



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Area  
**[W66220]**  
 Machine Id  
**JOHN DEERE 410E 1DW410EBCNF716050**  
 Component  
**Diesel Engine**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (11 GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. ( Customer Sample Comment: W66220 )

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0206686</b>	JR0192681	JR0188682
Sample Date		Client Info		<b>16 Apr 2024</b>	19 Dec 2023	18 Sep 2023
Machine Age	hrs	Client Info		<b>2510</b>	2017	1505
Oil Age	hrs	Client Info		<b>493</b>	512	527
Filter Age	hrs	Client Info		<b>0</b>	0	527
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>13</b>	7	14
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	0	0
Nickel	ppm	ASTM D5185m	>5	<b>1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>5</b>	3	<1
Lead	ppm	ASTM D5185m	>26	<b>4</b>	3	6
Copper	ppm	ASTM D5185m	>26	<b>12</b>	13	25
Tin	ppm	ASTM D5185m	>4	<b>4</b>	3	4
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

There is no indication of any contamination in the oil.

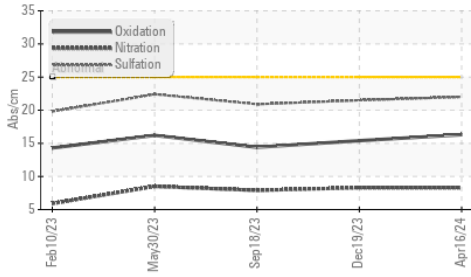
Silicon	ppm	ASTM D5185m	>22	<b>8</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	2
Fuel	%	ASTM D3524	>2.1	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	8.3	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.0</b>	21.5	20.9
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

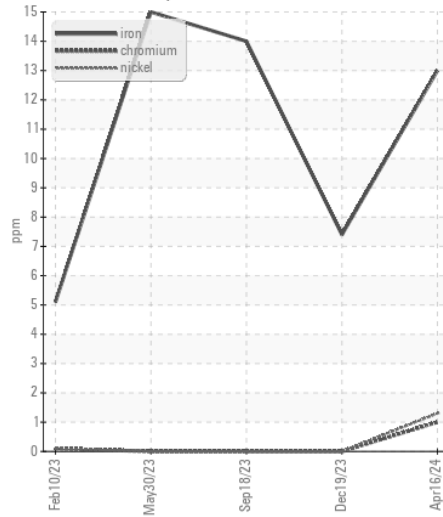
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	<b>3</b>	3	4
Boron	ppm	ASTM D5185m		<b>255</b>	204	156
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>241</b>	230	211
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>744</b>	821	834
Calcium	ppm	ASTM D5185m		<b>1379</b>	1339	1475
Phosphorus	ppm	ASTM D5185m		<b>962</b>	963	898
Zinc	ppm	ASTM D5185m		<b>1056</b>	1069	1077
Sulfur	ppm	ASTM D5185m		<b>3280</b>	3011	3746
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.3</b>	15.4	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.5</b>	8.2	7.5
Visc @ 100°C	cSt	ASTM D445	15.4	<b>12.6</b>	13.0	12.7

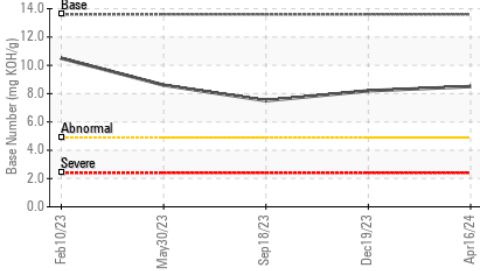
**FT-IR (Direct Trend)**



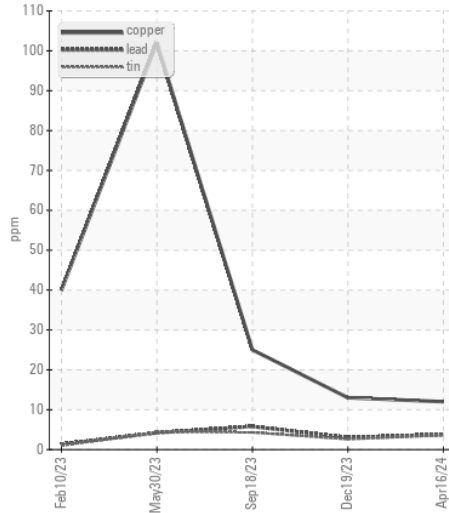
**Ferrous Alloys**



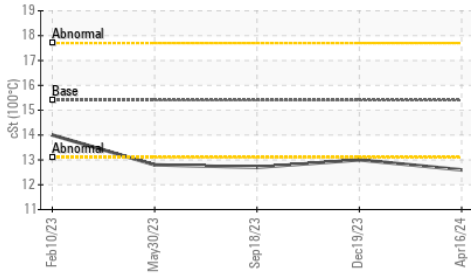
**Base Number**



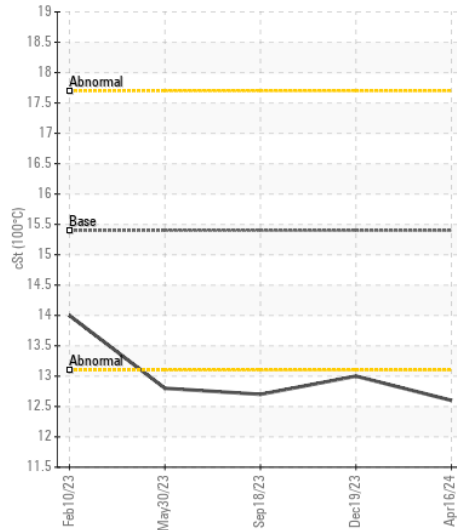
**Non-ferrous Metals**



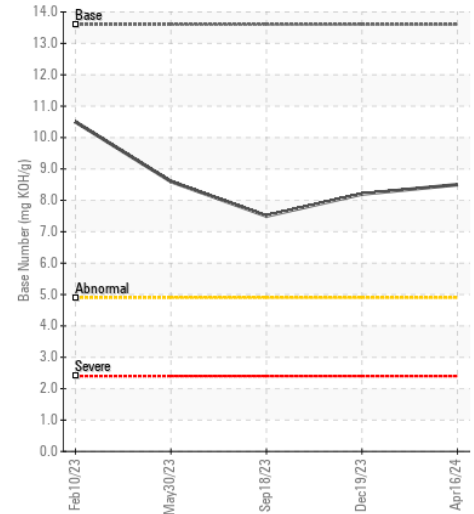
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0206686 **Received** : 18 Apr 2024  
**Lab Number** : 06152892 **Tested** : 19 Apr 2024  
**Unique Number** : 10982970 **Diagnosed** : 22 Apr 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.

\* - 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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