



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31228
 Component
Swing Drive
 Fluid
GEAR OIL SAE 80W90 (8 QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

All component wear rates are normal.

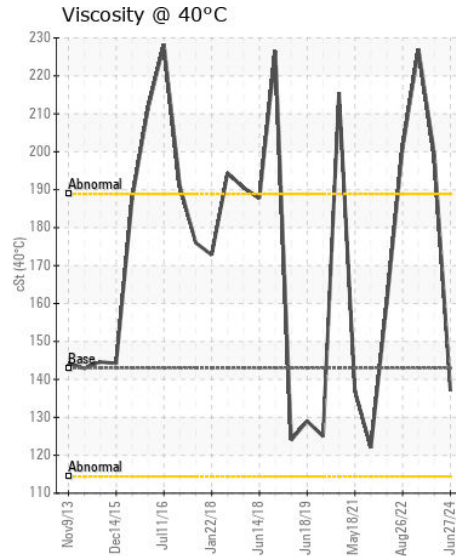
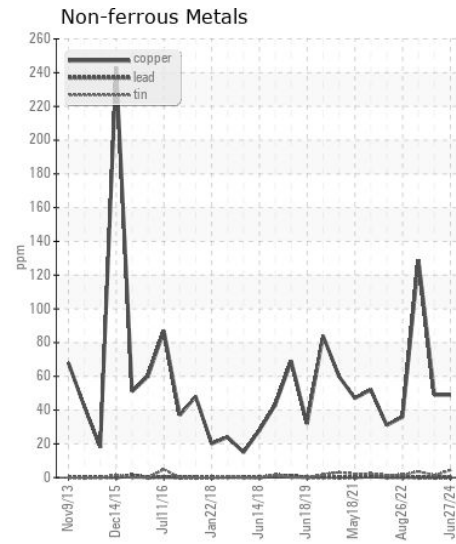
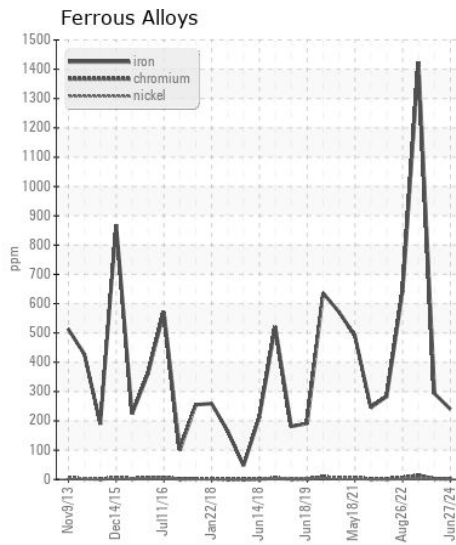
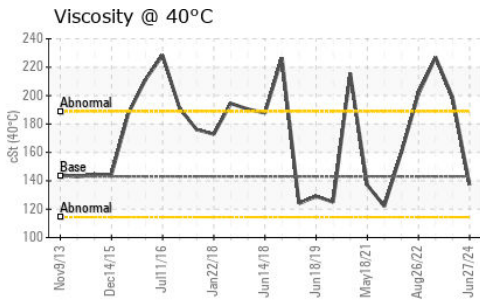
CONTAMINATION

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		WC0924462	WC0756685	WC0733444
Sample Date		Client Info		27 Jun 2024	16 Feb 2023	12 Oct 2022
Machine Age	hrs	Client Info		11267	9887	9586
Oil Age	hrs	Client Info		1250	250	500
Filter Age	hrs	Client Info		1250	0	0
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	SEVERE
Iron	ppm	ASTM D5185m	>400	240	293	▲ 1424
Chromium	ppm	ASTM D5185m	>10	2	2	▲ 14
Nickel	ppm	ASTM D5185m	>10	0	<1	2
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	4	4
Lead	ppm	ASTM D5185m	>50	0	0	0
Copper	ppm	ASTM D5185m	>200	49	49	129
Tin	ppm	ASTM D5185m	>10	4	1	4
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	▲ MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>50	10	10	5
Potassium	ppm	ASTM D5185m	>20	4	8	0
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
Sodium	ppm	ASTM D5185m	>170	2	5	<1
Boron	ppm	ASTM D5185m	400	34	4	16
Barium	ppm	ASTM D5185m	200	0	0	0
Molybdenum	ppm	ASTM D5185m	12	6	1	1
Manganese	ppm	ASTM D5185m		2	3	8
Magnesium	ppm	ASTM D5185m	12	10	2	3
Calcium	ppm	ASTM D5185m	150	31	36	22
Phosphorus	ppm	ASTM D5185m	1650	1621	2221	2048
Zinc	ppm	ASTM D5185m	125	36	15	16
Sulfur	ppm	ASTM D5185m	22500	23307	29495	30151
Visc @ 40°C	cSt	ASTM D445	143	137	199	227



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0924462
Lab Number : 06227928
Unique Number : 11111421
Test Package : CONST

Received : 03 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 2024 - Wes Davis

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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