



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	<b>ABNORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**JOHN DEERE 8K310 310**

Component  
**Diesel Engine**

Fluid  
**TRC PRO-SPEC IV SYNTHETIC BLEND 15W40 (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06228149	---	---
Sample Date		Client Info		18 Mar 2024	---	---
Machine Age	hrs	Client Info		465	---	---
Oil Age	hrs	Client Info		250	---	---
Filter Age	hrs	Client Info		250	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

**WEAR**

Copper and nickel ppm levels are abnormal. Exhaust valve wear is indicated. Bearing wear is indicated.

Iron	ppm	ASTM D5185m	>51	33	---	---
Chromium	ppm	ASTM D5185m	>11	1	---	---
Nickel	ppm	ASTM D5185m	>5	▲ 15	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	1	---	---
Aluminum	ppm	ASTM D5185m	>31	4	---	---
Lead	ppm	ASTM D5185m	>26	<1	---	---
Copper	ppm	ASTM D5185m	>26	▲ 289	---	---
Tin	ppm	ASTM D5185m	>4	1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

**CONTAMINATION**

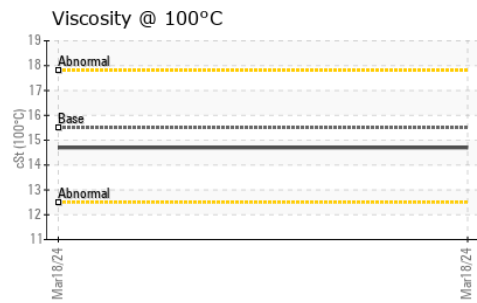
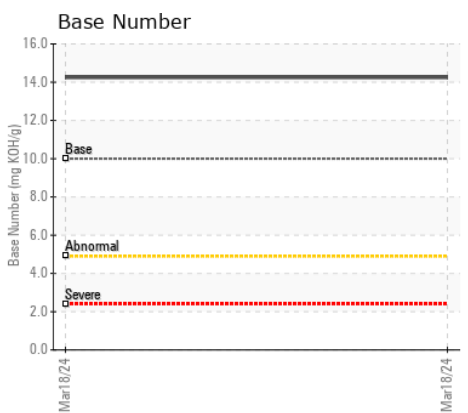
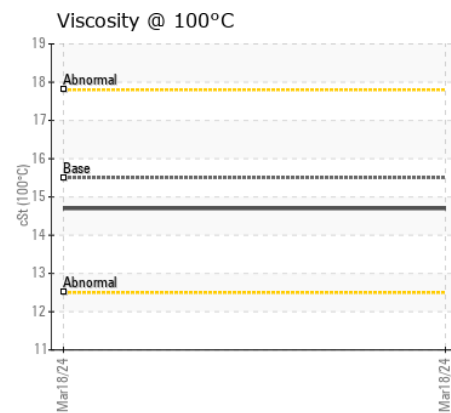
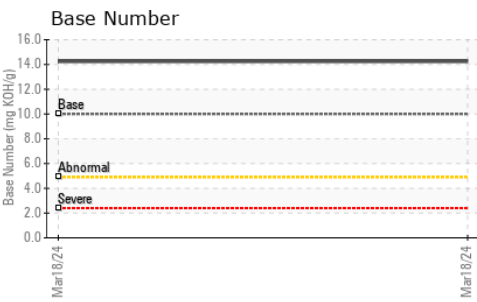
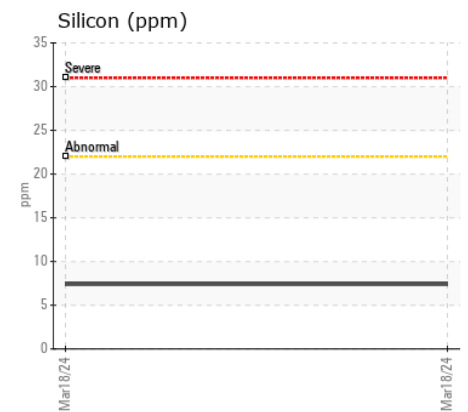
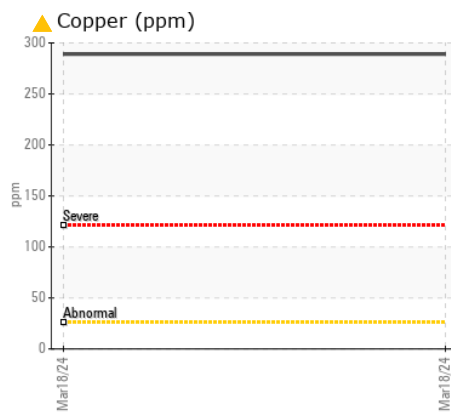
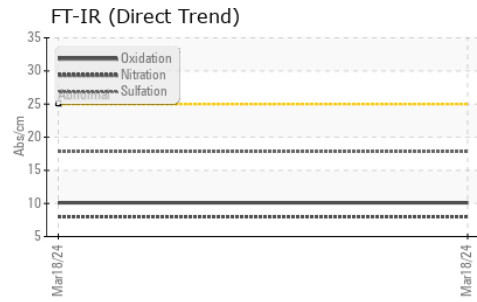
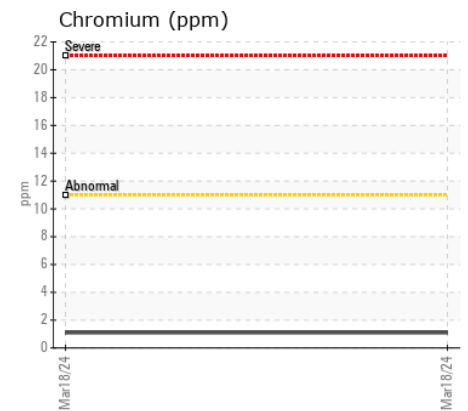
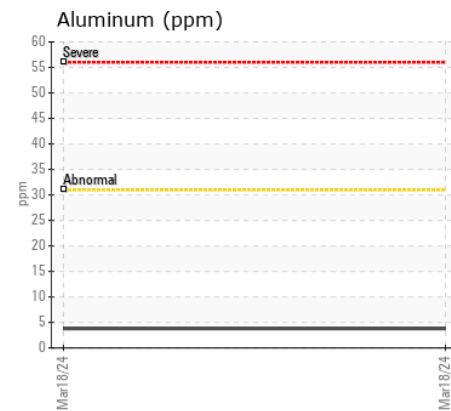
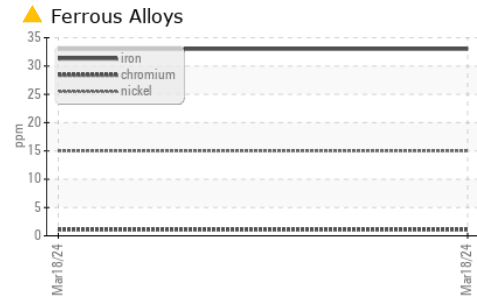
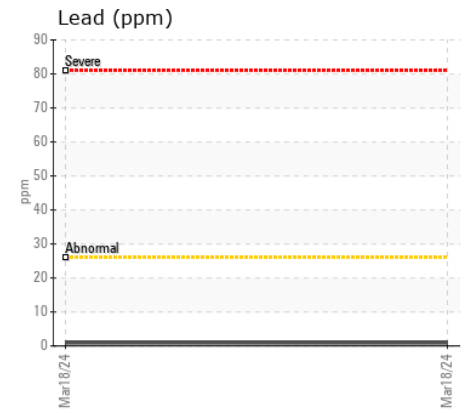
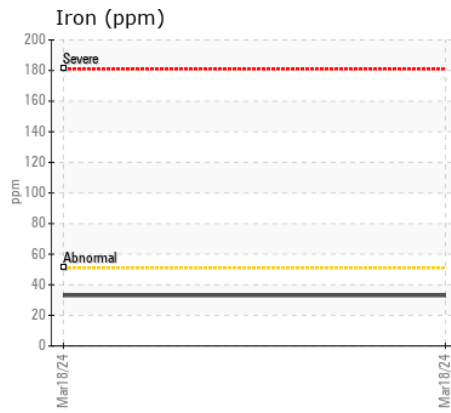
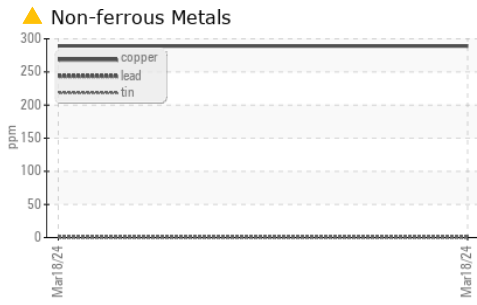
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	7	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel		WC Method	>2.1	<1.0	---	---
Water		WC Method	>0.21	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	---	---
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	---	---

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m	>31	2	---	---
Boron	ppm	ASTM D5185m		22	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		27	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		95	---	---
Calcium	ppm	ASTM D5185m	2300	4439	---	---
Phosphorus	ppm	ASTM D5185m		869	---	---
Zinc	ppm	ASTM D5185m	1200	1140	---	---
Sulfur	ppm	ASTM D5185m		3997	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	14.25	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	14.7	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06228149 **Received** : 03 Jul 2024  
**Lab Number** : 06228149 **Tested** : 08 Jul 2024  
**Unique Number** : 11111642 **Diagnosed** : 08 Jul 2024 - Angela Borella  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )

**ZACHRY FARMS**  
 15231 COUNTY FARM RD  
 CARLYLE, IL  
 US 62231  
 Contact: CHARLES FLATT

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)

T:  
F: