



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id
LIEBHERR 31231
Component
Right Final Drive
Fluid
GEAR OIL LS 80W90 (6 QTS)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

WEAR

Gear wear is indicated.

CONTAMINATION

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

FLUID CONDITION

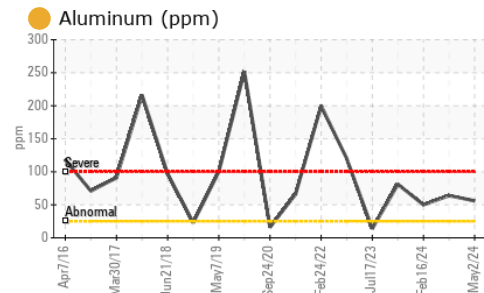
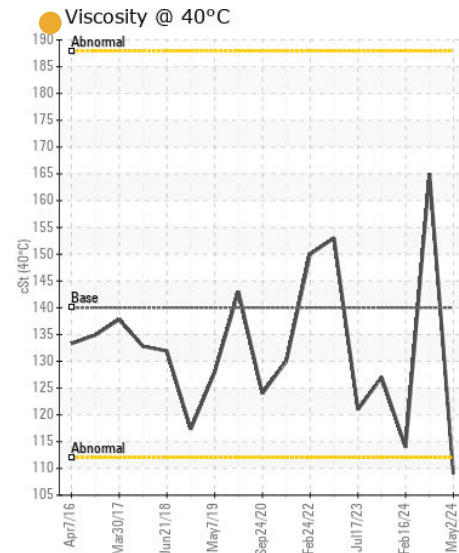
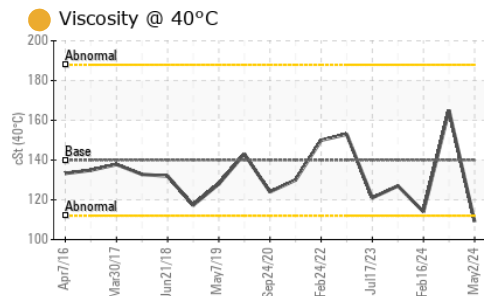
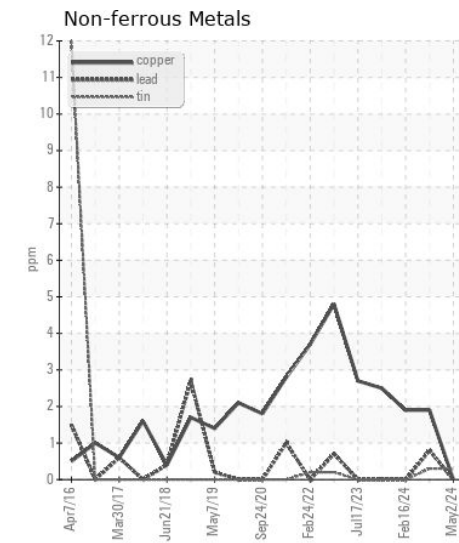
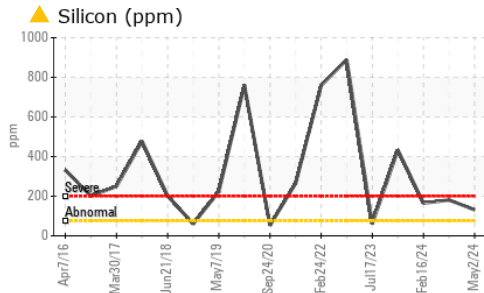
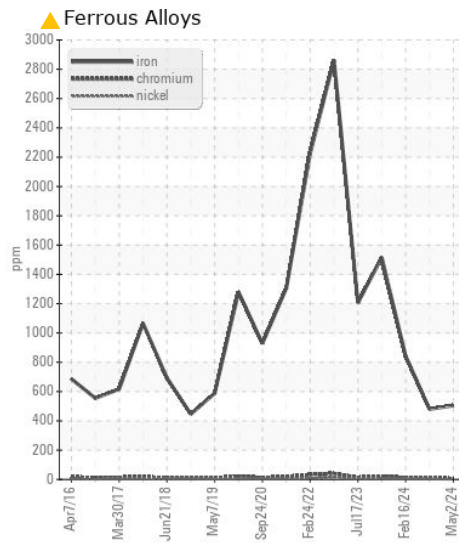
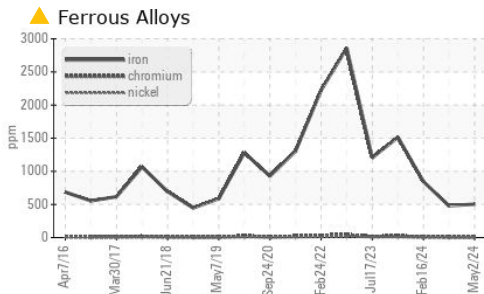
The oil viscosity is lower than normal. Confirm oil type.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0905113	WC0905133	WC0905364
Sample Date		Client Info		02 May 2024	04 Mar 2024	16 Feb 2024
Machine Age	hrs	Client Info		9396	9224	9163
Oil Age	hrs	Client Info		1500	100	1250
Filter Age	hrs	Client Info		1500	0	1250
Oil Changed		Client Info		Not Changed	Changed	Changed
Filter Changed		Client Info		Not Changed	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

Iron	ppm	ASTM D5185m	>500	▲ 504	480	▲ 843
Chromium	ppm	ASTM D5185m	>10	6	6	▲ 11
Nickel	ppm	ASTM D5185m	>10	<1	2	2
Titanium	ppm	ASTM D5185m		2	4	3
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	● 56	● 64	● 50
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm	ASTM D5185m	>50	0	2	2
Tin	ppm	ASTM D5185m	>10	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>75	▲ 131	▲ 181	▲ 165
Potassium	ppm	ASTM D5185m	>20	10	12	7
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

Sodium	ppm	ASTM D5185m		2	5	0
Boron	ppm	ASTM D5185m	150	48	46	98
Barium	ppm	ASTM D5185m		2	<1	<1
Molybdenum	ppm	ASTM D5185m		13	3	6
Manganese	ppm	ASTM D5185m		5	5	6
Magnesium	ppm	ASTM D5185m	10	74	13	23
Calcium	ppm	ASTM D5185m	70	69	45	42
Phosphorus	ppm	ASTM D5185m	2000	2260	2560	1228
Zinc	ppm	ASTM D5185m	50	71	28	120
Sulfur	ppm	ASTM D5185m	20000	19638	27412	16286
Visc @ 40°C	cSt	ASTM D445	140	● 109	165	114



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0905113
Lab Number : 06177563
Unique Number : 11023616
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)

T:
 F: (919)484-2136