



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR C-4
Component
Front Left Planetary
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0879538	WC0833514	WC0833535
Sample Date		Client Info		04 Jan 2024	12 Oct 2023	26 Jul 2023
Machine Age	hrs	Client Info		8452	7885	7487
Oil Age	hrs	Client Info		965	398	323
Filter Age	hrs	Client Info		965	398	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	17	13	21
Chromium	ppm	ASTM D5185m	>10	0	<1	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	1	0
Aluminum	ppm	ASTM D5185m	>25	0	<1	0
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm	ASTM D5185m	>75	3	4	6
Tin	ppm	ASTM D5185m	>10	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

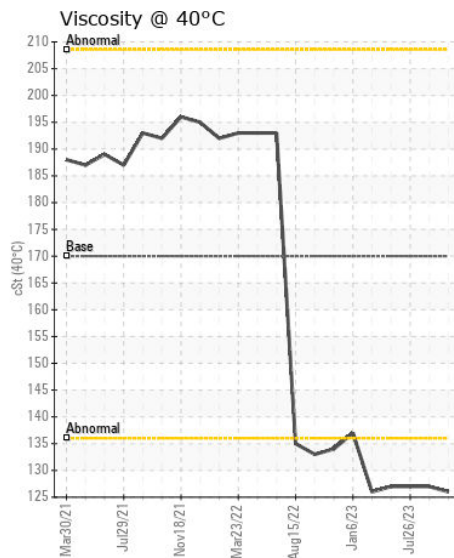
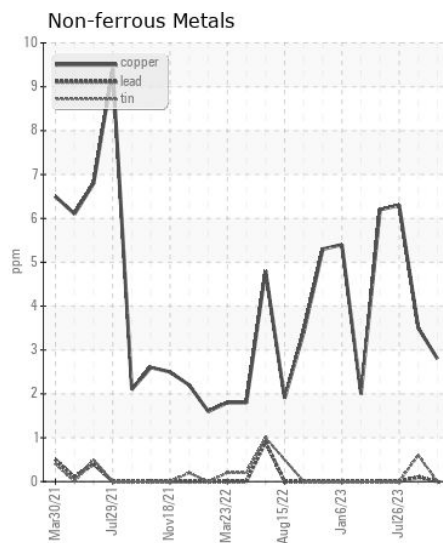
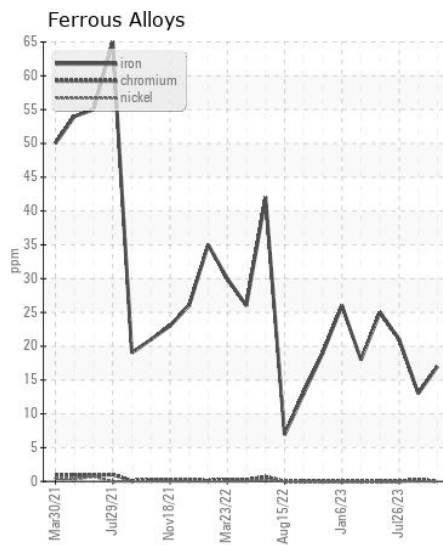
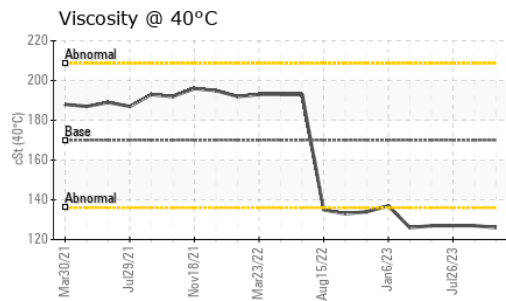
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	4	4	3
Potassium	ppm	ASTM D5185m	>20	0	3	<1
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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		<1	<1	<1
Boron	ppm	ASTM D5185m	0	25	26	107
Barium	ppm	ASTM D5185m	0	0	<1	0
Molybdenum	ppm	ASTM D5185m	0	0	<1	<1
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	<1	4	6	3
Calcium	ppm	ASTM D5185m	<1	11	12	40
Phosphorus	ppm	ASTM D5185m	2143	580	588	830
Zinc	ppm	ASTM D5185m	<1	8	27	35
Sulfur	ppm	ASTM D5185m	23468	17874	19209	22752
Visc @ 40°C	cSt	ASTM D445	170	126	127	127



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0879538 **Received** : 09 Jan 2024
Lab Number : 06055633 **Diagnosed** : 10 Jan 2024
Unique Number : 10821582 **Diagnostician** : Sean Felton
Test Package : CONST

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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)