



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

Machine Id  
**HITACHI 210LC-5 E184 (S/N 1FFDCJ70KEE330524)**

Component  
**Left Final Drive**

Fluid  
**JOHN DEERE GL-5 80W90 (--- GAL)**

### RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0198984</b>	JR0156231	JR0143746
Sample Date		Client Info		<b>10 Jan 2024</b>	28 Mar 2023	12 Sep 2022
Machine Age	hrs	Client Info		<b>9348</b>	8670	8166
Oil Age	hrs	Client Info		<b>1182</b>	580	914
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

Gear wear is indicated.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>461</b>	224	▲ 323
Iron	ppm	ASTM D5185m	>500	<b>▲ 1108</b>	▲ 855	▲ 795
Chromium	ppm	ASTM D5185m	>10	<b>8</b>	6	6
Nickel	ppm	ASTM D5185m	>10	<b>2</b>	1	1
Titanium	ppm	ASTM D5185m		<b>4</b>	5	2
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>25	<b>▲ 59</b>	▲ 67	▲ 33
Lead	ppm	ASTM D5185m	>25	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>50	<b>2</b>	<1	2
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	MODER	MODER
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

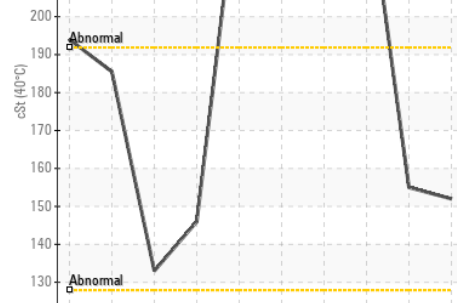
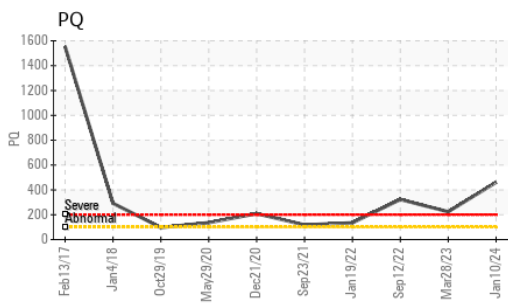
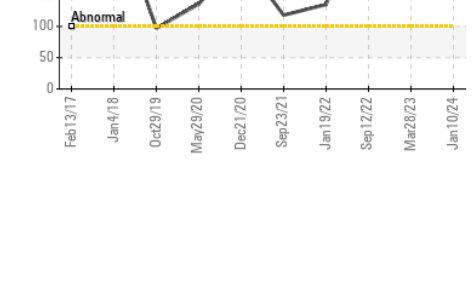
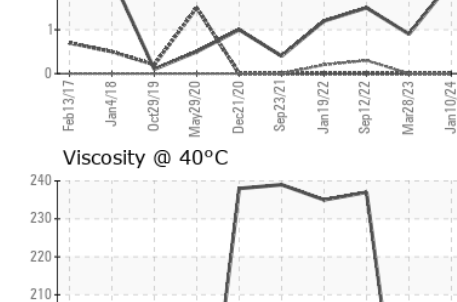
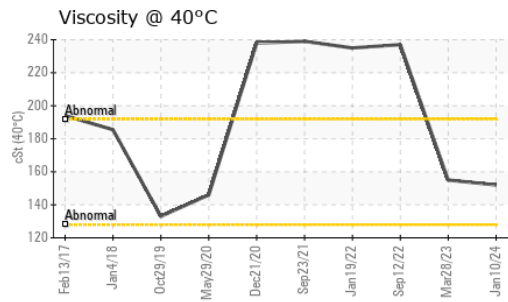
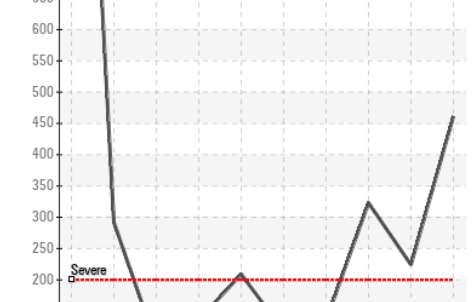
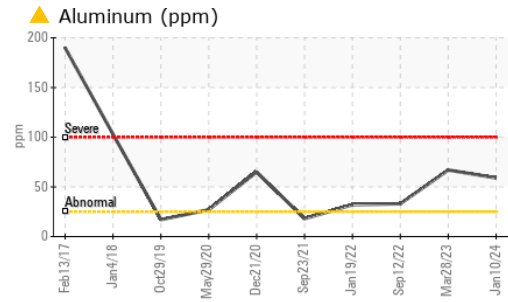
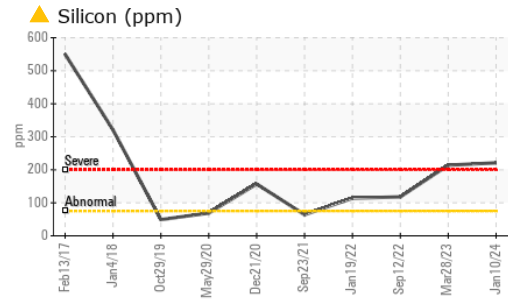
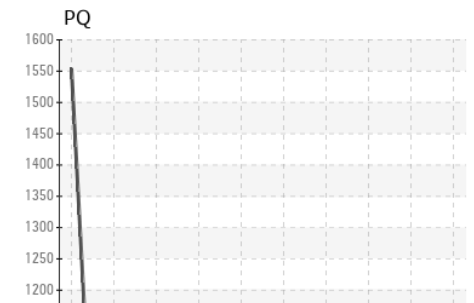
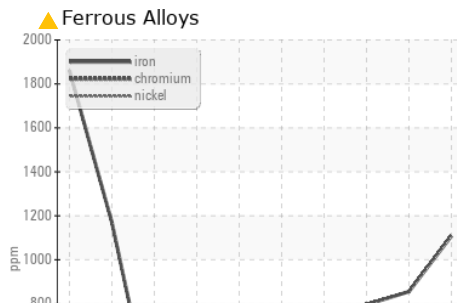
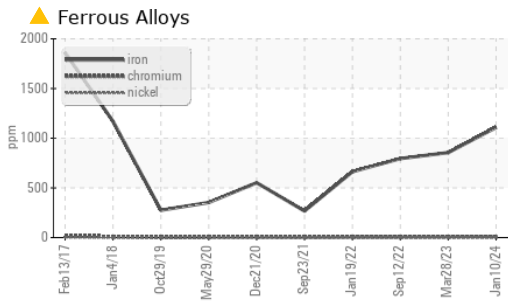
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>75	<b>▲ 221</b>	▲ 214	▲ 118
Potassium	ppm	ASTM D5185m	>20	<b>7</b>	5	2
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Silt	scalar	*Visual	NONE	<b>MODER</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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>9</b>	8	4
Boron	ppm	ASTM D5185m		<b>62</b>	76	246
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>8</b>	7	6
Magnesium	ppm	ASTM D5185m		<b>11</b>	4	3
Calcium	ppm	ASTM D5185m		<b>93</b>	19	16
Phosphorus	ppm	ASTM D5185m		<b>553</b>	559	898
Zinc	ppm	ASTM D5185m		<b>13</b>	0	11
Sulfur	ppm	ASTM D5185m		<b>19844</b>	25056	17927
Visc @ 40°C	cSt	ASTM D445		<b>152</b>	155	237



Certificate 12367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0198984 **Received** : 17 Jan 2024  
**Lab Number** : 06063041 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10834423 **Diagnostician** : Sean Felton  
**Test Package** : CONST ( Additional Tests: PQ )

**MATTHEWS CONSTRUCTION**  
 127 GRAYSON RD  
 ROCK HILL, SC  
 US 29732  
 Contact: Tad Clinton  
 tclinton@matthewsconstructionco.com  
 T: (803)207-5607  
 F:

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)