



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[05W48110]

Machine Id

SENNEBOGEN 821M 821.0.2814

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (21 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0226667	JR0214340	JR0208461
Sample Date		Client Info		16 Jul 2024	17 May 2024	12 Mar 2024
Machine Age	hrs	Client Info		5030	4551	4023
Oil Age	hrs	Client Info		479	528	534
Filter Age	hrs	Client Info		479	528	534
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	33	23	18
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	6	6	3
Lead	ppm	ASTM D5185m	>40	<1	<1	2
Copper	ppm	ASTM D5185m	>330	3	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

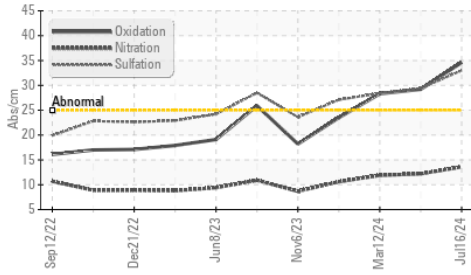
Silicon	ppm	ASTM D5185m	>25	12	10	6
Potassium	ppm	ASTM D5185m	>20	4	<1	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	13.6	12.2	11.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	33.0	29.4	28.4
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

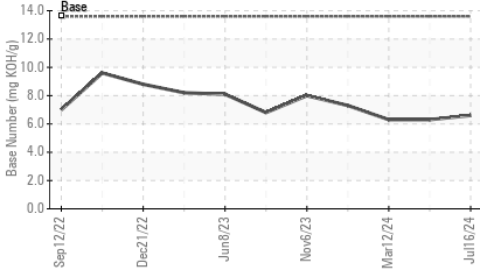
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	1	2
Boron	ppm	ASTM D5185m		75	108	91
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		318	288	211
Manganese	ppm	ASTM D5185m		1	1	1
Magnesium	ppm	ASTM D5185m		998	970	876
Calcium	ppm	ASTM D5185m		1833	1704	1802
Phosphorus	ppm	ASTM D5185m		1071	1023	940
Zinc	ppm	ASTM D5185m		1361	1276	1232
Sulfur	ppm	ASTM D5185m		3356	3573	3653
Oxidation	Abs/.1mm	*ASTM D7414	>25	34.6	29.2	28.3
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	6.6	6.3	6.3
Visc @ 100°C	cSt	ASTM D445	15.4	15.8	15.0	14.4

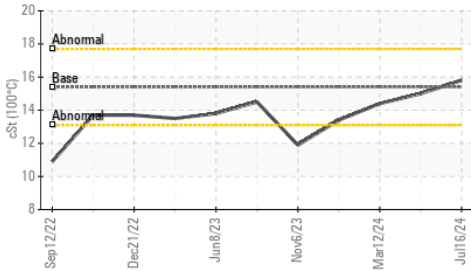
FT-IR (Direct Trend)



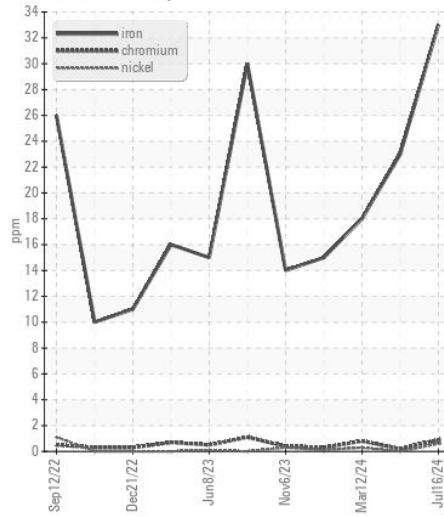
Base Number



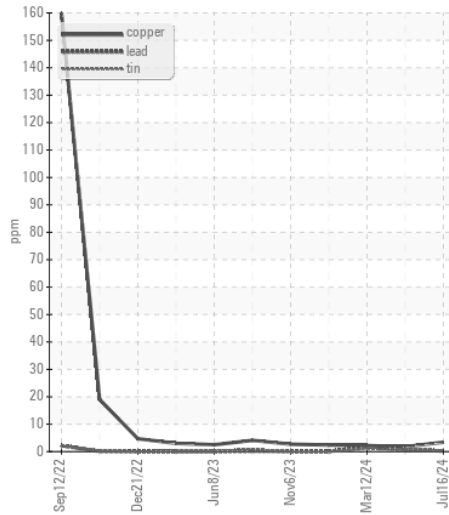
Viscosity @ 100°C



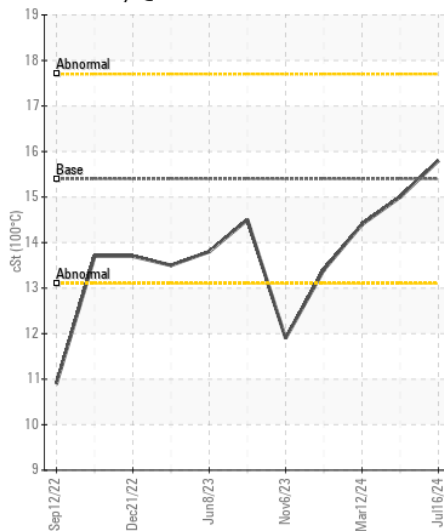
Ferrous Alloys



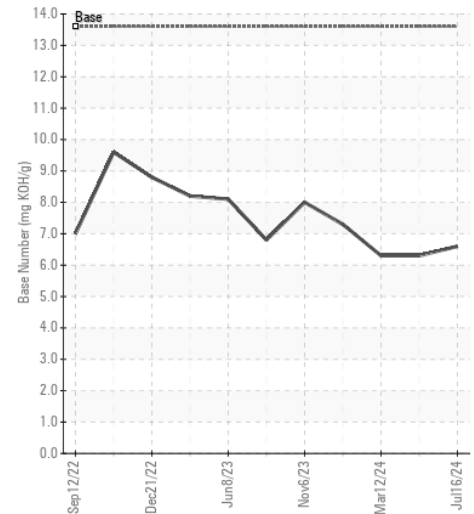
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0226667 **Received** : 17 Jul 2024
Lab Number : 06239009 **Tested** : 18 Jul 2024
Unique Number : 11127843 **Diagnosed** : 19 Jul 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

JRE - MANASSAS PARK
 9107 OWENS DRIVE
 MANASSAS PARK, VA
 US 20111

Contact: DON VEST
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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)