James River Equipment

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
JOHN DEERE 824K C9009410 (S/N 1DW824KXJBD636727)
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

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

CONTAMINATION

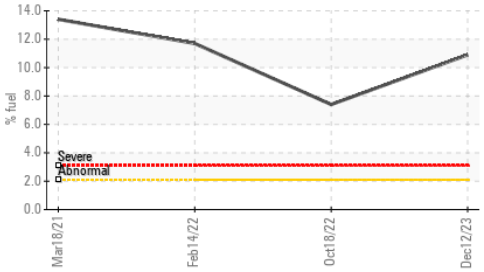
There is a high amount of fuel present in the oil.

FLUID CONDITION

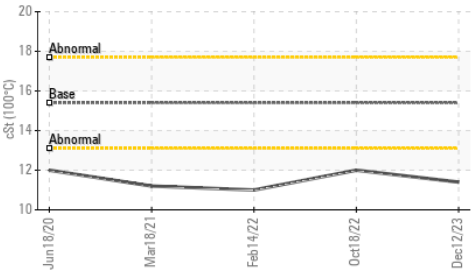
The oil viscosity is lower than normal. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0193982	JR0136159	JR0110174
Sample Date		Client Info		12 Dec 2023	18 Oct 2022	14 Feb 2022
Machine Age	hrs	Client Info		15691	14536	14005
Oil Age	hrs	Client Info		1155	531	544
Filter Age	hrs	Client Info		0	531	544
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>51	▲ 116	41	38
Chromium	ppm	ASTM D5185m	>11	2	1	1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		6	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	3	2	2
Lead	ppm	ASTM D5185m	>26	▲ 46	17	12
Copper	ppm	ASTM D5185m	>26	7	8	9
Tin	ppm	ASTM D5185m	>4	2	2	2
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	8	8	6
Potassium	ppm	ASTM D5185m	>20	1	0	0
Fuel	%	ASTM D3524	>2.1	▲ 10.9	▲ 7.4	▲ 11.7
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	2.2	1.5	1.4
Nitration	Abs/cm	*ASTM D7624	>20	12.3	10.9	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.8	28.2	27.3
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	5	5	5
Boron	ppm	ASTM D5185m		49	125	117
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		159	213	99
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		602	692	356
Calcium	ppm	ASTM D5185m		1410	1449	1417
Phosphorus	ppm	ASTM D5185m		831	840	773
Zinc	ppm	ASTM D5185m		1048	1012	939
Sulfur	ppm	ASTM D5185m		2964	3374	2446
Oxidation	Abs/.1mm	*ASTM D7414	>25	24.6	22.0	22.2
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	5.2	7.8	5.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.4	▲ 12.0	▲ 11.0

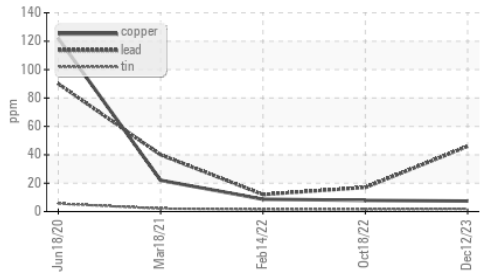
Fuel Dilution



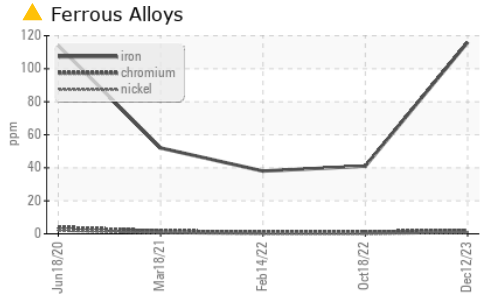
Viscosity @ 100°C



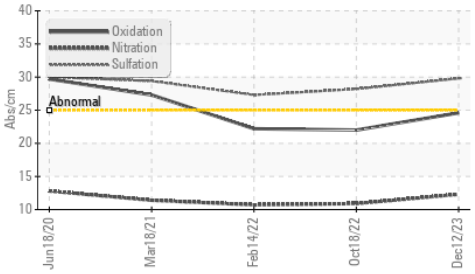
Non-ferrous Metals



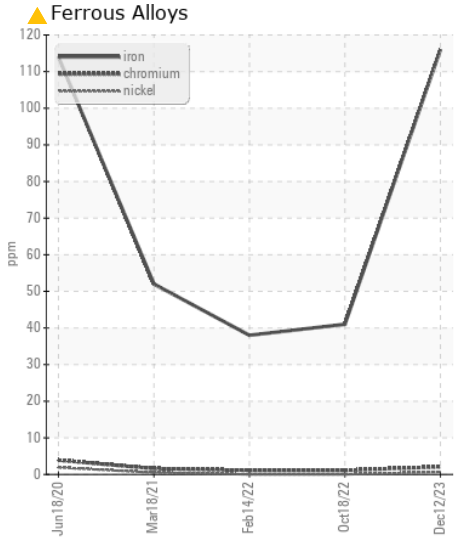
Ferrous Alloys



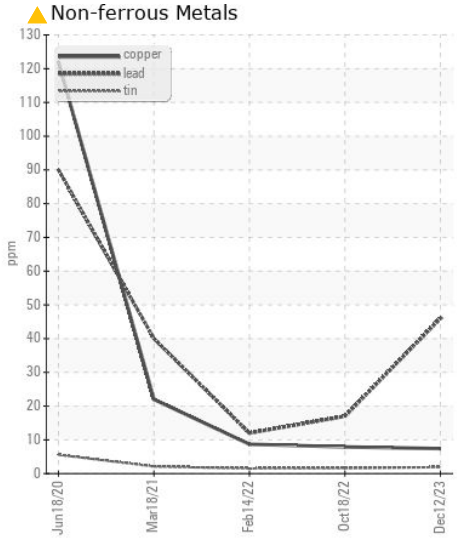
FT-IR (Direct Trend)



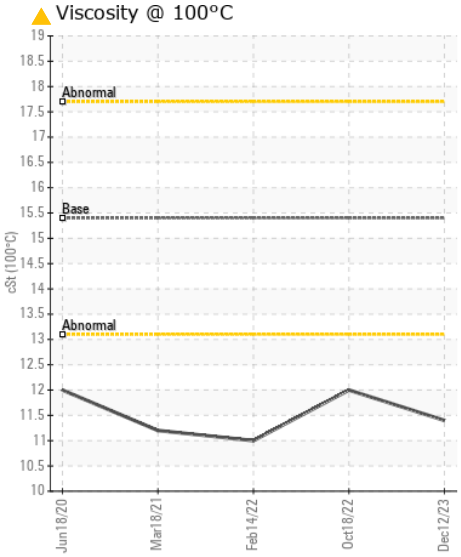
Ferrous Alloys



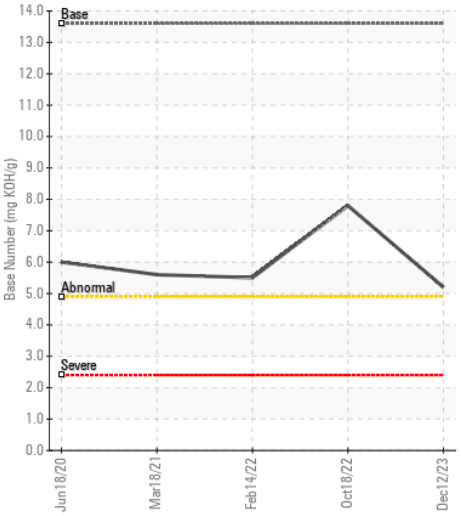
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0193982 **Received** : 14 Dec 2023
Lab Number : 06034453 **Tested** : 19 Dec 2023
Unique Number : 10789682 **Diagnosed** : 19 Dec 2023 - Angela Borella
Test Package : CONST (Additional Tests: PercentFuel, TBN)

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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