



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

Machine Id  
**JOHN DEERE TRACK HOE E197**

Component  
**Diesel Engine**

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

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0198989</b>	JR0144805	JR0143732
Sample Date		Client Info		<b>10 Jan 2024</b>	24 Oct 2023	14 Sep 2022
Machine Age	hrs	Client Info		<b>6674</b>	0	5822
Oil Age	hrs	Client Info		<b>259</b>	593	508
Filter Age	hrs	Client Info		<b>259</b>	0	508
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>10</b>	15	13
Chromium	ppm	ASTM D5185m	>11	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>31	<b>3</b>	6	6
Lead	ppm	ASTM D5185m	>26	<b>0</b>	0	1
Copper	ppm	ASTM D5185m	>26	<b>&lt;1</b>	<1	1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	1
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

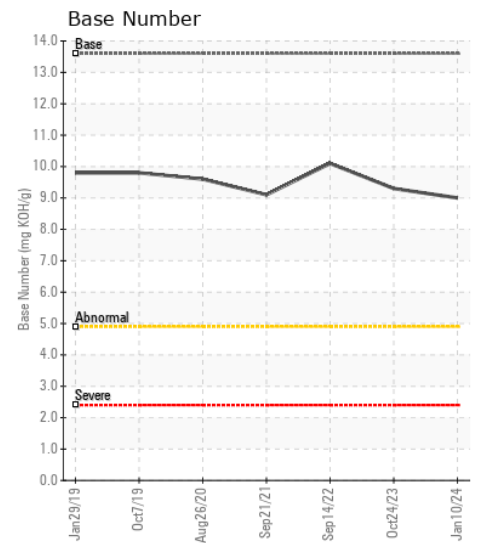
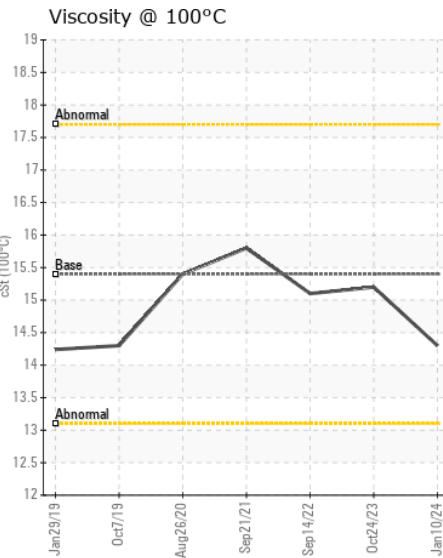
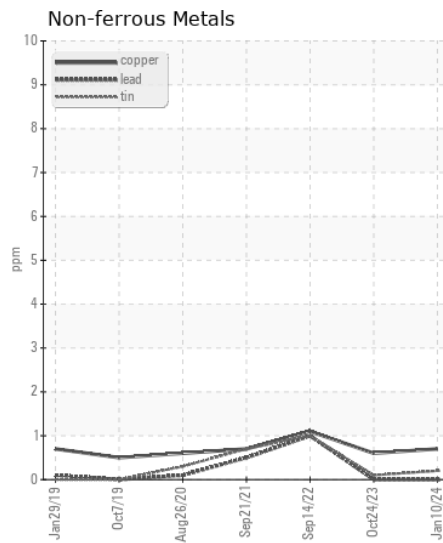
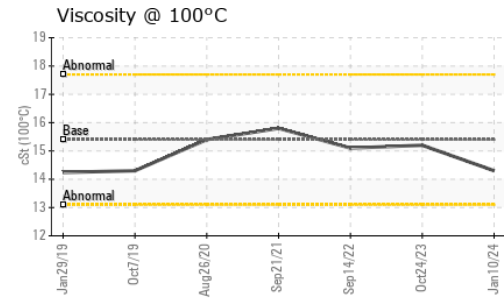
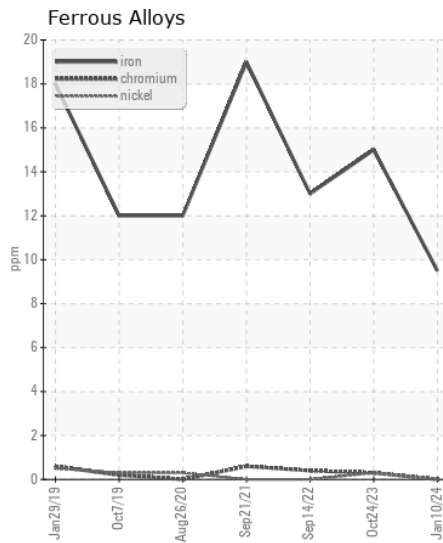
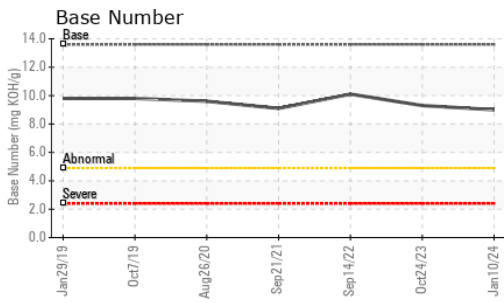
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	<b>10</b>	15	11
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	3
Fuel		WC Method	>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>0.4</b>	1	0.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	10.6	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.6</b>	24.2	25.1
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>1</b>	3	1
Boron	ppm	ASTM D5185m		<b>249</b>	182	251
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>240</b>	262	277
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>855</b>	878	796
Calcium	ppm	ASTM D5185m		<b>1465</b>	1457	1494
Phosphorus	ppm	ASTM D5185m		<b>879</b>	809	934
Zinc	ppm	ASTM D5185m		<b>1106</b>	1130	1130
Sulfur	ppm	ASTM D5185m		<b>3018</b>	2950	3223
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.1</b>	18.9	19.2
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>9.0</b>	9.3	10.1
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.3</b>	15.2	15.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0198989 **Recieved** : 17 Jan 2024  
**Lab Number** : 06062496 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833878 **Diagnostician** : Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

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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