



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[W67130]

Machine Id
HITACHI 470LC HCMJAG60C00060577

Component
Diesel Engine

Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. (Customer Sample Comment: W67130)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0215754	JR0189067	JR0178043
Sample Date		Client Info		20 May 2024	05 Jan 2024	29 Aug 2023
Machine Age	hrs	Client Info		8038	8575	8296
Oil Age	hrs	Client Info		0	279	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	26	36	26
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	5	11
Lead	ppm	ASTM D5185m	>40	3	2	5
Copper	ppm	ASTM D5185m	>330	2	12	5
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
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.

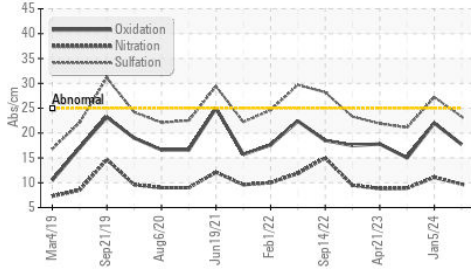
Silicon	ppm	ASTM D5185m	>25	8	11	17
Potassium	ppm	ASTM D5185m	>20	8	<1	13
Fuel		WC Method	>5	<1.0	0.6	▲ 8.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	1.1	0.6
Nitration	Abs/cm	*ASTM D7624	>20	9.7	11.1	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.3	27.2	21.1
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

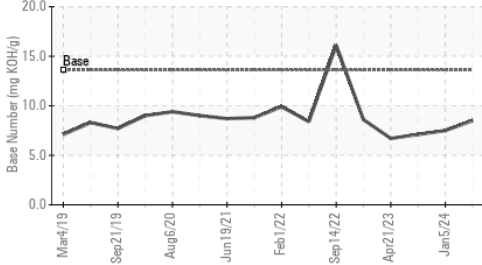
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		20	5	33
Boron	ppm	ASTM D5185m		140	39	69
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		222	251	163
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		796	846	573
Calcium	ppm	ASTM D5185m		1761	1562	1698
Phosphorus	ppm	ASTM D5185m		1064	952	988
Zinc	ppm	ASTM D5185m		1260	1090	1148
Sulfur	ppm	ASTM D5185m		3815	2701	3614
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	22.0	15.0
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.5	7.5	7.1
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.7	▲ 10.6

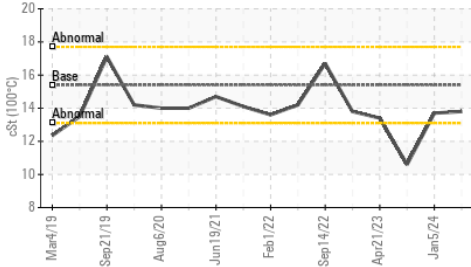
FT-IR (Direct Trend)



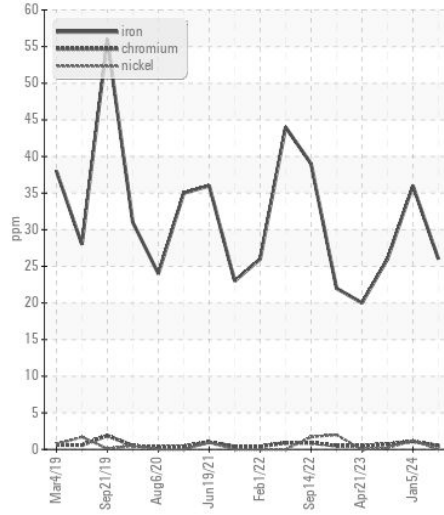
Base Number



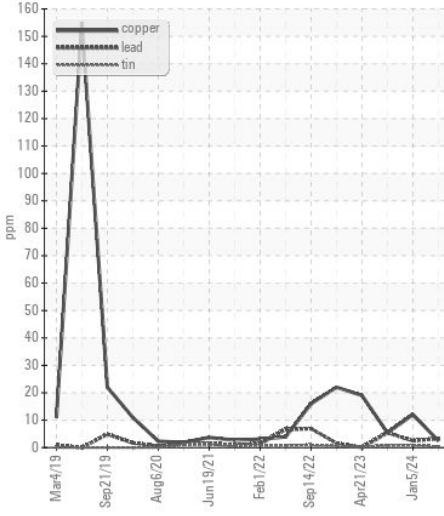
Viscosity @ 100°C



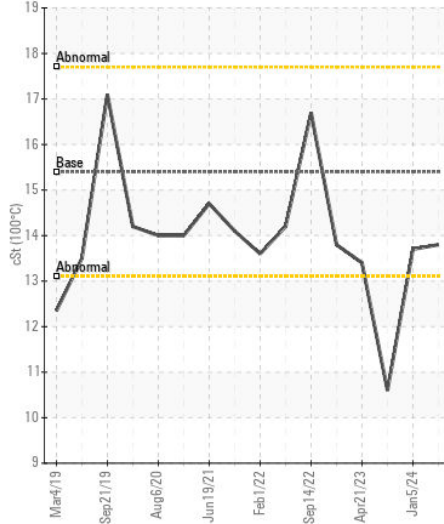
Ferrous Alloys



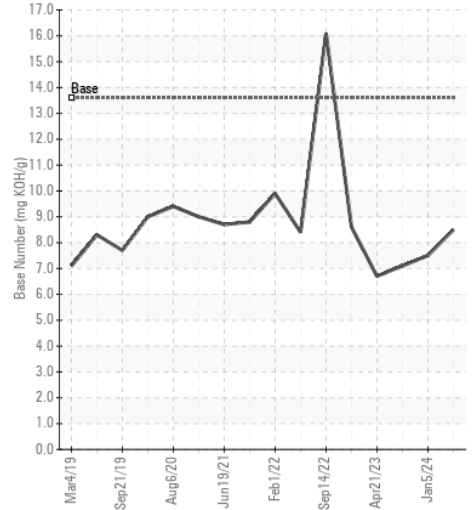
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0215754
Lab Number : 06191478
Unique Number : 11048230
Test Package : CONST (Additional Tests: TBN)

Received : 24 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Angela Borella

JRE - CHARLOTTE
 9550 STATESVILLE ROAD
 CHARLOTTE, NC
 US 28269

Contact: CHARLOTTE SHOP
 myoung@jamesriverequipment.com

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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