



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31226
Component
Swing Drive
Fluid
GEAR OIL SAE 80W90 (2 QTS)

RECOMMENDATION

We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

WEAR

The iron level is severe. Gear wear is indicated.

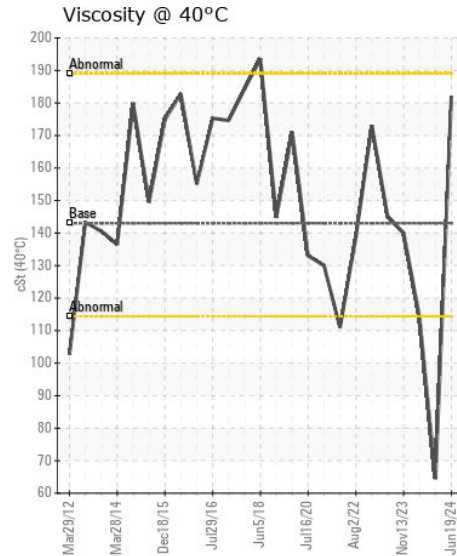
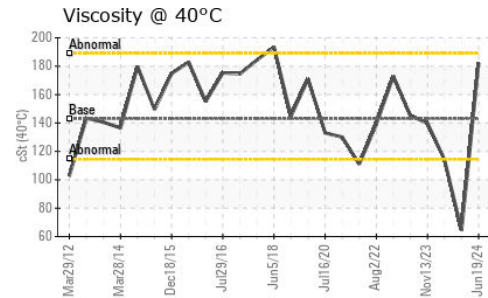
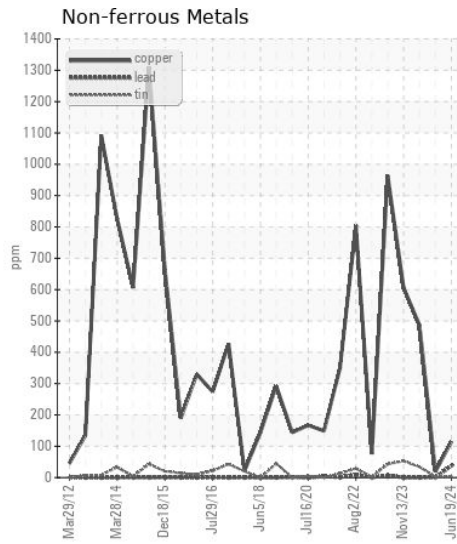
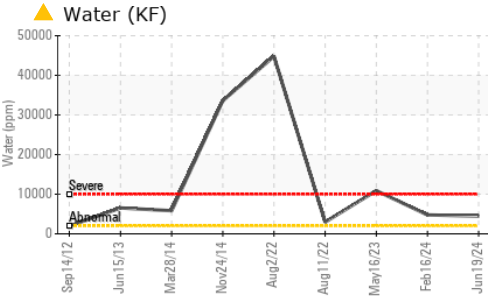
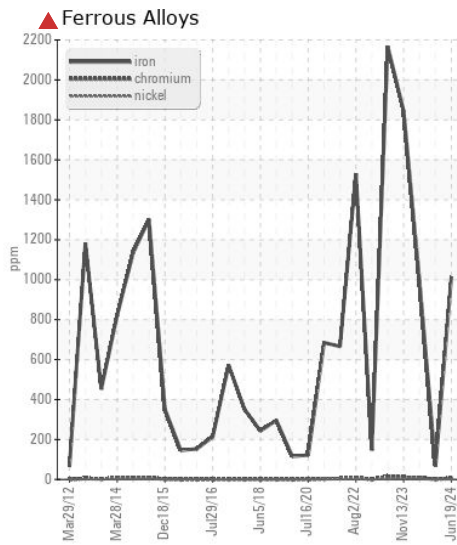
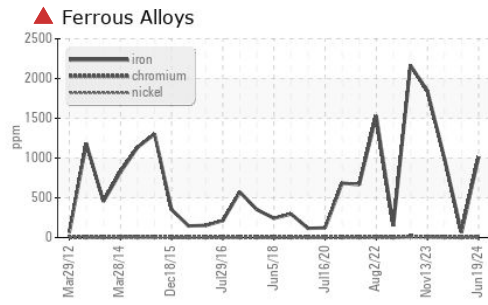
CONTAMINATION

There is a moderate concentration of water present in the oil.

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0913602	WC0905131	WC0905362
Sample Date		Client Info		19 Jun 2024	04 Mar 2024	16 Feb 2024
Machine Age	hrs	Client Info		12913	12671	12652
Oil Age	hrs	Client Info		750	100	500
Filter Age	hrs	Client Info		750	0	500
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				SEVERE	ATTENTION	SEVERE
Iron	ppm	ASTM D5185m	>400	▲ 1014	66	▲ 993
Chromium	ppm	ASTM D5185m	>10	6	1	8
Nickel	ppm	ASTM D5185m	>10	<1	<1	1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	9	4	2
Lead	ppm	ASTM D5185m	>50	38	1	0
Copper	ppm	ASTM D5185m	>200	115	19	▲ 486
Tin	ppm	ASTM D5185m	>10	2	2	▲ 34
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	>50	33	15	6
Potassium	ppm	ASTM D5185m	>20	4	3	2
Water	%	ASTM D6304	>0.2	▲ 0.447	---	▲ 0.477
ppm Water	ppm	ASTM D6304	>2000	▲ 4470	---	▲ 4770
Silt	scalar	*Visual	NONE	NONE	NONE	LIGHT
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	▲ 0.2%	NEG	▲ 0.2%
Sodium	ppm	ASTM D5185m	>170	3	<1	0
Boron	ppm	ASTM D5185m	400	7	17	45
Barium	ppm	ASTM D5185m	200	24	<1	0
Molybdenum	ppm	ASTM D5185m	12	1	4	8
Manganese	ppm	ASTM D5185m		10	1	12
Magnesium	ppm	ASTM D5185m	12	5	17	17
Calcium	ppm	ASTM D5185m	150	9	166	72
Phosphorus	ppm	ASTM D5185m	1650	2411	● 772	2282
Zinc	ppm	ASTM D5185m	125	217	● 437	126
Sulfur	ppm	ASTM D5185m	22500	26446	4828	19576
Visc @ 40°C	cSt	ASTM D445	143	182	● 64.5	114



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0913602
Lab Number : 06220097
Unique Number : 11098294
Test Package : CONST (Additional Tests: KF)

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:
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