



# OIL ANALYSIS REPORT

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

Area  
**Store 9 - Marietta**

Machine Id  
**JOHN DEERE 1059**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0050900</b>	LEC0049770	LEC0050619
Sample Date		Client Info		<b>08 Jul 2024</b>	30 May 2024	19 Apr 2024
Machine Age	hrs	Client Info		<b>23681</b>	23273	22798
Oil Age	hrs	Client Info		<b>400</b>	400	400
Filter Age	hrs	Client Info		<b>400</b>	400	400
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>19</b>	24	18
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>1</b>	2	1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	4	5
Lead	ppm	ASTM D5185m	>40	<b>2</b>	4	4
Copper	ppm	ASTM D5185m	>330	<b>3</b>	4	10
Tin	ppm	ASTM D5185m	>15	<b>2</b>	3	3
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

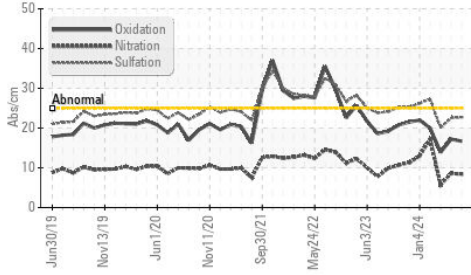
Silicon	ppm	ASTM D5185m	>120	<b>8</b>	15	▲ 29
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	8.6	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.7</b>	22.5	20.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

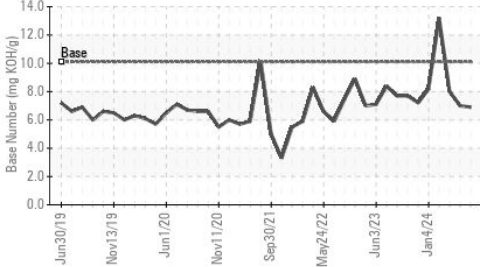
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	8	5
Boron	ppm	ASTM D5185m	316	<b>297</b>	264	367
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	3	13
Molybdenum	ppm	ASTM D5185m	1.2	<b>86</b>	79	79
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	2	4
Magnesium	ppm	ASTM D5185m	24	<b>395</b>	448	402
Calcium	ppm	ASTM D5185m	2292	<b>1433</b>	1449	1760
Phosphorus	ppm	ASTM D5185m	1064	<b>1002</b>	1014	1028
Zinc	ppm	ASTM D5185m	1160	<b>1234</b>	1195	1201
Sulfur	ppm	ASTM D5185m	4996	<b>3043</b>	3474	3868
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.7</b>	17.2	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>6.9</b>	7.0	8.0
Visc @ 100°C	cSt	ASTM D445	15.7	<b>12.6</b>	12.9	13.3

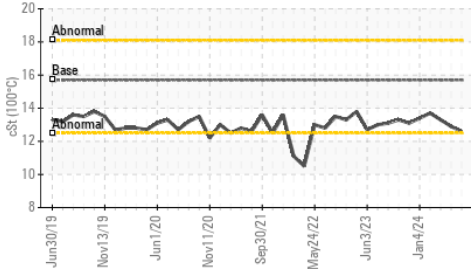
**FT-IR (Direct Trend)**



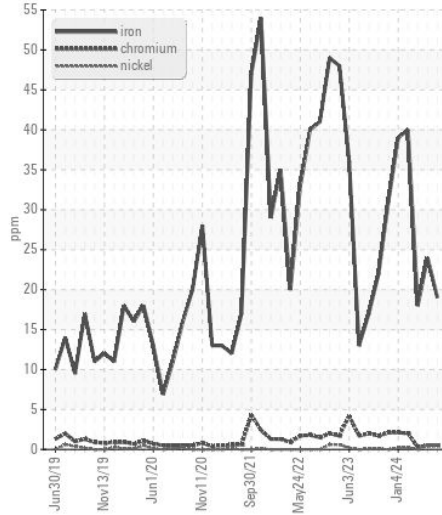
**Base Number**



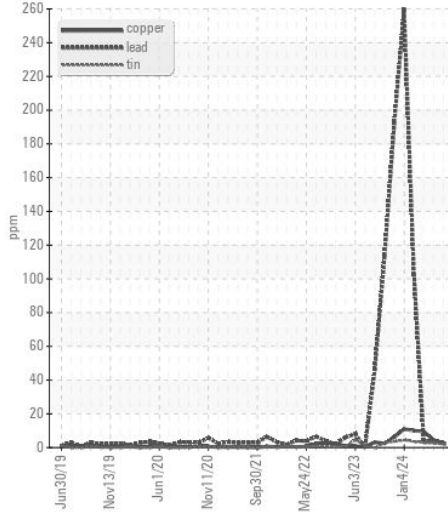
**Viscosity @ 100°C**



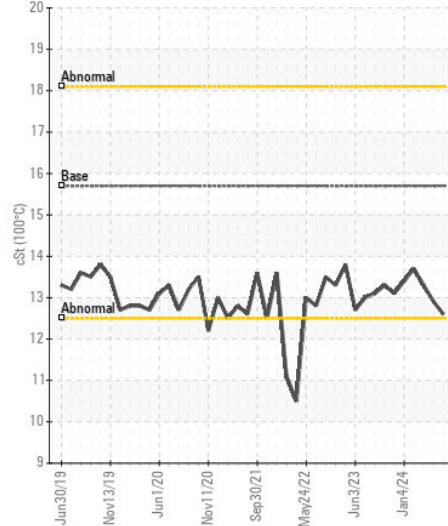
**Ferrous Alloys**



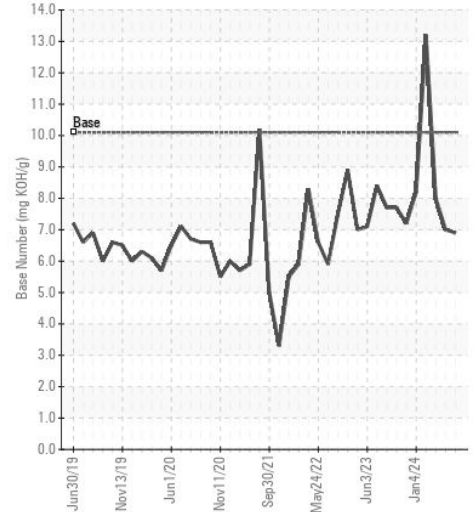
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0050900 **Received** : 18 Jul 2024  
**Lab Number** : 06239902 **Tested** : 18 Jul 2024  
**Unique Number** : 11128736 **Diagnosed** : 19 Jul 2024 - Don Baldridge  
**Test Package** : CONST ( Additional Tests: TBN )

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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)