



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**JOHN DEERE 5101 EN 41 TR-159**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC MOLY XL PRO-SPEC IV XP 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06212593	TR05876322	TR05590768
Sample Date		Client Info		28 May 2024	09 Jun 2023	06 Jul 2022
Machine Age	hrs	Client Info		7315	6740	6151
Oil Age	hrs	Client Info		500	600	600
Filter Age	hrs	Client Info		500	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	12	41	43
Chromium	ppm	ASTM D5185m	>11	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>31	5	4	4
Lead	ppm	ASTM D5185m	>26	<1	4	12
Copper	ppm	ASTM D5185m	>26	4	2	2
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

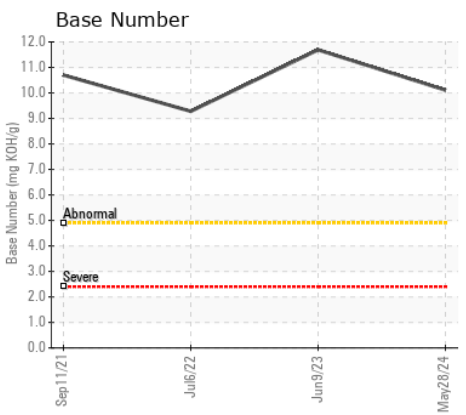
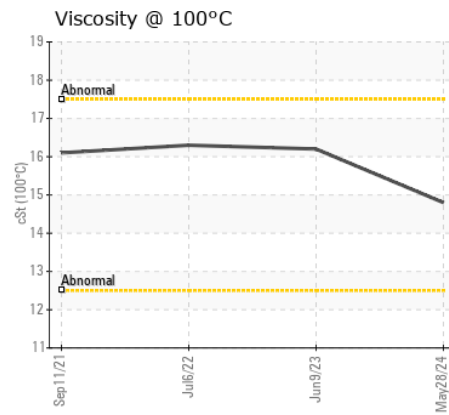
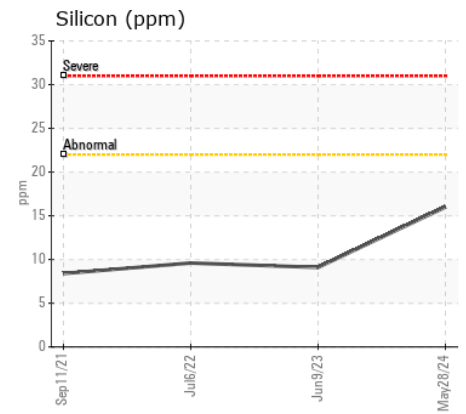
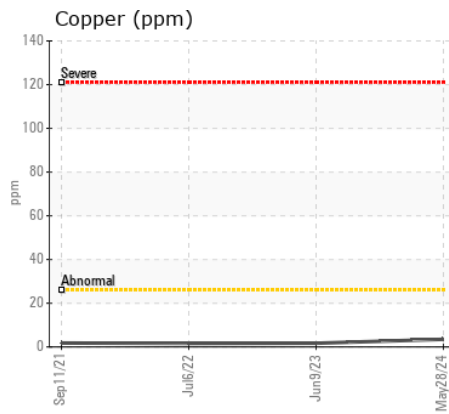
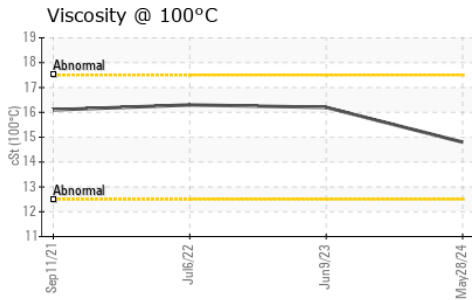
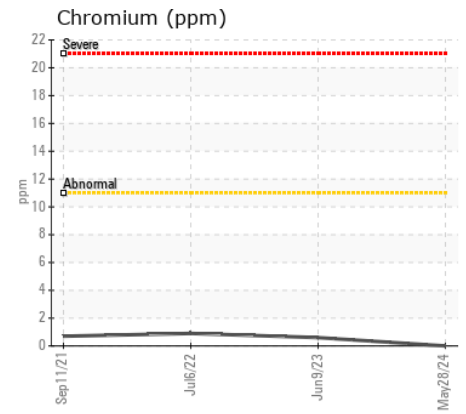
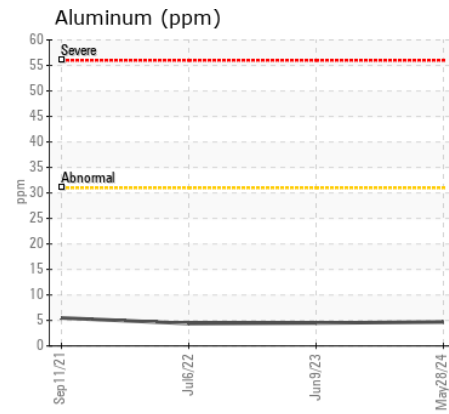
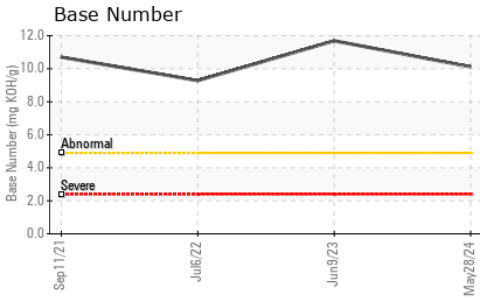
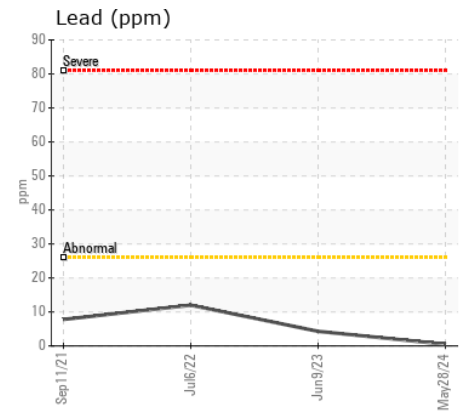
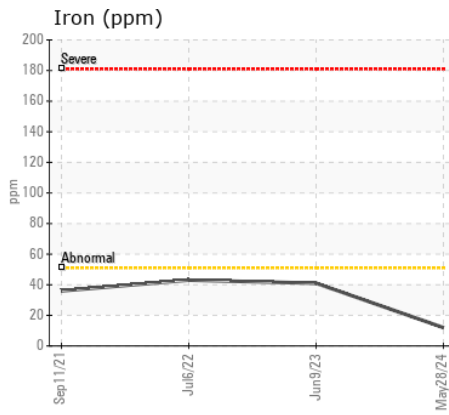
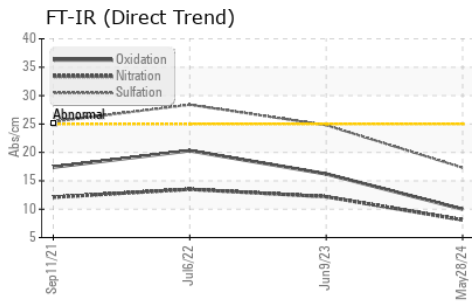
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	16	9	10
Potassium	ppm	ASTM D5185m	>20	4	3	3
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	8.1	12.2	13.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.3	24.8	28.4
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	NEG

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m	>31	4	0	4
Boron	ppm	ASTM D5185m		11	0	2
Barium	ppm	ASTM D5185m		0	2	0
Molybdenum	ppm	ASTM D5185m		124	155	135
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		33	32	20
Calcium	ppm	ASTM D5185m		4213	4526	4603
Phosphorus	ppm	ASTM D5185m		989	908	896
Zinc	ppm	ASTM D5185m		1113	1125	1132
Sulfur	ppm	ASTM D5185m		5161	4929	4964
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.0	16.2	20.3
Base Number (BN)	mg KOH/g	ASTM D2896		10.11	11.69	9.28
Visc @ 100°C	cSt	ASTM D445		14.8	16.2	16.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06212593  
**Lab Number** : 06212593  
**Unique Number** : 11085457  
**Test Package** : MOB 2  
**Received** : 17 Jun 2024  
**Tested** : 19 Jun 2024  
**Diagnosed** : 19 Jun 2024 - Wes Davis

**CHERRY HILL FARMS**  
 PO BOX 308  
 SANTAQUIN, UT  
 US 84655  
 Contact: JOHN AAGARD

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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F: