



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 524K 1D524KZLGF677669
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0219762	JR0189374	JR0161870
Sample Date		Client Info		18 Jun 2024	08 Nov 2023	27 Apr 2023
Machine Age	hrs	Client Info		5965	5448	5024
Oil Age	hrs	Client Info		517	4969	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	15	13	14
Chromium	ppm	ASTM D5185m	>11	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	4	6	4
Lead	ppm	ASTM D5185m	>26	<1	0	0
Copper	ppm	ASTM D5185m	>26	1	1	1
Tin	ppm	ASTM D5185m	>4	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	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.

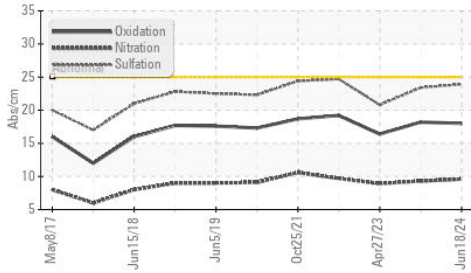
Silicon	ppm	ASTM D5185m	>22	8	7	6
Potassium	ppm	ASTM D5185m	>20	2	3	<1
Fuel	%	ASTM D3524	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.6	9.3	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.9	23.4	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

FLUID CONDITION

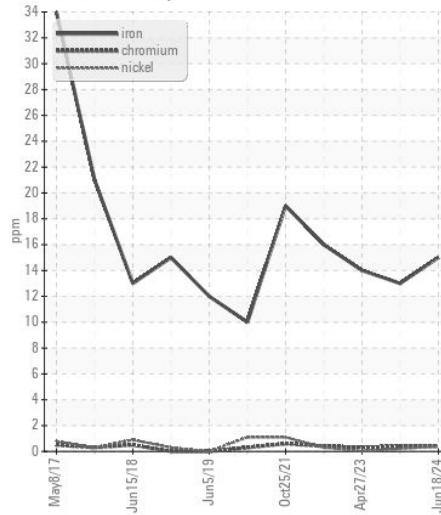
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	2	2	3
Boron	ppm	ASTM D5185m		165	187	233
Barium	ppm	ASTM D5185m		0	7	0
Molybdenum	ppm	ASTM D5185m		255	253	238
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		807	785	794
Calcium	ppm	ASTM D5185m		1360	1414	1445
Phosphorus	ppm	ASTM D5185m		897	905	904
Zinc	ppm	ASTM D5185m		1095	1061	1099
Sulfur	ppm	ASTM D5185m		2875	3413	3677
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.0	18.2	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.9	7.9	6.8
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	13.2	13.0

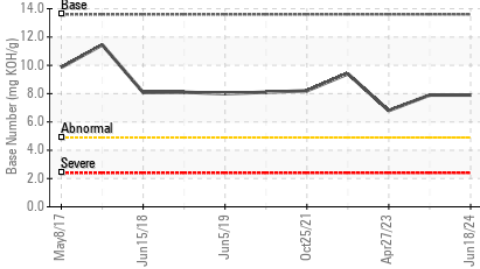
FT-IR (Direct Trend)



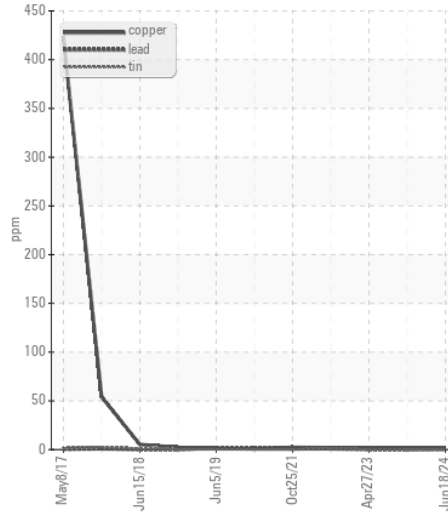
Ferrous Alloys



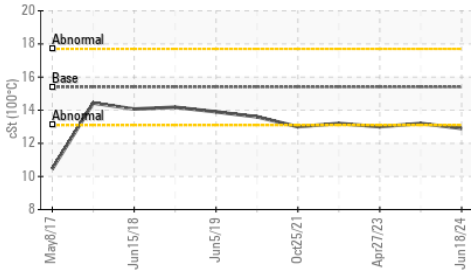
Base Number



Non-ferrous Metals



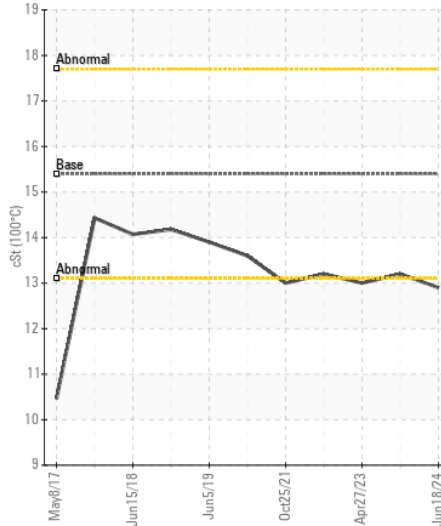
Viscosity @ 100°C



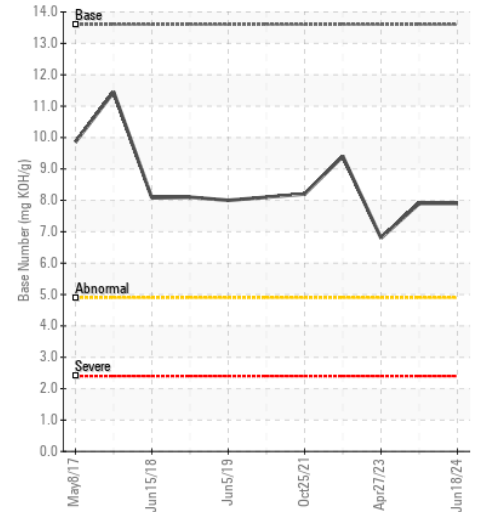
Fuel Dilution



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0219762 **Received** : 21 Jun 2024
Lab Number : 06216593 **Tested** : 24 Jun 2024
Unique Number : 11089457 **Diagnosed** : 24 Jun 2024 - Sean Felton
Test Package : CONST (Additional Tests: FuelDilution, TBN)

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.

T: (704)597-0211

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

F: (704)596-6198

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)