



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id  
**JOHN DEERE 4000 RAKE**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC MOLY XL PRO-SPEC IV XP 15W40 (3 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR05957160</b>	TR05887537	---
Sample Date		Client Info		<b>13 Sep 2023</b>	23 Jun 2023	---
Machine Age	hrs	Client Info		<b>8070</b>	7940	---
Oil Age	hrs	Client Info		<b>150</b>	50	---
Filter Age	hrs	Client Info		<b>150</b>	50	---
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	---
Sample Status				<b>NORMAL</b>	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>9</b>	5	---
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	---
Lead	ppm	ASTM D5185m	>40	<b>3</b>	0	---
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

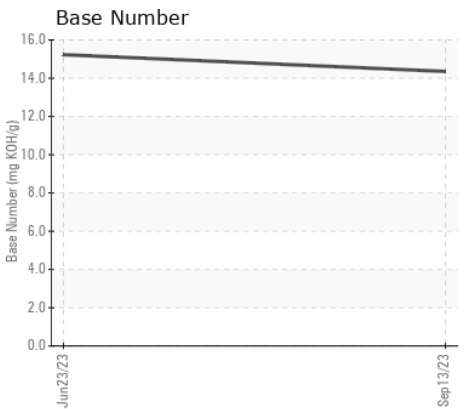
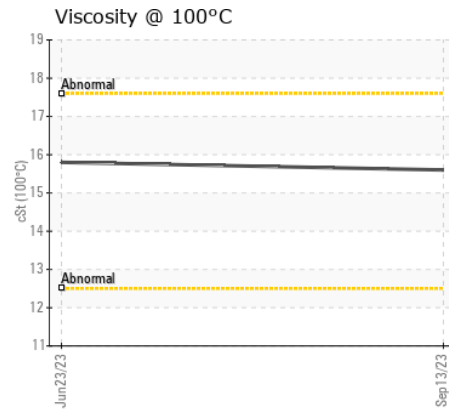
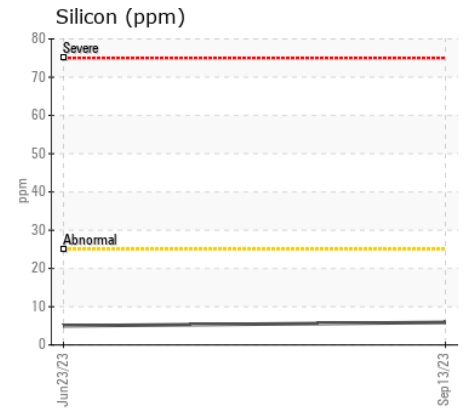
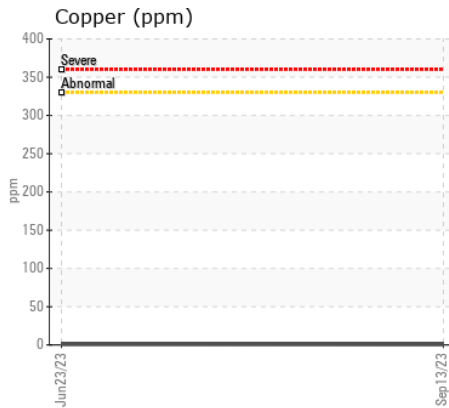
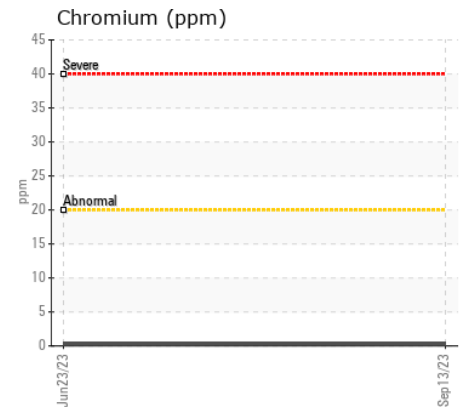
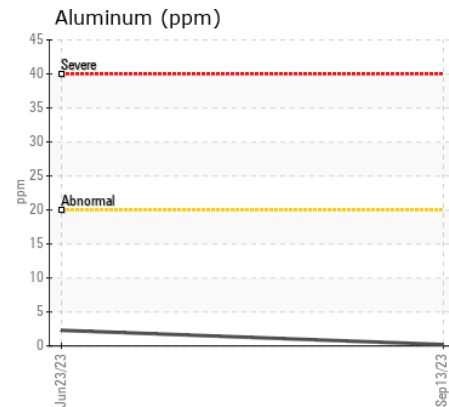
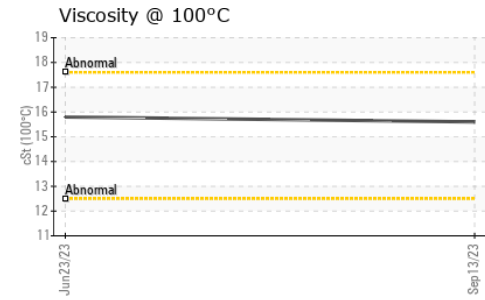
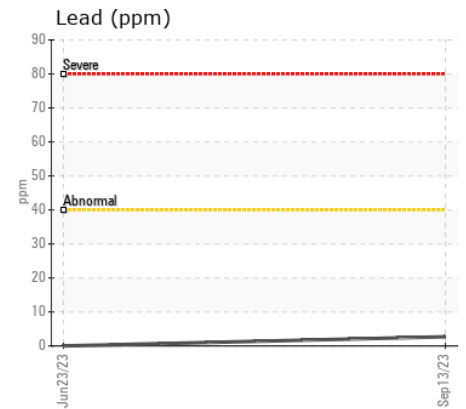
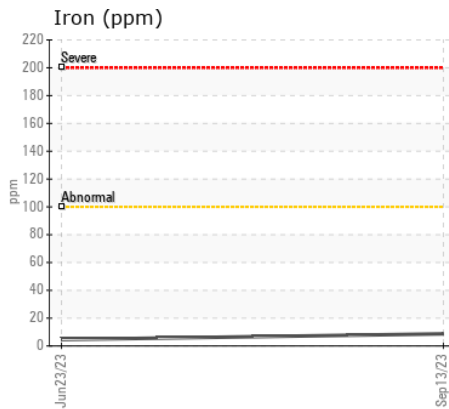
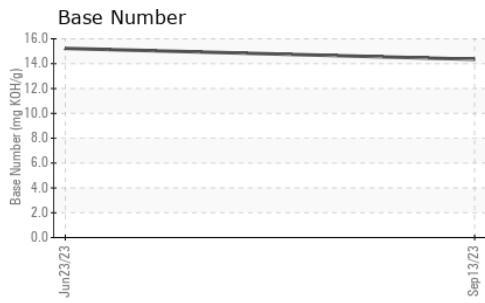
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	5	---
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.8</b>	7.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.0</b>	17.5	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>2</b>	2	---
Boron	ppm	ASTM D5185m		<b>3</b>	7	---
Barium	ppm	ASTM D5185m		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>117</b>	103	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>22</b>	19	---
Calcium	ppm	ASTM D5185m		<b>4469</b>	4332	---
Phosphorus	ppm	ASTM D5185m		<b>894</b>	907	---
Zinc	ppm	ASTM D5185m		<b>1105</b>	1097	---
Sulfur	ppm	ASTM D5185m		<b>4933</b>	5424	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.0</b>	11.1	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>14.35</b>	15.23	---
Visc @ 100°C	cSt	ASTM D445		<b>15.6</b>	15.8	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05957160      **Received** : 20 Sep 2023  
**Lab Number** : 05957160      **Tested** : 25 Sep 2023  
**Unique Number** : 10658373      **Diagnosed** : 25 Sep 2023 - Wes Davis  
**Test Package** : MOB 2

**SPRAGUE RANCH**  
 6907 ROUTE 14  
 BROOKFIELD, VT  
 US 05036  
 Contact: SCOTT BURRELL

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: