CONST

James River Equipment

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
JOHN DEERE 644G DW644GD553733
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

WEAR

Cylinder, crank, or cam shaft wear is indicated.

CONTAMINATION

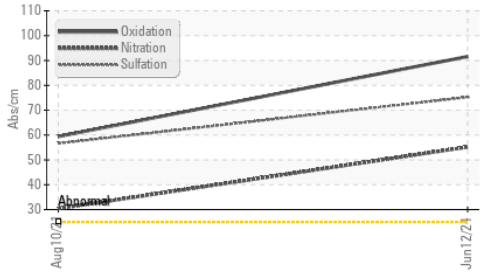
There is an abnormal amount of solids and carbon present in the oil.

FLUID CONDITION

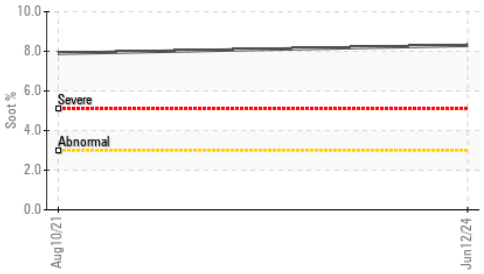
The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0212082	JR0088593	---
Sample Date		Client Info		12 Jun 2024	10 Aug 2021	---
Machine Age	hrs	Client Info		16034	15711	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				SEVERE	SEVERE	---
Iron	ppm	ASTM D5185m	>51	▲ 166	▲ 200	---
Chromium	ppm	ASTM D5185m	>11	2	3	---
Nickel	ppm	ASTM D5185m	>5	6	7	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>31	6	5	---
Lead	ppm	ASTM D5185m	>26	15	▲ 40	---
Copper	ppm	ASTM D5185m	>26	7	10	---
Tin	ppm	ASTM D5185m	>4	3	5	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185m	>22	12	8	---
Potassium	ppm	ASTM D5185m	>20	3	3	---
Fuel	%	ASTM D3524	>2.1	<1.0	<1.0	---
Water		WC Method	>0.21	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	▲ 8.3	▲ 7.9	---
Nitration	Abs/cm	*ASTM D7624	>20	55.2	30.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	75.2	56.6	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	---
Sodium	ppm	ASTM D5185m	>31	2	3	---
Boron	ppm	ASTM D5185m		71	86	---
Barium	ppm	ASTM D5185m		1	0	---
Molybdenum	ppm	ASTM D5185m		217	118	---
Manganese	ppm	ASTM D5185m		2	2	---
Magnesium	ppm	ASTM D5185m		578	576	---
Calcium	ppm	ASTM D5185m		1882	1954	---
Phosphorus	ppm	ASTM D5185m		901	1075	---
Zinc	ppm	ASTM D5185m		1158	1305	---
Sulfur	ppm	ASTM D5185m		3146	2676	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	91.6	59.4	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	▲ 0.0	▲ 0.0	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 20.1	▲ 21.4	---

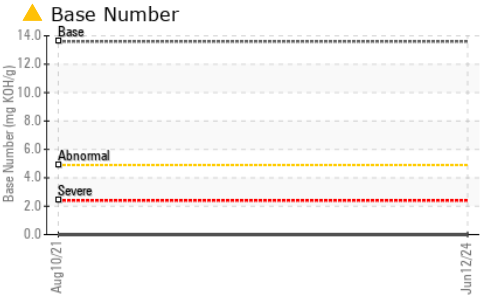
FT-IR (Direct Trend)



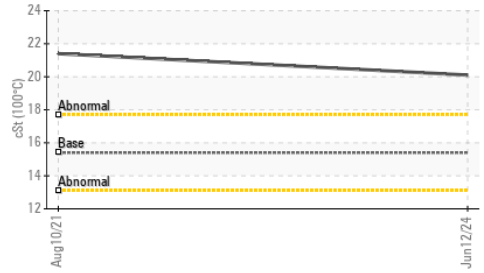
Soot %



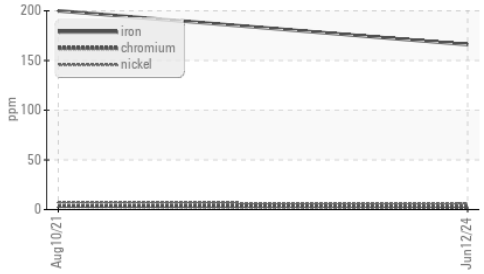
Base Number



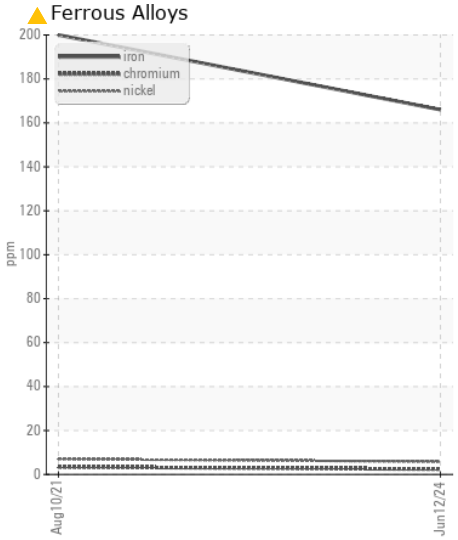
Viscosity @ 100°C



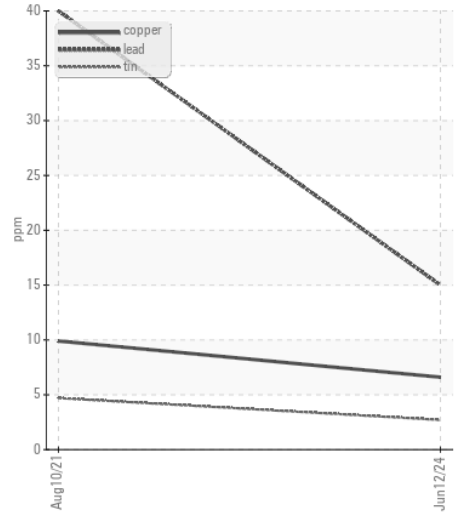
Ferrous Alloys



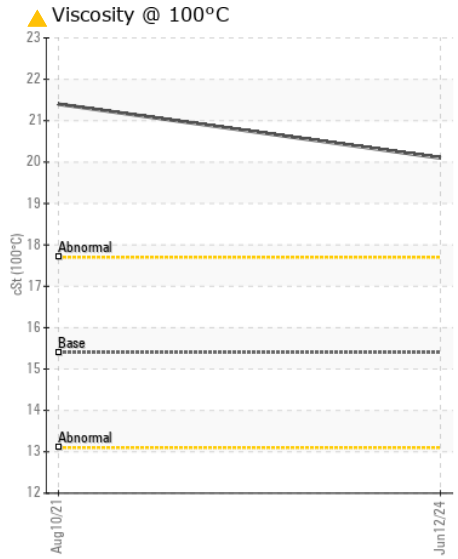
Ferrous Alloys



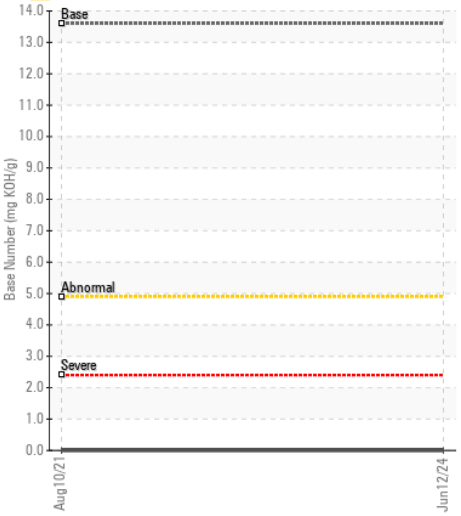
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0212082
Lab Number : 06213130
Unique Number : 11085994
Test Package : CONST (Additional Tests: FuelDilution, TBN)

Received : 18 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 2024 - Sean Felton

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)

JRE - ASHLAND
11047 LEADBETTER RD
ASHLAND, VA
US 23005
Contact: DAVID ZIEG
dzieg@jamesriverequipment.com
T: (804)798-6001
F: (804)798-0292