CONST

James River Equipment

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area

[16W16494]

Machine Id

JOHN DEERE 853M 1T0853MXELL389635 - DOOR

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (8 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: 16W16494)

WEAR

Cylinder, crank, or cam shaft wear is indicated.

CONTAMINATION

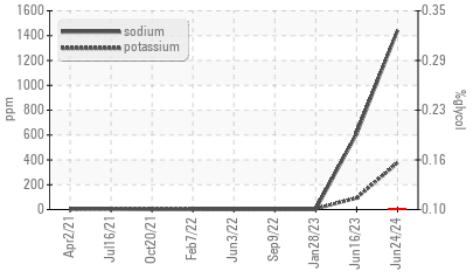
Sodium and/or potassium levels are high. Test for glycol is positive. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

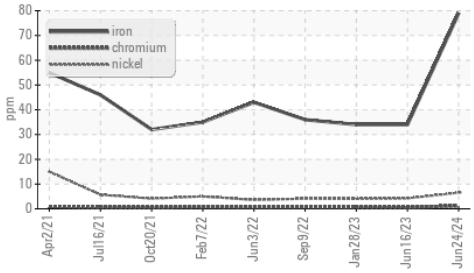
The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0217344	JR0173581	JR0154080
Sample Date		Client Info		24 Jun 2024	16 Jun 2023	28 Jan 2023
Machine Age	hrs	Client Info		5812	4282	3737
Oil Age	hrs	Client Info		912	545	524
Filter Age	hrs	Client Info		912	545	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>51	▲ 79	34	34
Chromium	ppm	ASTM D5185m	>11	1	<1	<1
Nickel	ppm	ASTM D5185m	>5	6	4	4
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	● 9	4	3
Lead	ppm	ASTM D5185m	>26	13	2	<1
Copper	ppm	ASTM D5185m	>26	10	6	3
Tin	ppm	ASTM D5185m	>4	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	▲ 40	16	7
Potassium	ppm	ASTM D5185m	>20	▲ 377	▲ 93	6
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol	%	*ASTM D2982		▲ 0.10	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.5	0.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	14.7	11.5	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.8	25.7	23.9
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	▲ 1443	▲ 609	1
Boron	ppm	ASTM D5185m		8	12	104
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		289	249	224
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		841	768	654
Calcium	ppm	ASTM D5185m		1556	1541	1696
Phosphorus	ppm	ASTM D5185m		1246	806	914
Zinc	ppm	ASTM D5185m		1197	1013	1133
Sulfur	ppm	ASTM D5185m		3103	3045	2894
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.4	20.1	17.8
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.6	9.0	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.3	14.4

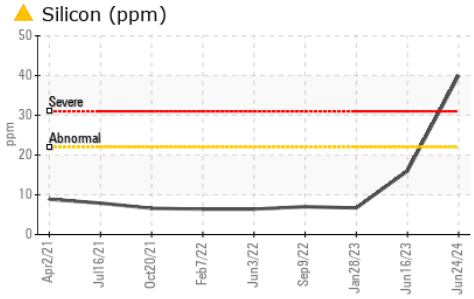
Glycol Contamination



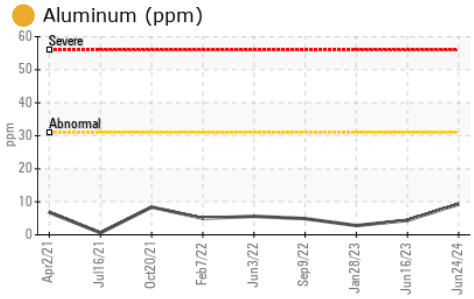
Ferrous Alloys



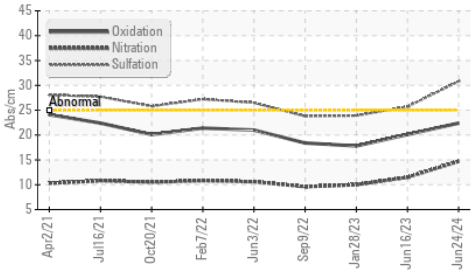
Silicon (ppm)



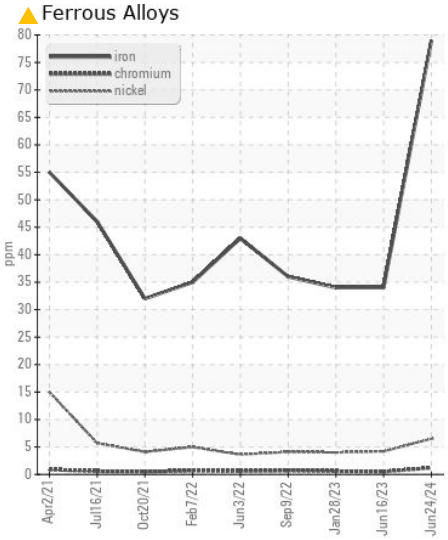
Aluminum (ppm)



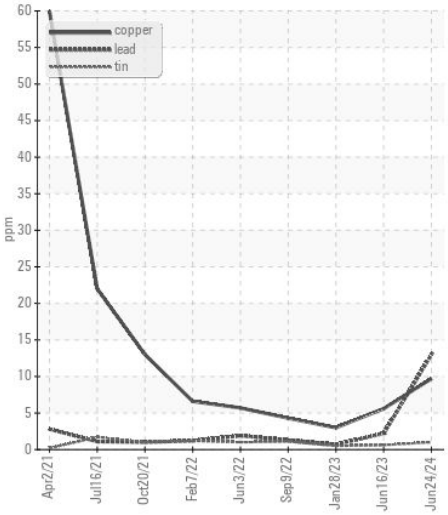
FT-IR (Direct Trend)



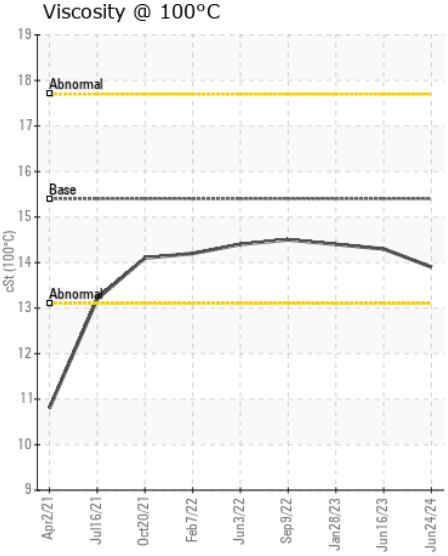
Ferrous Alloys



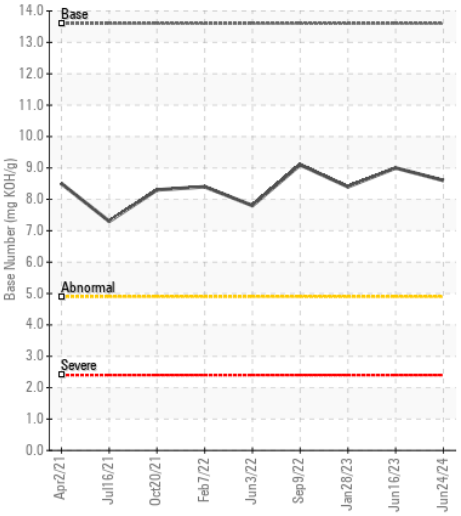
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0217344
Lab Number : 06222197
Unique Number : 11100394
Test Package : CONST (Additional Tests: Glycol, TBN)
Received : 27 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 28 Jun 2024 - Don Baldridge

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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