James River Equipment

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 333G 1T0333GMKHF309893
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The copper level is abnormal. Cylinder, crank, or cam shaft wear is indicated.

CONTAMINATION

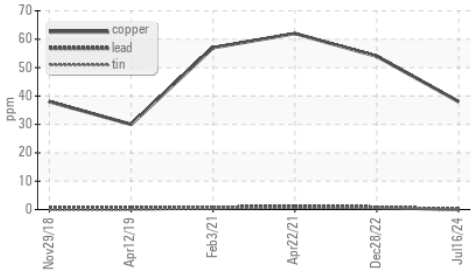
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

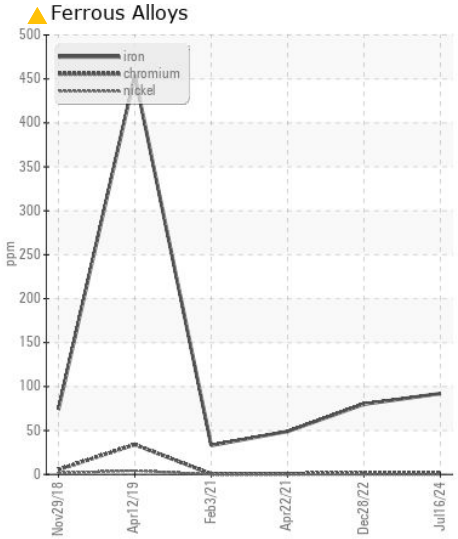
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oils additive package is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0211763	JR0148557	JR0068088
Sample Date		Client Info		16 Jul 2024	28 Dec 2022	22 Apr 2021
Machine Age	hrs	Client Info		1583	1033	3414
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>51	▲ 92	▲ 80	49
Chromium	ppm	ASTM D5185m	>11	1	1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>31	● 8	● 9	2
Lead	ppm	ASTM D5185m	>26	0	<1	1
Copper	ppm	ASTM D5185m	>26	▲ 38	▲ 54	▲ 62
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	▲ 27	▲ 26	21
Potassium	ppm	ASTM D5185m	>20	2	3	2
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	0.8	0.8	0.6
Nitration	Abs/cm	*ASTM D7624	>20	13.2	13.7	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.1	30.1	30.1
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
Sodium	ppm	ASTM D5185m	>31	4	3	5
Boron	ppm	ASTM D5185m		59	27	71
Barium	ppm	ASTM D5185m		<1	0	<1
Molybdenum	ppm	ASTM D5185m		249	258	253
Manganese	ppm	ASTM D5185m		1	1	1
Magnesium	ppm	ASTM D5185m		835	752	789
Calcium	ppm	ASTM D5185m		1736	1838	1456
Phosphorus	ppm	ASTM D5185m		981	1013	852
Zinc	ppm	ASTM D5185m		1167	1252	1049
Sulfur	ppm	ASTM D5185m		3253	3263	2262
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.1	28.3	26.9
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.7	7.4	7.9
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.6	13.9

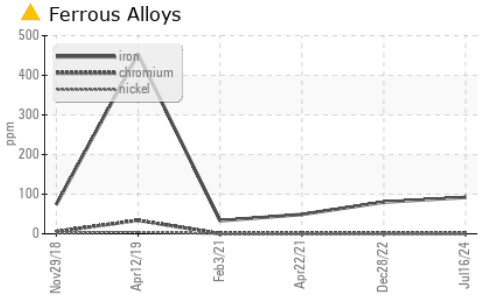
Non-ferrous Metals



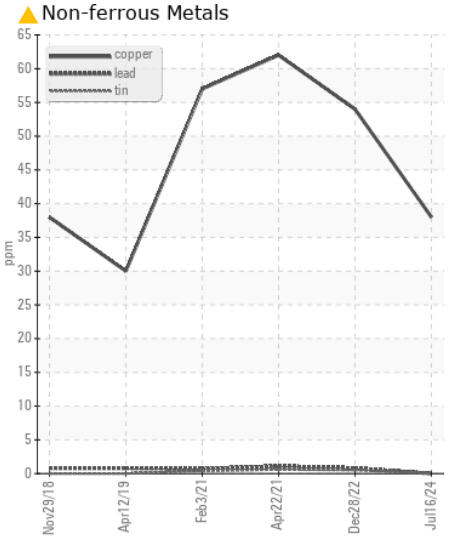
Ferrous Alloys



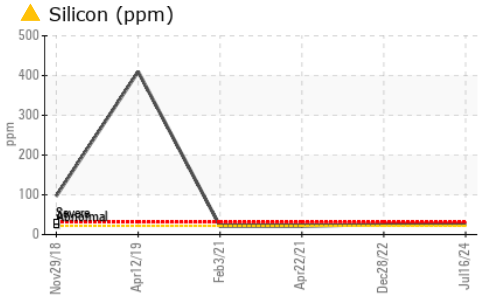
Ferrous Alloys



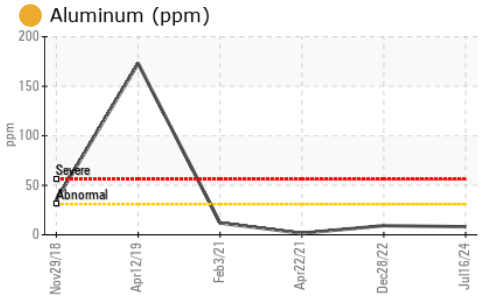
Non-ferrous Metals



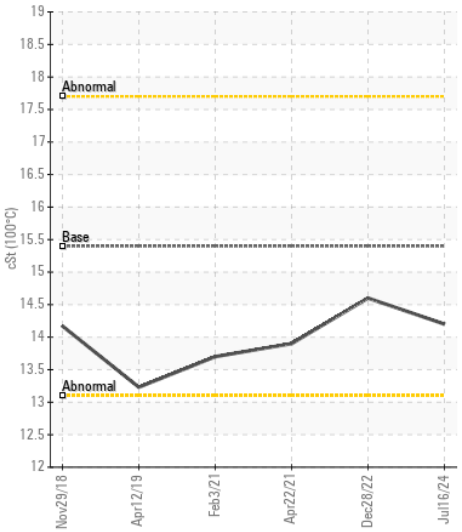
Silicon (ppm)



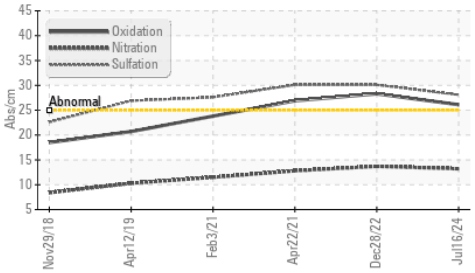
Aluminum (ppm)



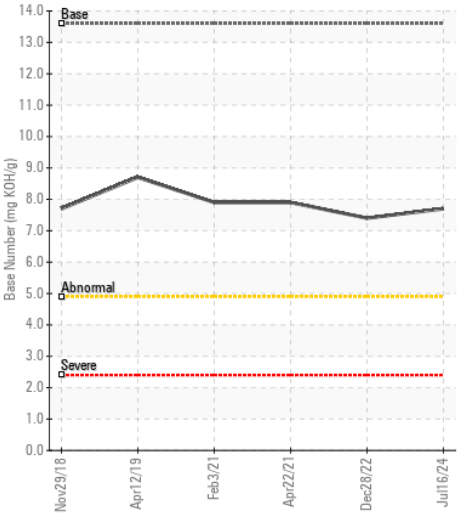
Viscosity @ 100°C



FT-IR (Direct Trend)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0211763
Lab Number : 06238941
Unique Number : 11127775
Test Package : CONST (Additional Tests: TBN)

Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 19 Jul 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