PROBLEM SUMMARY

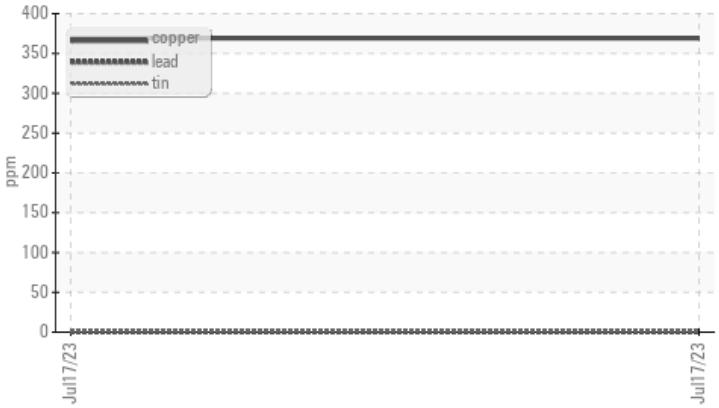
Area
Store 1 - Cowen [141148]
Machine Id
JOHN DEERE 648L2 1DW648LBKNF715642
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (8 GAL)

Sample Rating Trend

WEAR

COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



▲ Viscosity @ 100°C

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.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	---	---
Copper	ppm	ASTM D5185m	>26	▲ **369**	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **10.2**	---	---

Customer Id: LESMAROH
Sample No.: LEC0041079
Lab Number: 05903135
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Area
Store 1 - Cowen [141148]
Machine Id
JOHN DEERE 648L2 1DW648LBKNF715642
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (8 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

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). All other metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**LEC0041079**	---	---
Sample Date		Client Info		**17 Jul 2023**	---	---
Machine Age	hrs	Client Info		**427**	---	---
Oil Age	hrs	Client Info		**427**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**ABNORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	**32**	---	---
Chromium	ppm	ASTM D5185m	>11	**1**	---	---
Nickel	ppm	ASTM D5185m	>5	**3**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m	>3	**0**	---	---
Aluminum	ppm	ASTM D5185m	>31	**4**	---	---
Lead	ppm	ASTM D5185m	>26	**0**	---	---
Copper	ppm	ASTM D5185m	>26	▲ **369**	---	---
Tin	ppm	ASTM D5185m	>4	**2**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**205**	---	---
Barium	ppm	ASTM D5185m		**1**	---	---
Molybdenum	ppm	ASTM D5185m		**259**	---	---
Manganese	ppm	ASTM D5185m		**7**	---	---
Magnesium	ppm	ASTM D5185m		**886**	---	---
Calcium	ppm	ASTM D5185m		**1496**	---	---
Phosphorus	ppm	ASTM D5185m		**896**	---	---
Zinc	ppm	ASTM D5185m		**1100**	---	---
Sulfur	ppm	ASTM D5185m		**3564**	---	---

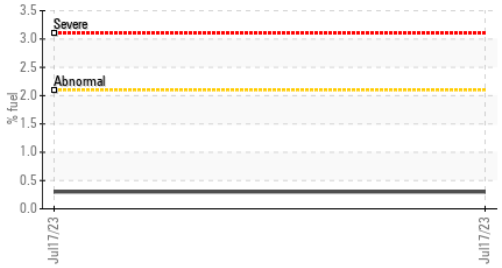
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>!20	**13**	---	---
Sodium	ppm	ASTM D5185m	>31	**5**	---	---
Potassium	ppm	ASTM D5185m	>20	**6**	---	---
Fuel	%	ASTM D3524	>2.1	**0.3**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**9.2**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.9**	---	---

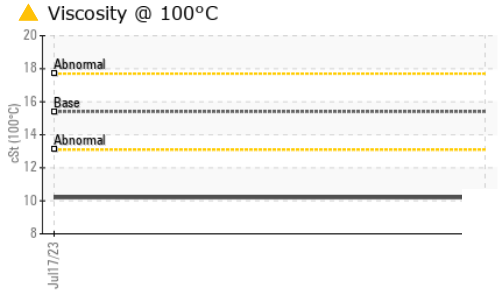
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.6**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	**8.7**	---	---

OIL ANALYSIS REPORT

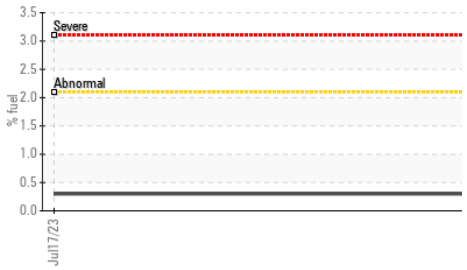
Fuel Dilution



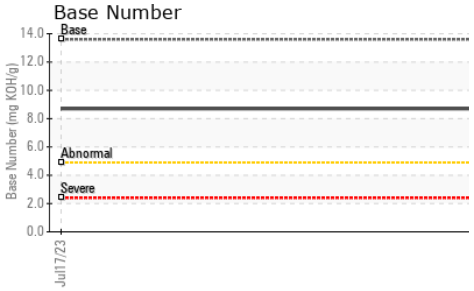
Viscosity @ 100°C



Fuel Dilution



Base Number

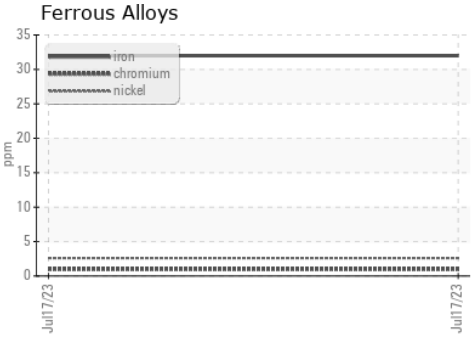


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.21	**NEG**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

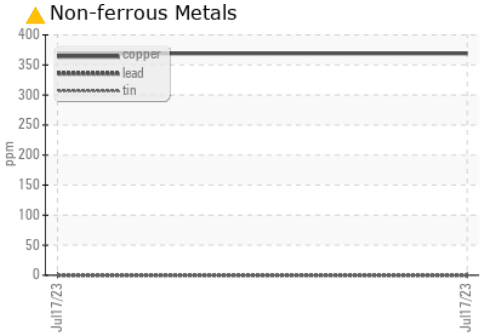
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **10.2**	---	---

GRAPHS

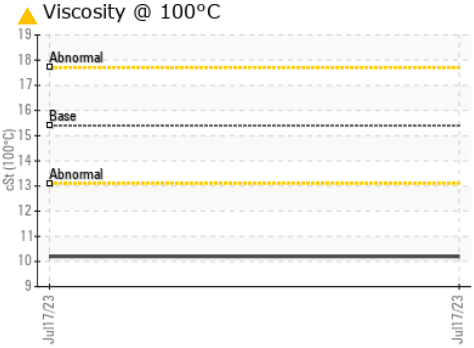
Ferrous Alloys



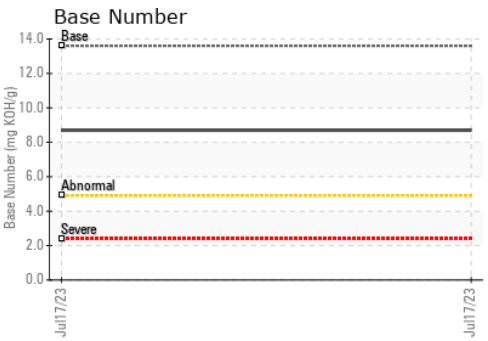
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0041079 **Received** : 20 Jul 2023
Lab Number : 05903135 **Diagnosed** : 21 Jul 2023
Unique Number : 10564491 **Diagnostician** : 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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