James River Equipment

OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 6195R A033327
Component
Diesel Engine
Fluid
CITGO CITGARD 700 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. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

WEAR

Cylinder, crank, or cam shaft wear is indicated. Valve wear is indicated.

CONTAMINATION

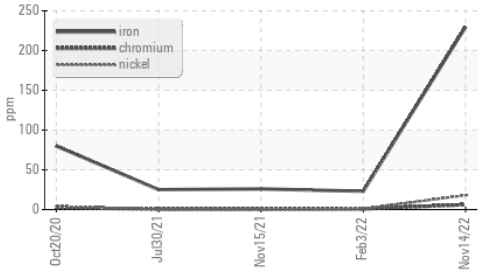
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

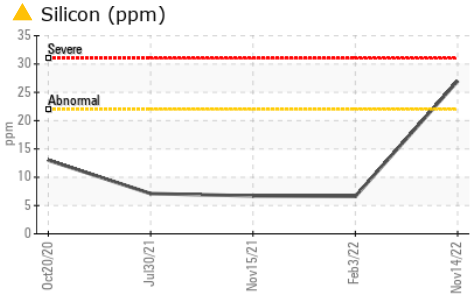
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0121864	JR0110439	JR0094381
Sample Date		Client Info		14 Nov 2022	03 Feb 2022	15 Nov 2021
Machine Age	hrs	Client Info		4560	2885	2428
Oil Age	hrs	Client Info		560	457	569
Filter Age	hrs	Client Info		560	457	569
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>51	▲ 230	23	26
Chromium	ppm	ASTM D5185m	>11	6	<1	<1
Nickel	ppm	ASTM D5185m	>5	▲ 18	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>31	● 8	2	1
Lead	ppm	ASTM D5185m	>26	0	<1	<1
Copper	ppm	ASTM D5185m	>26	10	2	2
Tin	ppm	ASTM D5185m	>4	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	▲ 27	7	7
Potassium	ppm	ASTM D5185m	>20	0	1	<1
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	0.4	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.6	8.7	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	20.9	21.3
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	2	3	<1
Boron	ppm	ASTM D5185m	20	18	96	17
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	59	73	64	72
Manganese	ppm	ASTM D5185m		3	<1	<1
Magnesium	ppm	ASTM D5185m	783	952	1018	937
Calcium	ppm	ASTM D5185m	1238	1205	1215	1195
Phosphorus	ppm	ASTM D5185m	949	1017	1104	998
Zinc	ppm	ASTM D5185m	1116	1274	1287	1205
Sulfur	ppm	ASTM D5185m	2909	3462	2593	2431
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.0	17.0	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.5	9.7	9.1
Visc @ 100°C	cSt	ASTM D445	15.2	13.2	13.3	13.9

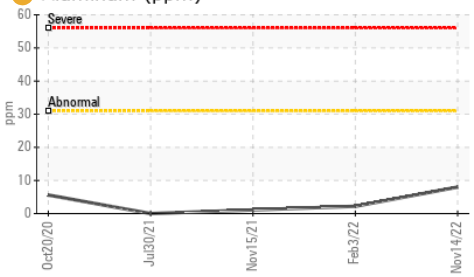
Ferrous Alloys



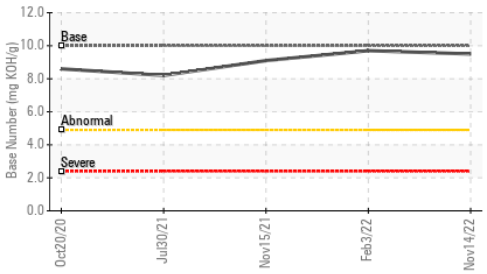
Silicon (ppm)



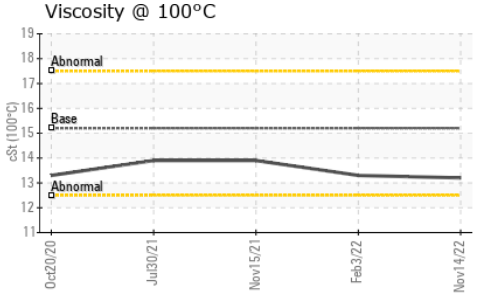
Aluminum (ppm)



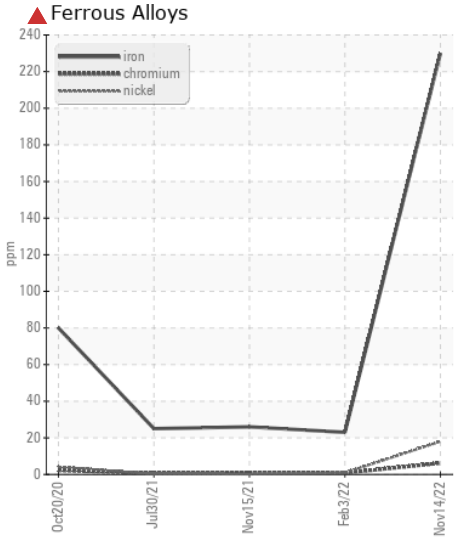
Base Number



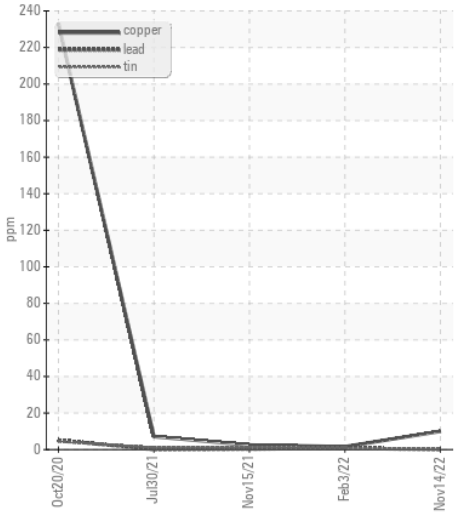
Viscosity @ 100°C



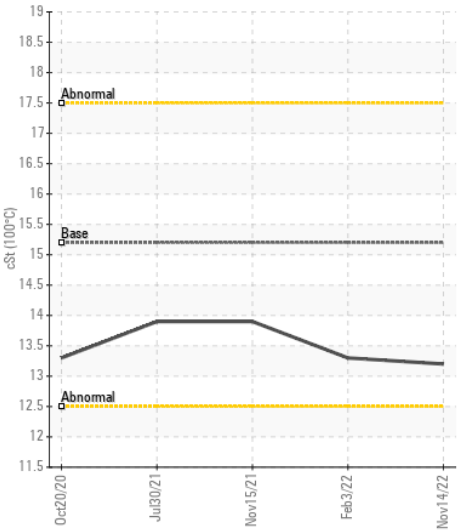
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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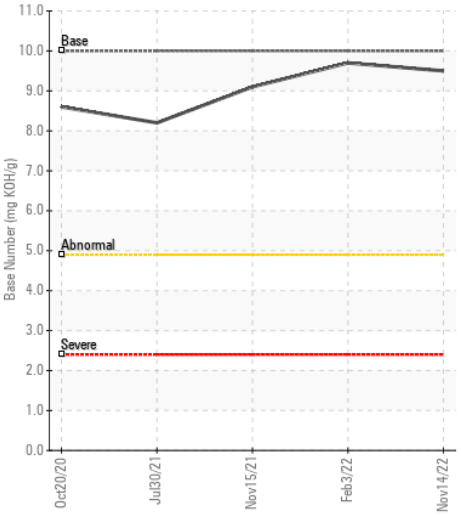

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0121864
Lab Number : 05696240
Unique Number : 10220813
Test Package : CONST (Additional Tests: TBN)

Received : 17 Nov 2022
Tested : 18 Nov 2022
Diagnosed : 18 Nov 2022 - Jonathan Hester

BALFOUR BEATTY INFRASTRUCTURE INC
PO BOX 12267
WILMINGTON, NC
US 28405
Contact: TODD COLLINS

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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