



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	MARGINAL

Area

[BASHFUL LOGGING]

Machine Id

JOHN DEERE 643K 1DW643KXCFC666327

Component

Diesel Engine

Fluid

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

RECOMMENDATION

Oil and filter 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		JR0177128	JRMC413988	---
Sample Date		Client Info		29 Mar 2024	07 Mar 2016	---
Machine Age	hrs	Client Info		9522	1460	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				MARGINAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	12	9	---
Chromium	ppm	ASTM D5185m	>11	<1	0	---
Nickel	ppm	ASTM D5185m	>5	<1	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>31	3	4	---
Lead	ppm	ASTM D5185m	>26	4	2	---
Copper	ppm	ASTM D5185m	>26	<1	<1	---
Tin	ppm	ASTM D5185m	>4	<1	0	---
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.

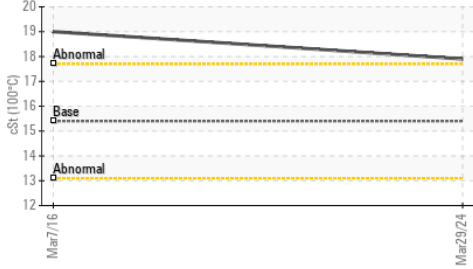
Silicon	ppm	ASTM D5185m	>22	6	3	---
Potassium	ppm	ASTM D5185m	>20	3	5	---
Fuel		WC Method	>2.1	<1.0	<1.0	---
Water		WC Method	>0.21	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.4	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	9.4	4.	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	11.	---
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	>0.21	NEG	NEG	---

FLUID CONDITION

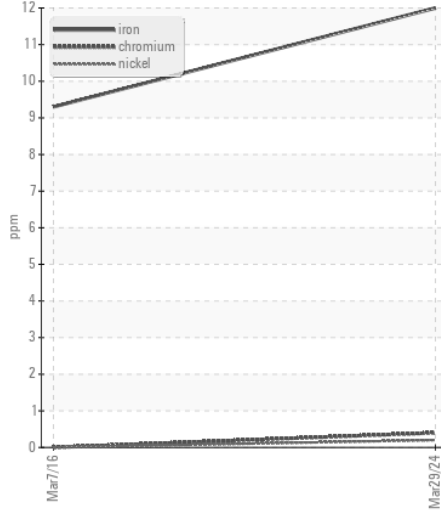
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>31	<1	4	---
Boron	ppm	ASTM D5185m		160	188	---
Barium	ppm	ASTM D5185m		<1	0	---
Molybdenum	ppm	ASTM D5185m		188	217	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m		652	727	---
Calcium	ppm	ASTM D5185m		1431	1179	---
Phosphorus	ppm	ASTM D5185m		915	688	---
Zinc	ppm	ASTM D5185m		1033	874	---
Sulfur	ppm	ASTM D5185m		4069	2410	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.9	7.	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.4	10.40	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 17.9	▲ 19.00	---

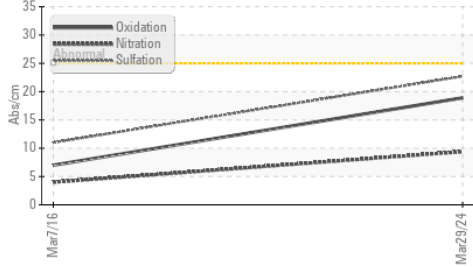
▲ Viscosity @ 100°C



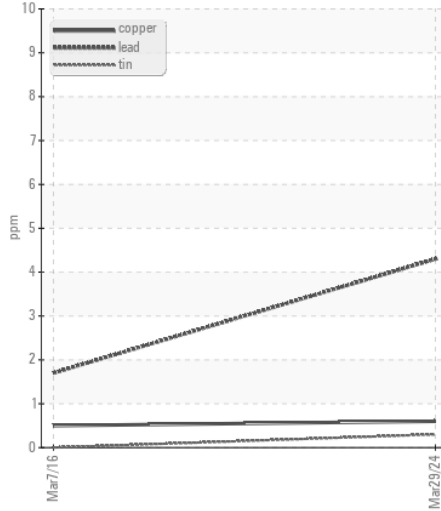
Ferrous Alloys



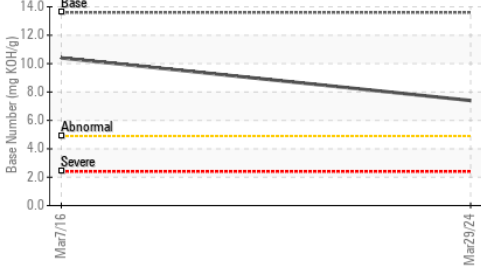
FT-IR (Direct Trend)



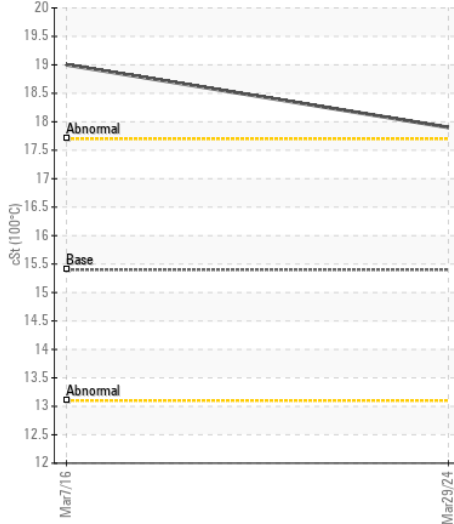
Non-ferrous Metals



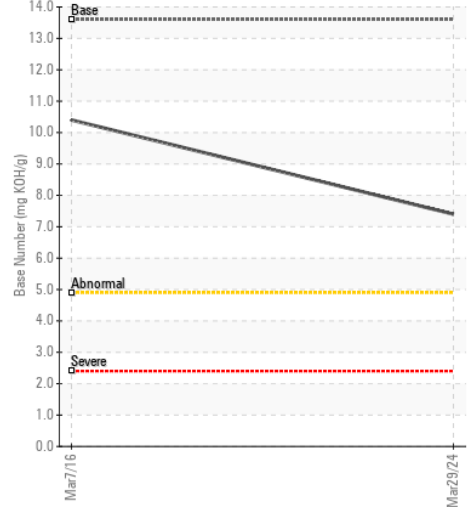
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0177128 **Received** : 15 Apr 2024
Lab Number : 06148519 **Tested** : 16 Apr 2024
Unique Number : 10978597 **Diagnosed** : 17 Apr 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: TBN)

JRE - MOUNT GILEAD
 305 NORTH MAIN STREET
 MOUNT GILEAD, NC
 US 27306

Contact: TIM ELSWORTH
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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)