



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 22671
 Component
Right Final Drive
 Fluid
GEAR OIL LS 80W90 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0913673	WC0856926	WC0810129
Sample Date		Client Info		12 Apr 2024	30 Nov 2023	15 Jun 2023
Machine Age	hrs	Client Info		5735	5372	4798
Oil Age	hrs	Client Info		1500	250	1000
Filter Age	hrs	Client Info		1500	0	1000
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		Not Changd	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	ATTENTION

WEAR

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

Iron	ppm	ASTM D5185m	>500	107	97	86
Chromium	ppm	ASTM D5185m	>10	<1	1	1
Nickel	ppm	ASTM D5185m	>10	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	0	<1
Lead	ppm	ASTM D5185m	>25	0	0	0
Copper	ppm	ASTM D5185m	>50	▲ 71	▲ 58	50
Tin	ppm	ASTM D5185m	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

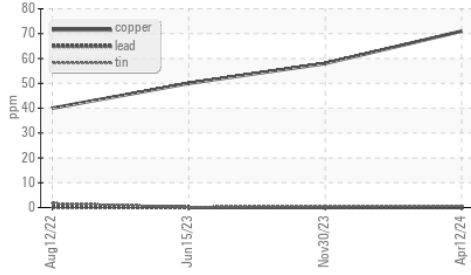
Silicon	ppm	ASTM D5185m	>75	5	4	4
Potassium	ppm	ASTM D5185m	>20	4	2	2
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

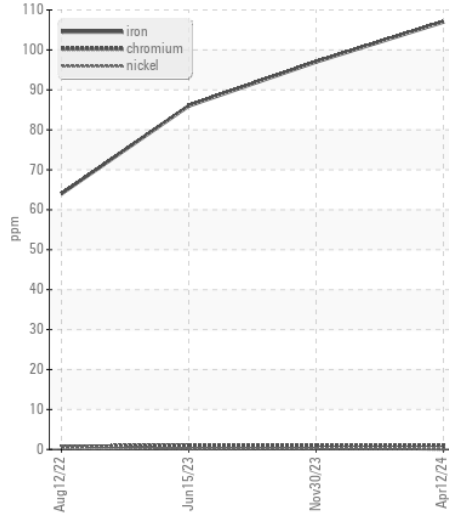
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	1	3
Boron	ppm	ASTM D5185m	150	4	1	<1
Barium	ppm	ASTM D5185m		0	1	3
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		1	2	2
Magnesium	ppm	ASTM D5185m	10	3	3	<1
Calcium	ppm	ASTM D5185m	70	7	6	6
Phosphorus	ppm	ASTM D5185m	2000	1322	1170	1197
Zinc	ppm	ASTM D5185m	50	144	130	119
Sulfur	ppm	ASTM D5185m	20000	28538	26811	32954
Visc @ 40°C	cSt	ASTM D445	140	368	367	● 363

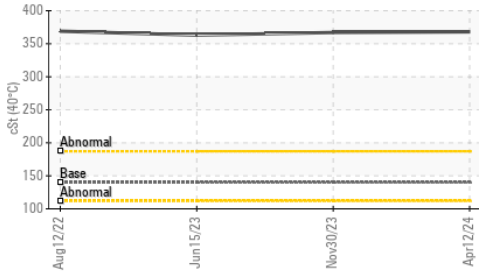
▲ Non-ferrous Metals



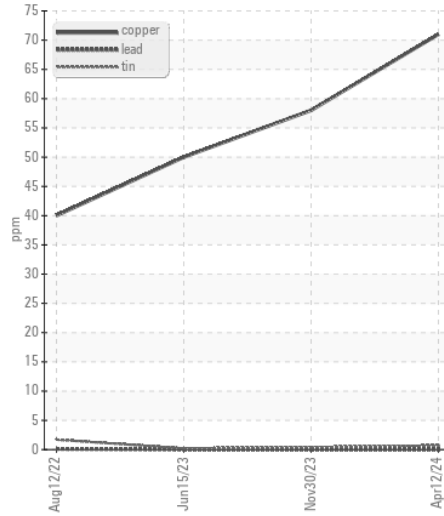
Ferrous Alloys



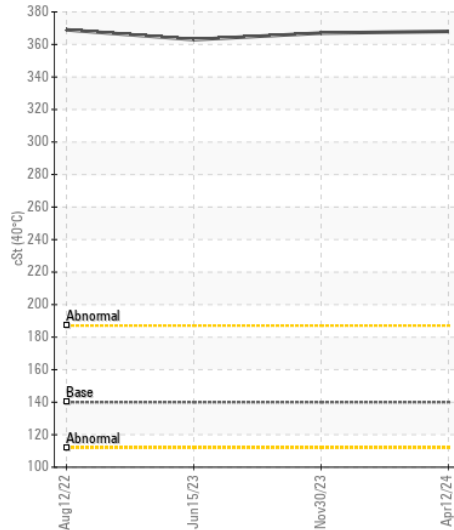
Viscosity @ 40°C



▲ Non-ferrous Metals



Viscosity @ 40°C



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0913673
Lab Number : 06151384
Unique Number : 10981462
Test Package : CONST

Received : 16 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 19 Apr 2024 - Sean Felton

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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