



WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
JOHN DEERE 310G T0310GX901801

Component
Diesel Engine

Fluid
Diesel Engine Oil (--- 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		JR0193941	JR0167538	JR0167454
Sample Date		Client Info		12 Jan 2024	16 Jun 2023	19 Apr 2023
Machine Age	hrs	Client Info		8163	7520	7511
Oil Age	hrs	Client Info		643	9	7511
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

The lead level is severe. Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 90	14	21
Chromium	ppm	ASTM D5185m	>11	1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	3
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	7	3	2
Lead	ppm	ASTM D5185m	>26	◆ 149	3	4
Copper	ppm	ASTM D5185m	>26	5	0	<1
Tin	ppm	ASTM D5185m	>4	2	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	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.

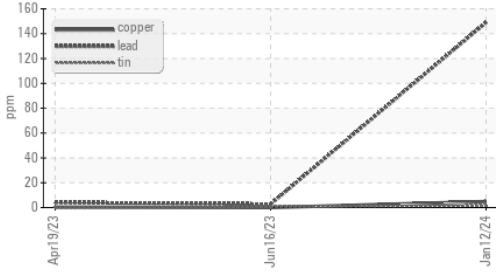
Silicon	ppm	ASTM D5185m	>22	11	8	5
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	15.4	9.5	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	35.2	24.1	21.2
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

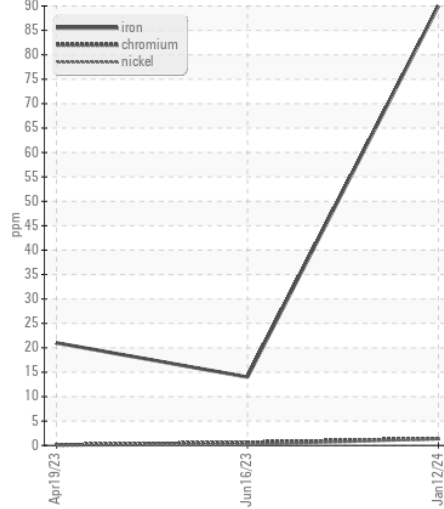
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>31	4	2	3
Boron	ppm	ASTM D5185m		88	240	91
Barium	ppm	ASTM D5185m		0	0	1
Molybdenum	ppm	ASTM D5185m		318	257	115
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		1109	928	638
Calcium	ppm	ASTM D5185m		1960	1657	1628
Phosphorus	ppm	ASTM D5185m		1093	978	932
Zinc	ppm	ASTM D5185m		1493	1237	1190
Sulfur	ppm	ASTM D5185m		3326	3837	3370
Oxidation	Abs/.1mm	*ASTM D7414	>25	38.7	20.9	18.6
Base Number (BN)	mg KOH/g	ASTM D2896		6.5	7.9	5.3
Visc @ 100°C	cSt	ASTM D445		▲ 18.2	15.0	15.0

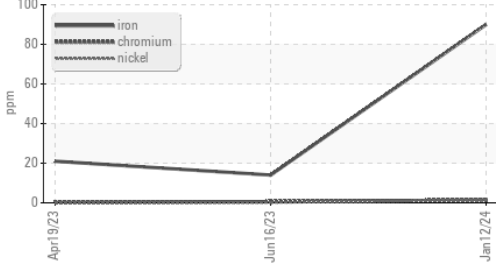
Non-ferrous Metals



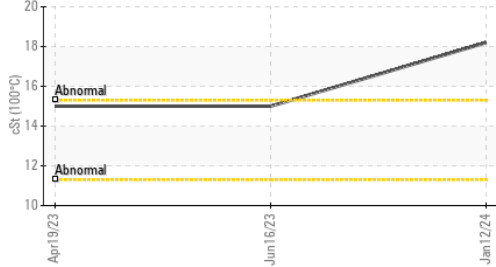
Ferrous Alloys



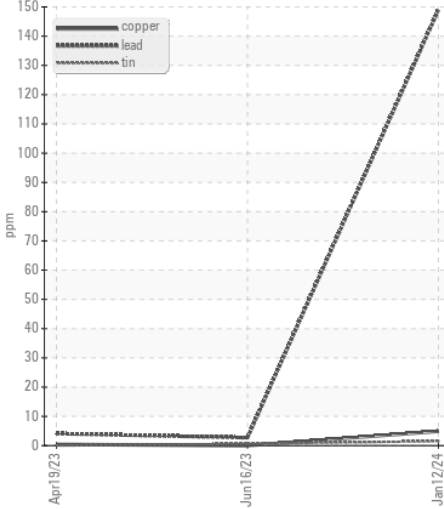
Ferrous Alloys



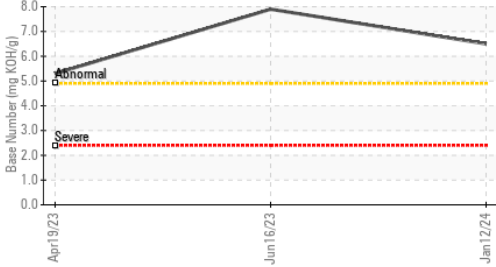
Viscosity @ 100°C



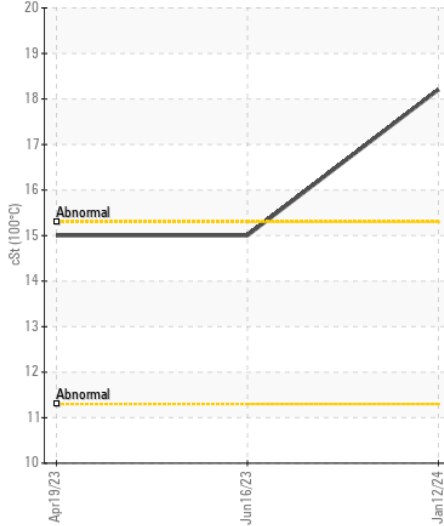
Non-ferrous Metals



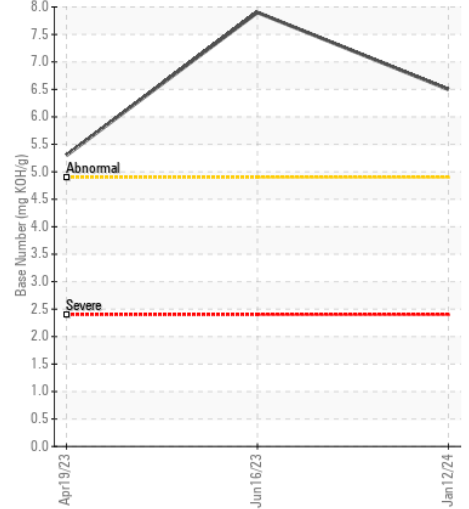
Base Number



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0193941 **Received** : 17 Jan 2024
Lab Number : 06062484 **Diagnosed** : 18 Jan 2024
Unique Number : 10833866 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: TBN)

JRE - GARNER
 4161 AUBURN CHURCH RD
 GARNER, NC
 US 27529

Contact: RALEIGH SHOP
 sean.betts@jamesriverequipment.com; catherine.anastasio@wearcheck.com

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)

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