



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[W67550]

Machine Id
KLEEMANN MR110E K0190217

Component
Center Diesel Engine

Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: W67550)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0219346	JR0203935	---
Sample Date		Client Info		06 Jun 2024	14 Feb 2024	---
Machine Age	hrs	Client Info		1041	509	---
Oil Age	hrs	Client Info		532	509	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	4	15	---
Chromium	ppm	ASTM D5185m	>20	0	<1	---
Nickel	ppm	ASTM D5185m	>4	0	0	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	8	3	---
Lead	ppm	ASTM D5185m	>40	5	2	---
Copper	ppm	ASTM D5185m	>330	63	260	---
Tin	ppm	ASTM D5185m	>15	<1	2	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

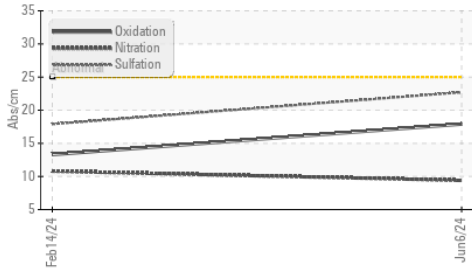
Silicon	ppm	ASTM D5185m	>25	9	22	---
Potassium	ppm	ASTM D5185m	>20	24	5	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	9.4	10.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	17.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

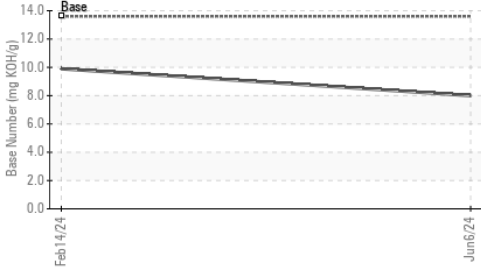
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		3	1	---
Boron	ppm	ASTM D5185m		194	202	---
Barium	ppm	ASTM D5185m		<1	11	---
Molybdenum	ppm	ASTM D5185m		209	33	---
Manganese	ppm	ASTM D5185m		1	<1	---
Magnesium	ppm	ASTM D5185m		756	124	---
Calcium	ppm	ASTM D5185m		1651	3029	---
Phosphorus	ppm	ASTM D5185m		864	780	---
Zinc	ppm	ASTM D5185m		1044	987	---
Sulfur	ppm	ASTM D5185m		3120	2724	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.9	13.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.0	9.9	---
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	12.7	---

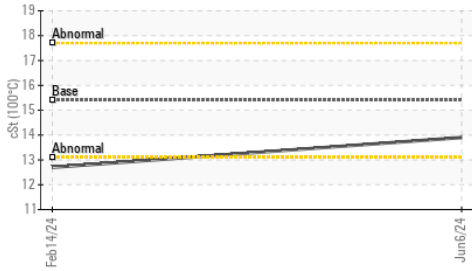
FT-IR (Direct Trend)



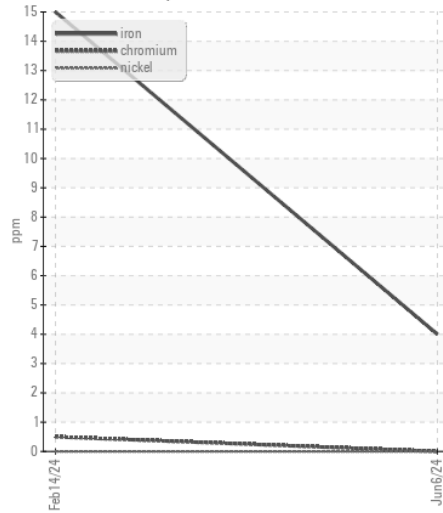
Base Number



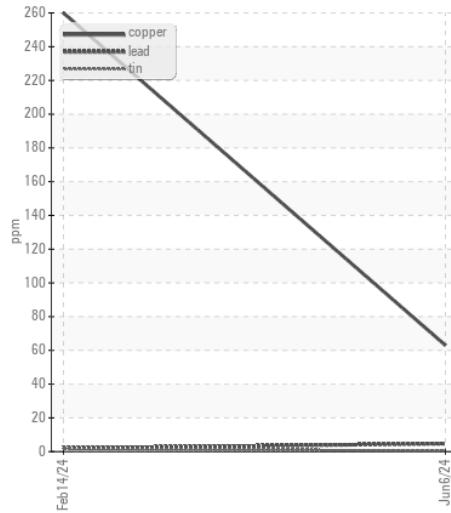
Viscosity @ 100°C



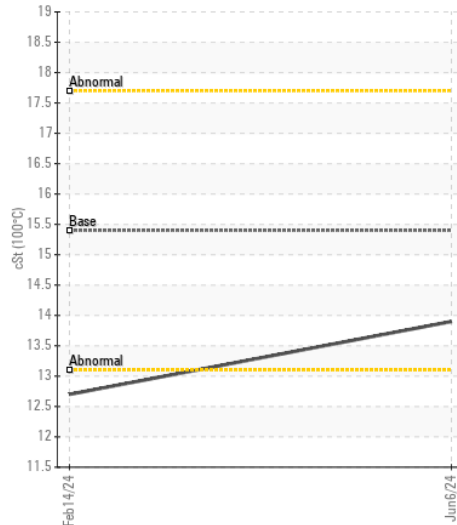
Ferrous Alloys



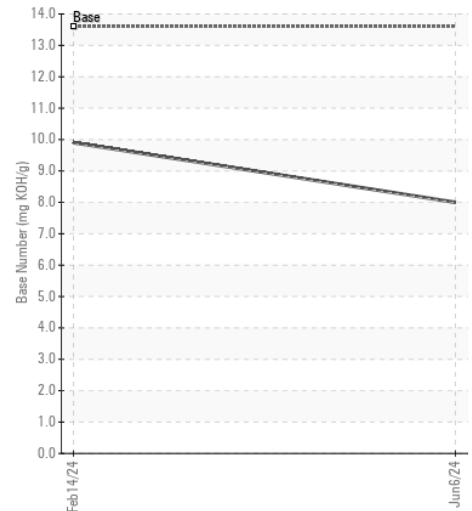
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0219346 **Received** : 26 Jun 2024
Lab Number : 06220833 **Tested** : 27 Jun 2024
Unique Number : 11099030 **Diagnosed** : 27 Jun 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

JRE - CHARLOTTE
 9550 STATESVILLE ROAD
 CHARLOTTE, NC
 US 28269

Contact: CHARLOTTE SHOP
 myoung@jamesriverequipment.com

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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