CONST

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ATTENTION

Area
Contracting
Machine Id
1DW310EXJNF716118 5111
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (9 GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Suspect Oil Cooler leaching. We recommend that you check the cooling system for the presence of oil. If oil is present in the cooling system we recommend that the oil cooler be removed and tested. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

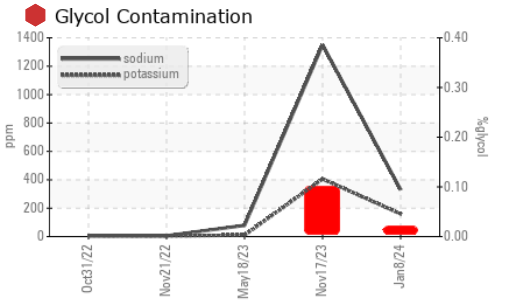
CONTAMINATION

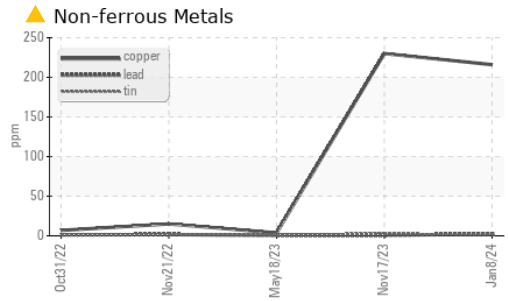
Sodium and/or potassium levels are high. Test for glycol was a strong positive. The amount and size of particulates present in the system are acceptable.

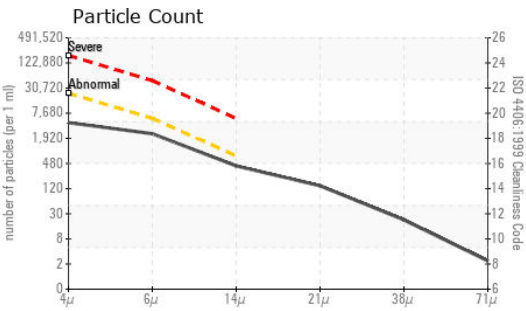
FLUID CONDITION

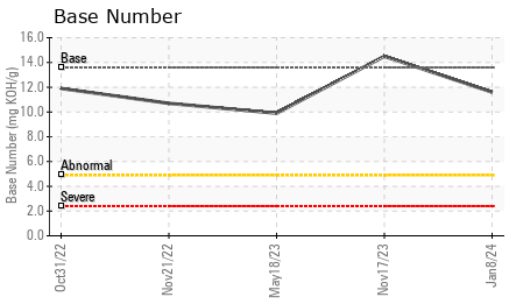
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

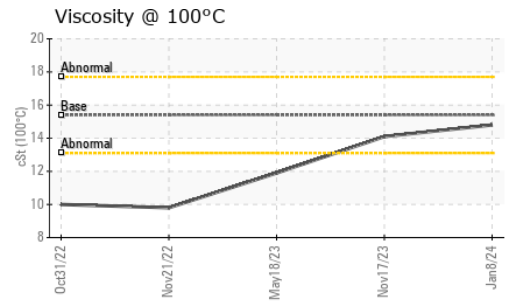
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0861886	WC0861661	WC0808946
Sample Date		Client Info		08 Jan 2024	17 Nov 2023	18 May 2023
Machine Age	hrs	Client Info		1329	1243	772
Oil Age	hrs	Client Info		111	471	103
Filter Age	hrs	Client Info		111	471	103
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				SEVERE	SEVERE	ATTENTION
Iron	ppm	ASTM D5185m	>51	11	32	18
Chromium	ppm	ASTM D5185m	>11	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	2	▲ 10	4
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	2	4	4
Lead	ppm	ASTM D5185m	>26	2	<1	<1
Copper	ppm	ASTM D5185m	>26	▲ 216	▲ 230	4
Tin	ppm	ASTM D5185m	>4	1	3	1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	21	⬢ 41	8
Potassium	ppm	ASTM D5185m	>20	▲ 160	▲ 406	10
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol	%	*ASTM D2982		⬢ 0.020	⬢ 0.10	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.9	11.6	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.5	24.7	21.8
Particles >4µm		ASTM D7647	>20000	3976	6107	4802
Particles >6µm		ASTM D7647	>5000	2166	3327	2616
Particles >14µm		ASTM D7647	>640	369	566	445
Particles >21µm		ASTM D7647	>160	124	191	150
Particles >38µm		ASTM D7647	>40	19	29	23
Particles >71µm		ASTM D7647	>10	2	3	2
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/18/16	20/19/16	19/19/16
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
Sodium	ppm	ASTM D5185m	>31	▲ 330	▲ 1350	▲ 79
Boron	ppm	ASTM D5185m		190	92	62
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		216	130	83
Manganese	ppm	ASTM D5185m		<1	2	1
Magnesium	ppm	ASTM D5185m		740	475	577
Calcium	ppm	ASTM D5185m		1252	1464	1622
Phosphorus	ppm	ASTM D5185m		911	778	784
Zinc	ppm	ASTM D5185m		1038	882	995
Sulfur	ppm	ASTM D5185m		2890	2385	3173
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	19.9	19.8
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	11.6	14.5	9.9
Visc @ 100°C	cSt	ASTM D445	15.4	14.8	14.1	▲ 11.9

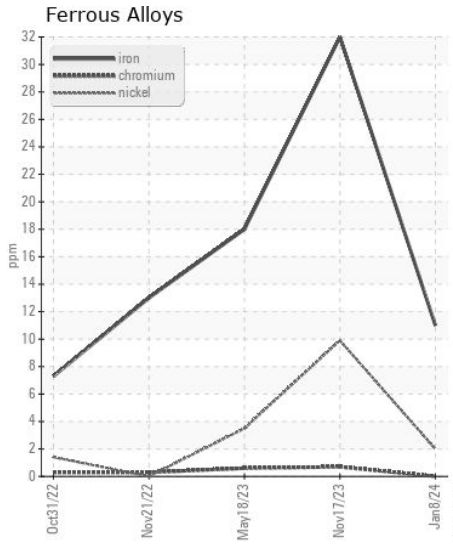


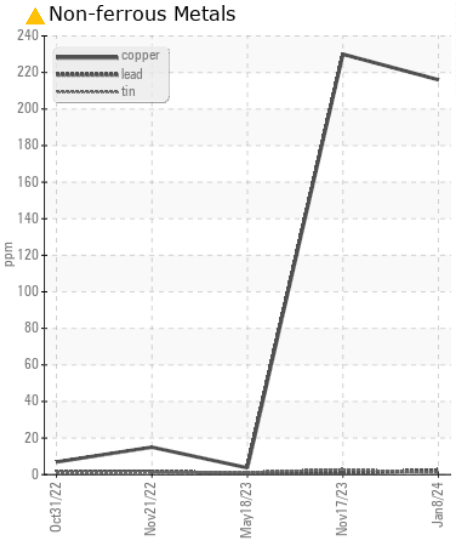


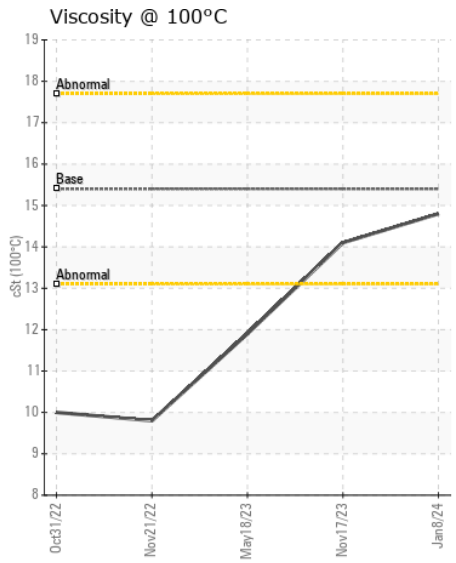


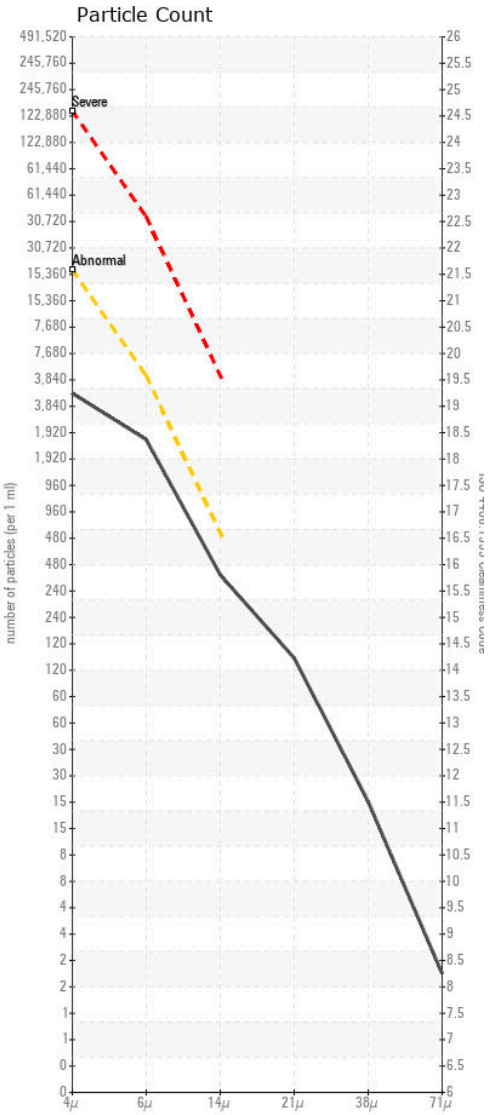


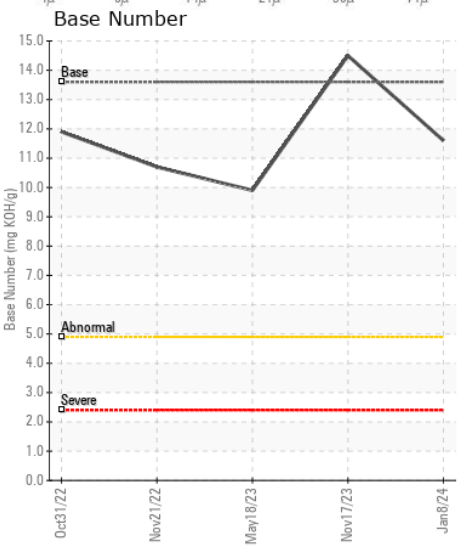












Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0861886 **Recieved** : 10 Jan 2024
Lab Number : 06056569 **Diagnosed** : 11 Jan 2024
Unique Number : 10822518 **Diagnostician** : Doug Bogart
Test Package : CONST (Additional Tests: PrtCount, 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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