



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31229
 Component
Swing Drive
 Fluid
GEAR OIL SAE 80W90 (--- QTS)

RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

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

FLUID CONDITION

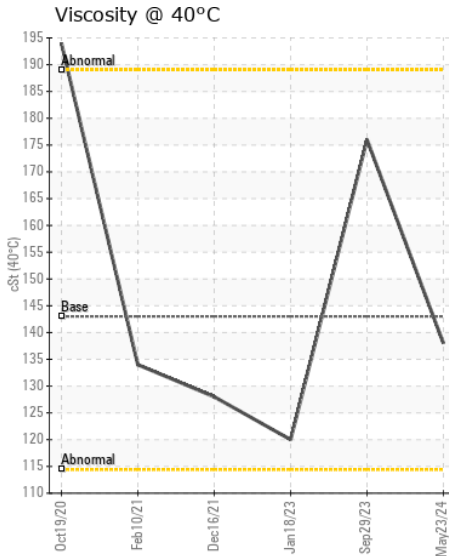
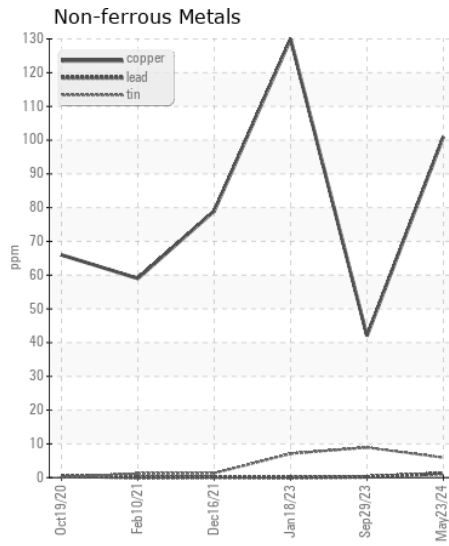
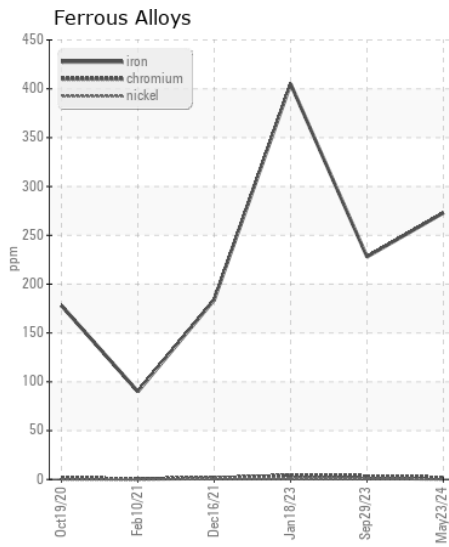
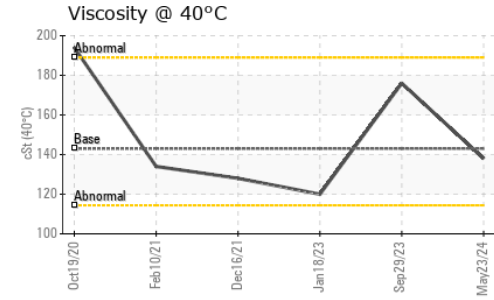
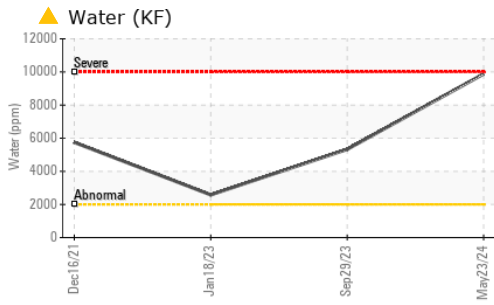
The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0924401	WC0846550	WC0756568
Sample Date		Client Info		23 May 2024	29 Sep 2023	18 Jan 2023
Machine Age	hrs	Client Info		11435	0	10379
Oil Age	hrs	Client Info		750	58	500
Filter Age	hrs	Client Info		750	58	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

Iron	ppm	ASTM D5185m	>400	273	228	▲ 405
Chromium	ppm	ASTM D5185m	>10	2	3	4
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	0	<1	1
Lead	ppm	ASTM D5185m	>50	1	<1	0
Copper	ppm	ASTM D5185m	>200	101	42	130
Tin	ppm	ASTM D5185m	>10	6	9	7
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>50	1	1	2
Potassium	ppm	ASTM D5185m	>20	2	1	0
Water	%	ASTM D6304	>0.2	▲ 0.988	▲ 0.533	▲ 0.258
ppm Water	ppm	ASTM D6304	>2000	▲ 9880	▲ 5330	▲ 2580
Silt	scalar	*Visual	NONE	MODER	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	● HAZY	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	▲ 0.2%	▲ 0.2%	0.2%

Sodium	ppm	ASTM D5185m	>170	0	0	<1
Boron	ppm	ASTM D5185m	400	80	9	26
Barium	ppm	ASTM D5185m	200	0	0	0
Molybdenum	ppm	ASTM D5185m	12	5	0	7
Manganese	ppm	ASTM D5185m		2	2	3
Magnesium	ppm	ASTM D5185m	12	9	4	21
Calcium	ppm	ASTM D5185m	150	24	26	73
Phosphorus	ppm	ASTM D5185m	1650	1401	1889	1825
Zinc	ppm	ASTM D5185m	125	73	35	59
Sulfur	ppm	ASTM D5185m	22500	23499	25652	20484
Visc @ 40°C	cSt	ASTM D445	143	138	176	120



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0924401

Lab Number : 06196055

Unique Number : 11058178

Test Package : CONST (Additional Tests: KF)

Received : 30 May 2024

Tested : 03 Jun 2024

Diagnosed : 03 Jun 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)

T:

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