



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



Machine Id  
**MACK GV713 V98**  
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>JR0219605</b>	JR0203830	JR0178369
Sample Date		Client Info		<b>26 Jun 2024</b>	28 Feb 2024	20 Sep 2023
Machine Age	hrs	Client Info		<b>17004</b>	16606	16043
Oil Age	hrs	Client Info		<b>400</b>	563	432
Filter Age	hrs	Client Info		<b>400</b>	563	0
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	>120	<b>6</b>	10	9
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	6	<1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<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

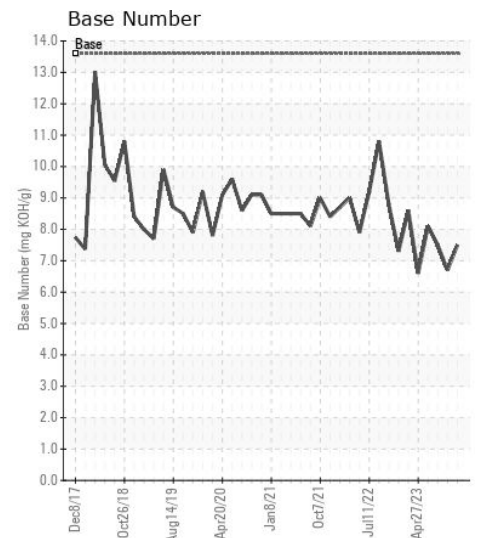
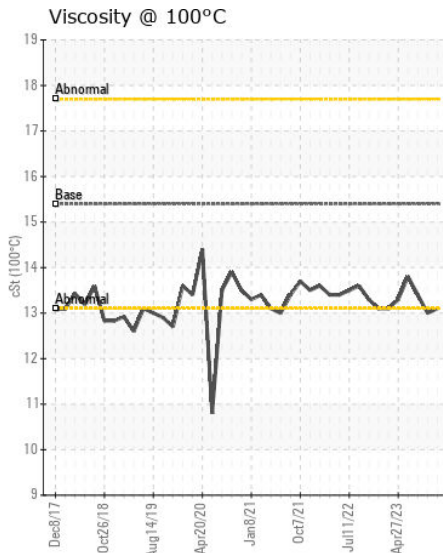
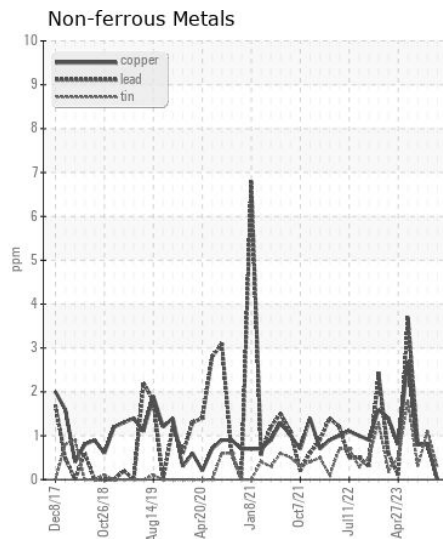
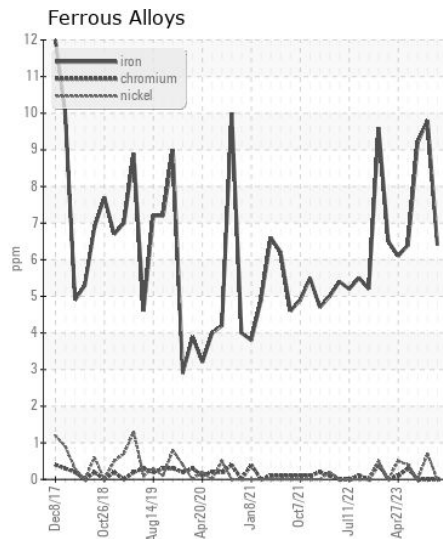
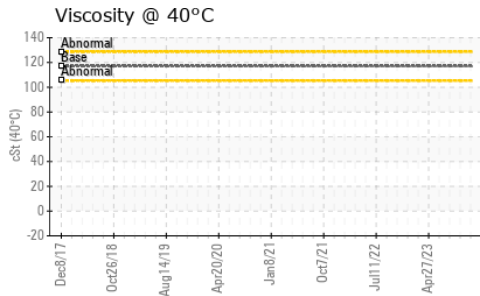
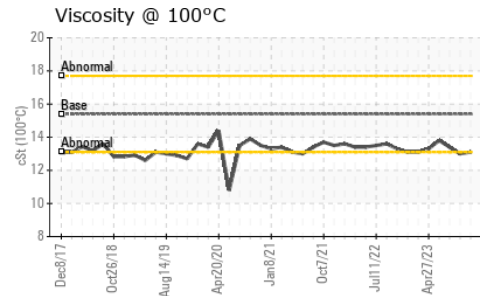
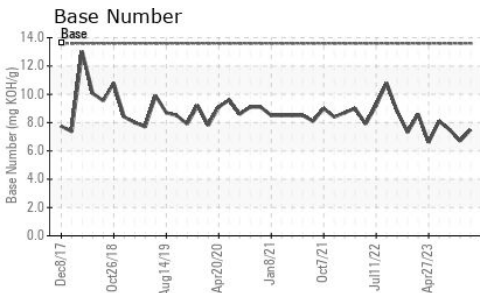
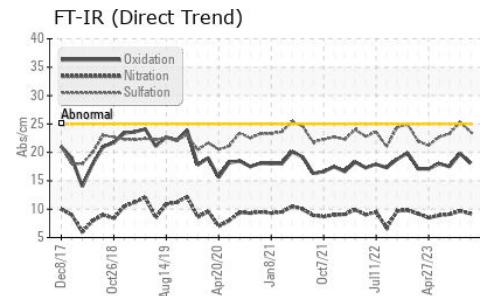
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>11</b>	8	9
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	7	3
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.4</b>	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.2</b>	9.7	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.6</b>	25.3	23.3
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	>0.2	<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		<b>5</b>	6	5
Boron	ppm	ASTM D5185m		<b>139</b>	87	150
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>229</b>	229	245
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>810</b>	794	870
Calcium	ppm	ASTM D5185m		<b>1351</b>	1320	1532
Phosphorus	ppm	ASTM D5185m		<b>892</b>	839	876
Zinc	ppm	ASTM D5185m		<b>1033</b>	1038	1097
Sulfur	ppm	ASTM D5185m		<b>3301</b>	2816	3365
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.1</b>	19.8	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.5</b>	6.7	7.5
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.1</b>	13.0	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0219605 **Received** : 03 Jul 2024  
**Lab Number** : 06227196 **Tested** : 05 Jul 2024  
**Unique Number** : 11110689 **Diagnosed** : 05 Jul 2024 - Angela Borella  
**Test Package** : CONST ( Additional Tests: TBN, KV40 )

**MATTHEWS CONSTRUCTION**  
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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)