



# OIL ANALYSIS REPORT

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

Machine Id  
**LIEBHERR 31222**  
Component  
**Left Final Drive**  
Fluid  
**GEAR OIL SAE 80W90 (--- QTS)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

The copper level is abnormal. All other component wear rates are normal.

## CONTAMINATION

There is no indication of any contamination in the oil.

## FLUID CONDITION

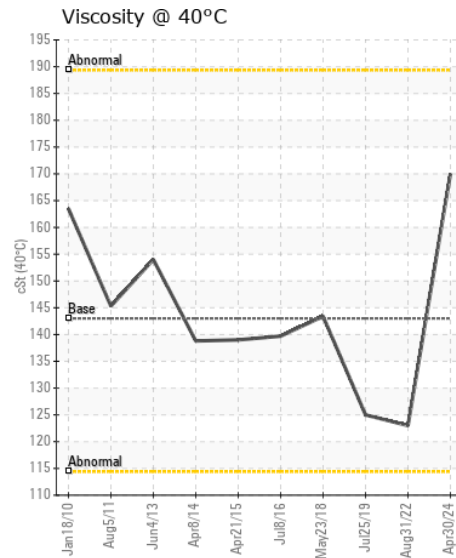
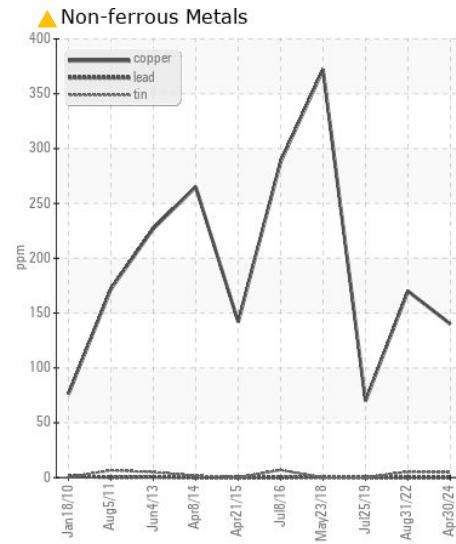
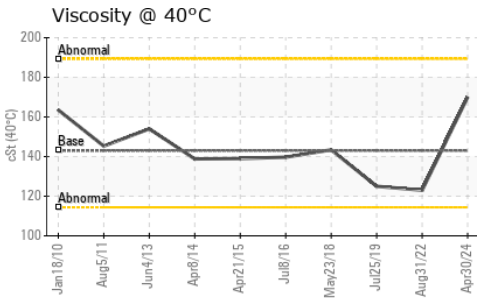
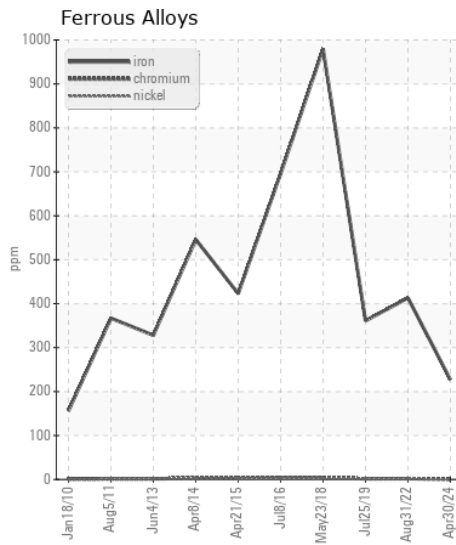
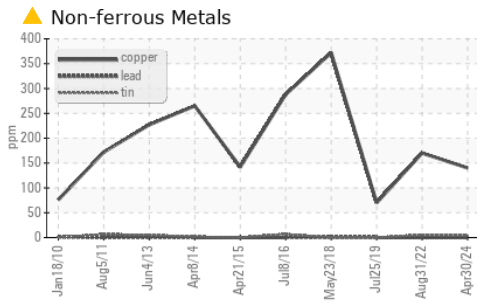
The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0924615</b>	WC0689013	WC0370559
Sample Date		Client Info		<b>30 Apr 2024</b>	31 Aug 2022	25 Jul 2019
Machine Age	hrs	Client Info		<b>17247</b>	16179	15419
Oil Age	hrs	Client Info		<b>1000</b>	250	250
Filter Age	hrs	Client Info		<b>1000</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

Iron	ppm	ASTM D5185m	>500	<b>227</b>	413	361
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	2	2
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>7</b>	13	14
Lead	ppm	ASTM D5185m	>25	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>50	<b>▲ 140</b>	▲ 170	70
Tin	ppm	ASTM D5185m	>10	<b>5</b>	5	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>MODER</b>	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

Silicon	ppm	ASTM D5185m	>75	<b>27</b>	31	41
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	10
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Silt	scalar	*Visual	NONE	<b>MODER</b>	NONE	MODER
Debris	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	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

Sodium	ppm	ASTM D5185m	>170	<b>2</b>	3	3
Boron	ppm	ASTM D5185m	400	<b>62</b>	174	111
Barium	ppm	ASTM D5185m	200	<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m	12	<b>0</b>	3	0
Manganese	ppm	ASTM D5185m		<b>2</b>	3	2
Magnesium	ppm	ASTM D5185m	12	<b>5</b>	15	12
Calcium	ppm	ASTM D5185m	150	<b>23</b>	83	39
Phosphorus	ppm	ASTM D5185m	1650	<b>2388</b>	2091	1694
Zinc	ppm	ASTM D5185m	125	<b>15</b>	64	25
Sulfur	ppm	ASTM D5185m	22500	<b>30850</b>	18925	15842
Visc @ 40°C	cSt	ASTM D445	143	<b>170</b>	123	125



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0924615  
**Lab Number** : 06177586  
**Unique Number** : 11023639  
**Test Package** : CONST  
**Received** : 13 May 2024  
**Tested** : 14 May 2024  
**Diagnosed** : 15 May 2024 - Don Baldrige

**SULLIVAN EASTERN INC-LIEBHERR**  
 2860 C SLATER RD  
 MORRISVILLE, NC  
 US 27560  
 Contact: CHRIS CALTON

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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