0190337	JR0176137
Sample Date		Client Info		17 Jan 2024	05 Oct 2023	17 Jul 2023
Machine Age	hrs	Client Info		1434	939	472
Oil Age	hrs	Client Info		495	467	0
Filter Age	hrs	Client Info		495	467	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ATTENTION	NORMAL	ATTENTION

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>51	32	34	38
Chromium	ppm	ASTM D5185m	>11	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	3	6	6
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>31	4	4	4
Lead	ppm	ASTM D5185m	>26	3	2	2
Copper	ppm	ASTM D5185m	>26	29	42	69
Tin	ppm	ASTM D5185m	>4	1	1	1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

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

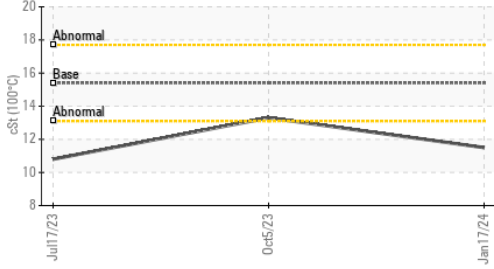
Silicon	ppm	ASTM D5185m	>22	8	10	10
Potassium	ppm	ASTM D5185m	>20	3	2	9
Fuel	%	ASTM D3524	>2.1	0.1	<1.0	0.2
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.0	8.7	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	23.0	25.4
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

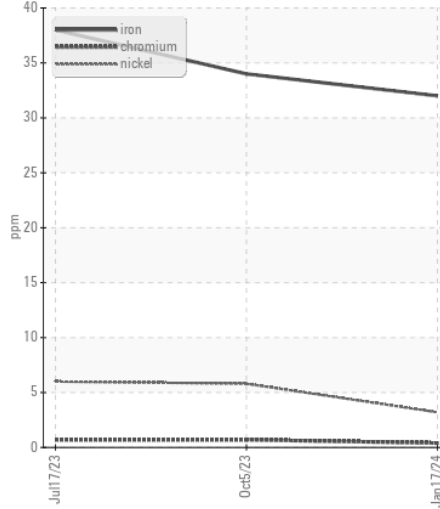
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>31	3	2	6
Boron	ppm	ASTM D5185m		98	189	167
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		149	280	231
Manganese	ppm	ASTM D5185m		<1	1	2
Magnesium	ppm	ASTM D5185m		534	810	816
Calcium	ppm	ASTM D5185m		2310	1445	1472
Phosphorus	ppm	ASTM D5185m		994	861	813
Zinc	ppm	ASTM D5185m		1187	1089	1064
Sulfur	ppm	ASTM D5185m		3029	3222	3236
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	18.6	22.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.1	7.5	7.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.5	13.3	▲ 10.8

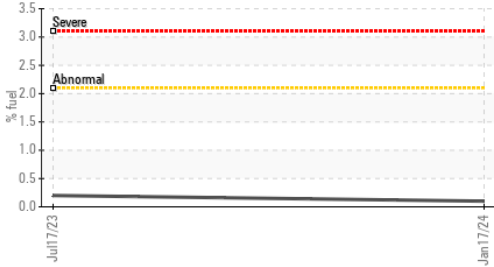
▲ Viscosity @ 100°C



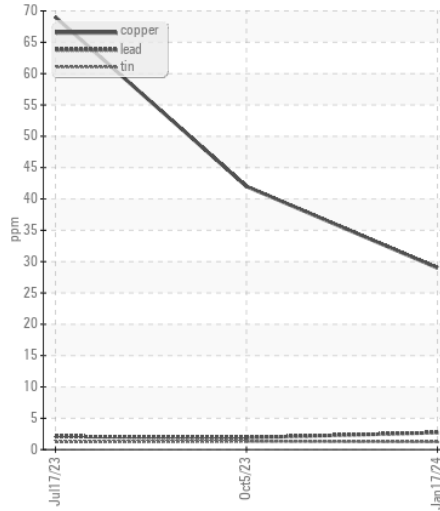
Ferrous Alloys



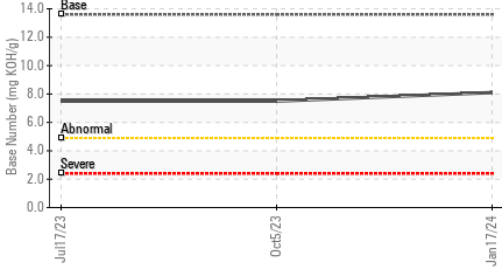
Fuel Dilution



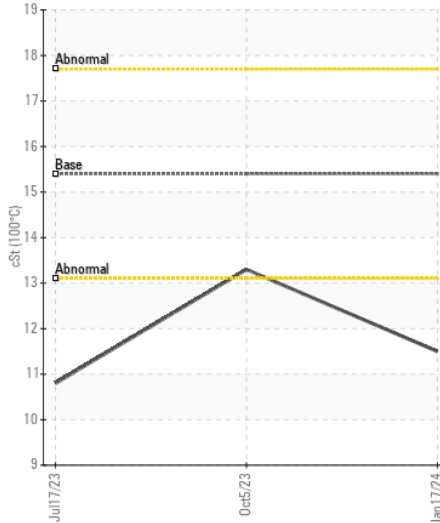
Non-ferrous Metals



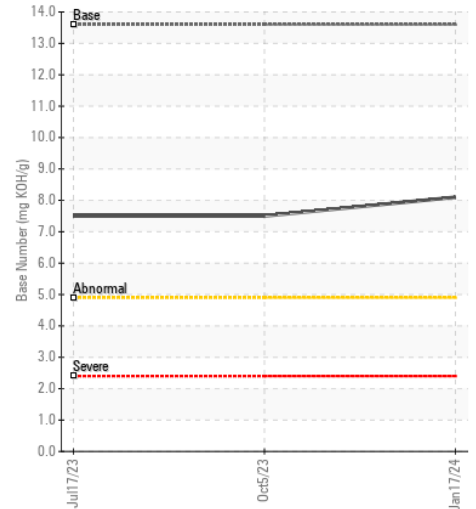
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0199071 **Received** : 18 Jan 2024
Lab Number : 06064971 **Diagnosed** : 24 Jan 2024
Unique Number : 10836353 **Diagnostician** : Angela Borella
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

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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)