James River Equipment

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
JOHN DEERE 409
Component
Diesel Engine
Fluid
MOBIL 15W40 (--- QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

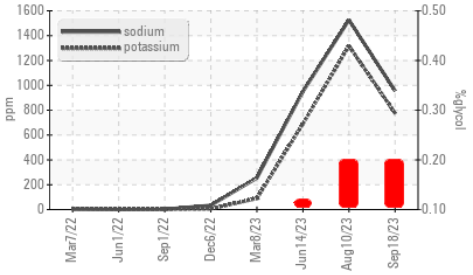
Test for glycol is positive. There is a high concentration of glycol present in the oil.

FLUID CONDITION

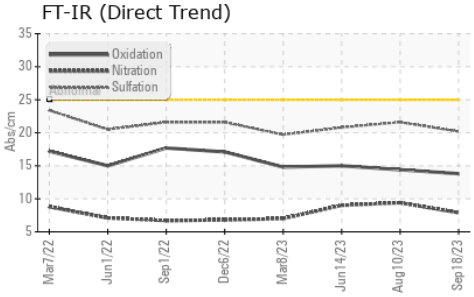
Molybdenum ppm levels are abnormally high. Sodium ppm levels are notably high. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0135315	JR0135309	JR0135390
Sample Date		Client Info		18 Sep 2023	10 Aug 2023	14 Jun 2023
Machine Age	hrs	Client Info		5500	5337	5074
Oil Age	hrs	Client Info		500	337	574
Filter Age	hrs	Client Info		500	337	574
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>51	21	24	24
Chromium	ppm	ASTM D5185m	>11	<1	1	<1
Nickel	ppm	ASTM D5185m	>5	2	2	1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>31	4	4	4
Lead	ppm	ASTM D5185m	>26	2	2	<1
Copper	ppm	ASTM D5185m	>26	14	19	12
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	15	20	17
Potassium	ppm	ASTM D5185m	>20	▲ 776	▲ 1317	▲ 690
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol	%	*ASTM D2982		▲ 0.20	▲ 0.20	▲ 0.12
Soot %	%	*ASTM D7844	>3	0.1	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.9	9.4	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	21.6	20.8
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	>118	● 956	▲ 1526	▲ 950
Boron	ppm	ASTM D5185m		148	16	13
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		▲ 227	161	99
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		808	791	852
Calcium	ppm	ASTM D5185m		1325	1270	1204
Phosphorus	ppm	ASTM D5185m		1002	1011	970
Zinc	ppm	ASTM D5185m		1181	1193	1177
Sulfur	ppm	ASTM D5185m		4069	3510	3785
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.8	14.4	15.0
Base Number (BN)	mg KOH/g	ASTM D2896		11.1	14.3	11.1
Visc @ 100°C	cSt	ASTM D445		13.3	13.0	12.6

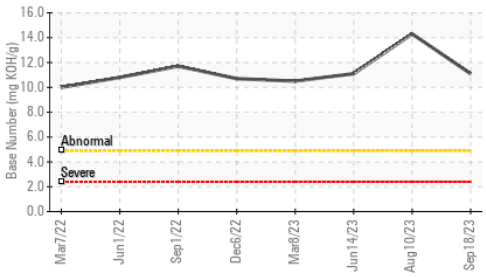
Glycol Contamination



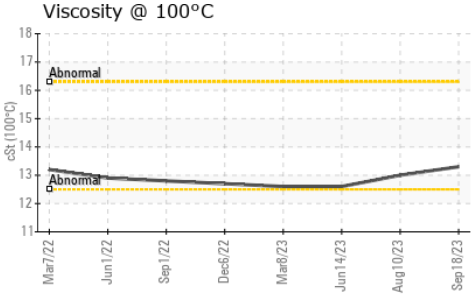
FT-IR (Direct Trend)



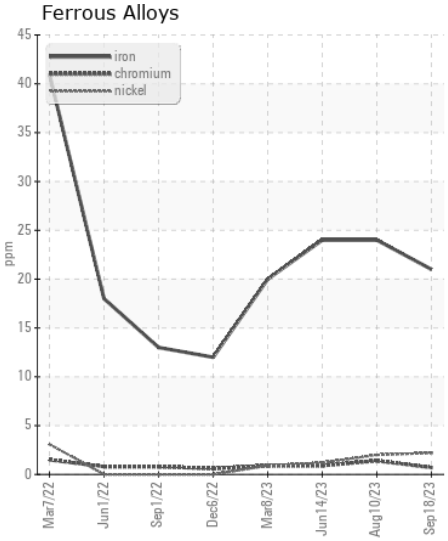
Base Number



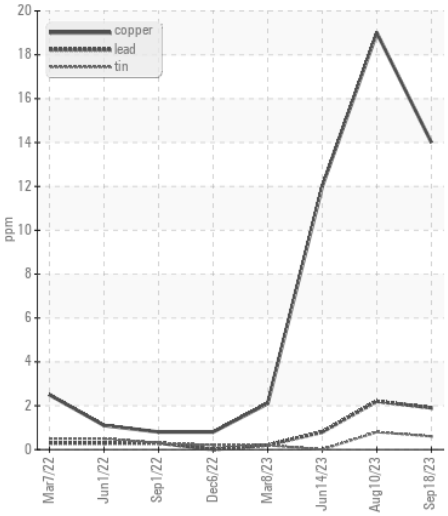
Viscosity @ 100°C



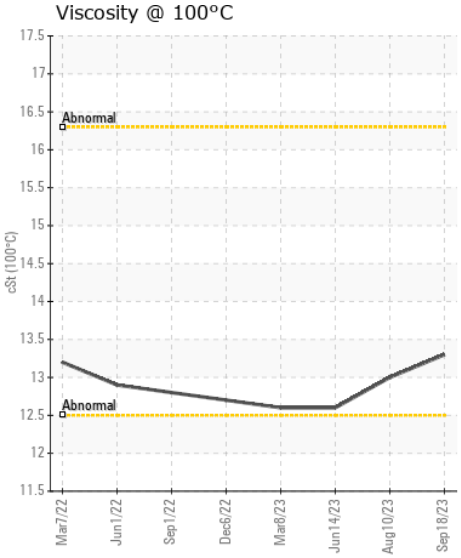
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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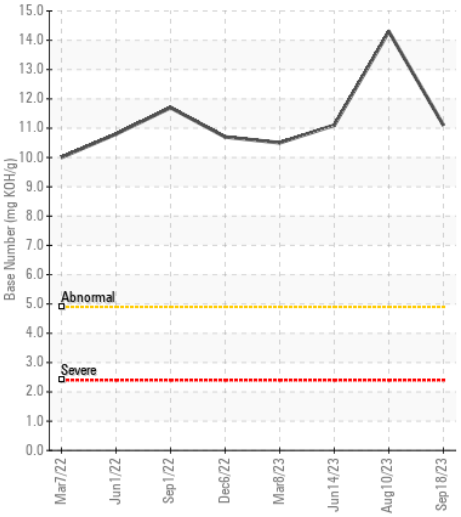

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0135315
Lab Number : 05986251
Unique Number : 10708913
Test Package : CONST (Additional Tests: TBN)

Received : 23 Oct 2023
Tested : 24 Oct 2023
Diagnosed : 24 Oct 2023 - Wes Davis

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)

THE SCOTTS COMPANY
3175 BRIGHT LEAF RD
LAWRENCEVILLE, VA
US 23868
Contact: REX WATSON

T: (434)848-2727
F: (434)848-2250