



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 470G FF470GXTEE470999

Component
Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (11 GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The 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		TR06124386	TR05969810	---
Sample Date		Client Info		09 Mar 2024	21 Sep 2023	---
Machine Age	hrs	Client Info		9541	8989	---
Oil Age	hrs	Client Info		552	267	---
Filter Age	hrs	Client Info		552	267	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	43	30	---
Chromium	ppm	ASTM D5185m	>11	<1	1	---
Nickel	ppm	ASTM D5185m	>5	0	0	---
Titanium	ppm	ASTM D5185m		8	2	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>31	4	5	---
Lead	ppm	ASTM D5185m	>26	4	1	---
Copper	ppm	ASTM D5185m	>26	▲ 43	23	---
Tin	ppm	ASTM D5185m	>4	0	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

There is an abnormal amount of solids and carbon present in the oil.

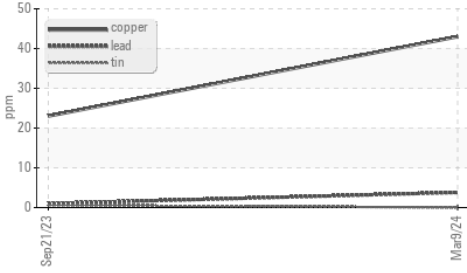
Silicon	ppm	ASTM D5185m	>22	8	7	---
Potassium	ppm	ASTM D5185m	>20	0	2	---
Fuel	%	ASTM D3524	>2.1	<1.0	<1.0	---
Water		WC Method	>0.21	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	▲ 3.7	2.9	---
Nitration	Abs/cm	*ASTM D7624	>20	17.0	13.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.4	27.9	---
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	>0.21	NEG	NEG	---

FLUID CONDITION

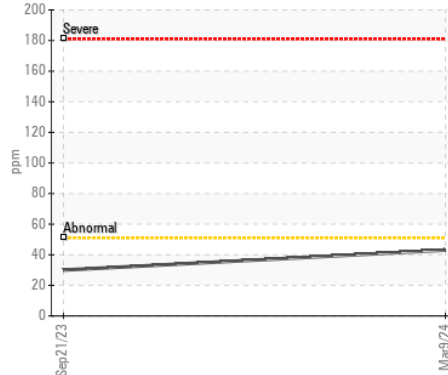
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>31	2	4	---
Boron	ppm	ASTM D5185m		15	34	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		86	62	---
Manganese	ppm	ASTM D5185m		<1	1	---
Magnesium	ppm	ASTM D5185m		368	495	---
Calcium	ppm	ASTM D5185m		3343	2488	---
Phosphorus	ppm	ASTM D5185m		979	860	---
Zinc	ppm	ASTM D5185m		1160	1048	---
Sulfur	ppm	ASTM D5185m		4214	3305	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.0	20.3	---
Base Number (BN)	mg KOH/g	ASTM D2896		10.90	11.43	---
Visc @ 100°C	cSt	ASTM D445		16.0	15.7	---

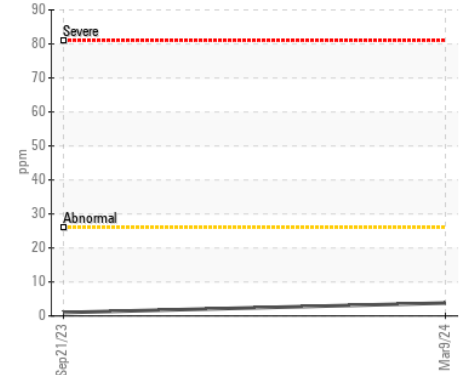
▲ Non-ferrous Metals



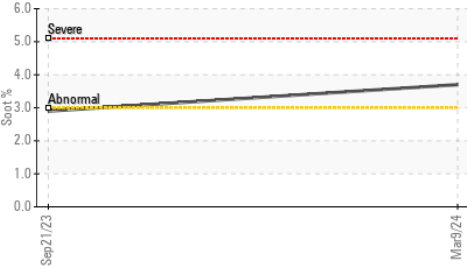
Iron (ppm)



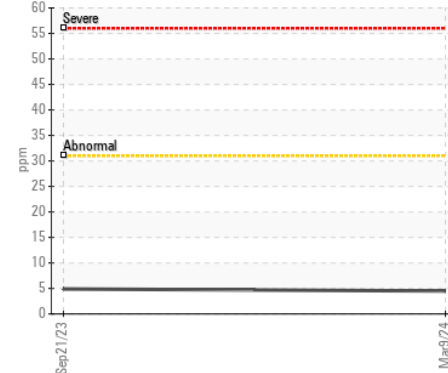
Lead (ppm)



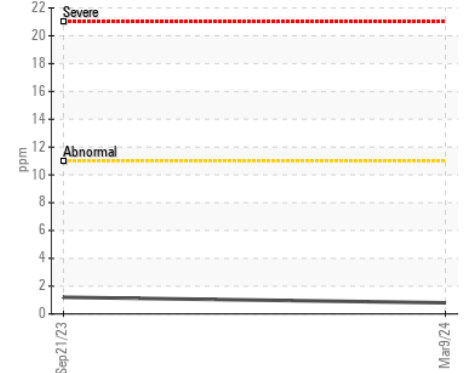
▲ Soot %



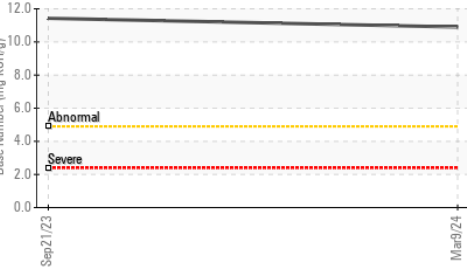
Aluminum (ppm)



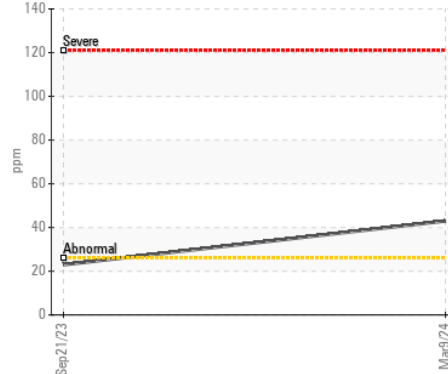
Chromium (ppm)



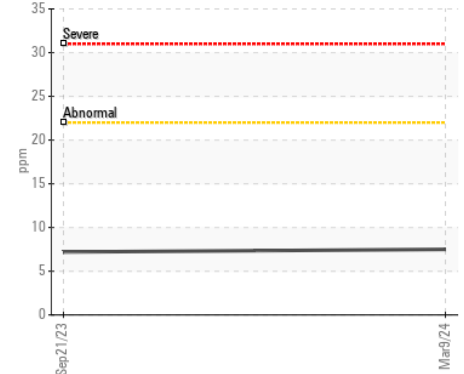
Base Number



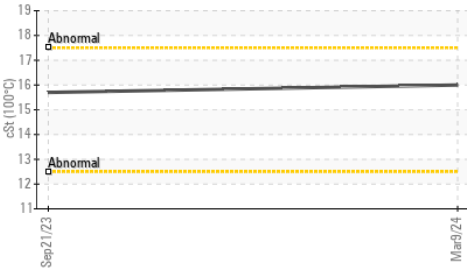
▲ Copper (ppm)



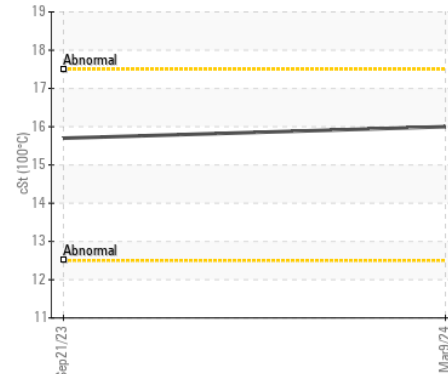
Silicon (ppm)



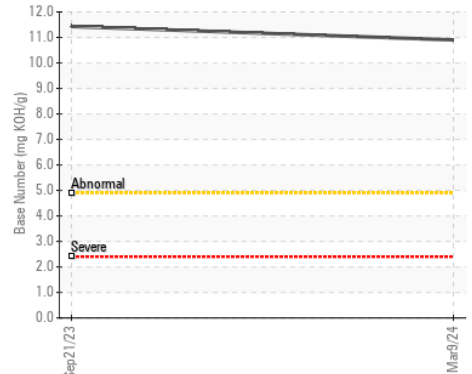
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : TR06124386
 Lab Number : 06124386
 Unique Number : 10938537
 Test Package : MOB 2 (Additional Tests: FuelDilution)

Received : 20 Mar 2024
 Tested : 23 Mar 2024
 Diagnosed : 23 Mar 2024 - Don Baldrige

RUNDELL INC
 2465 STATE HWY 38
 DRAIN, OR
 US 97435

Contact: BOB RUNDELL
 bobrundell@rundellinc.com

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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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