



OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

ATTENTION
ABNORMAL
NORMAL

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

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. 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

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

FLUID CONDITION

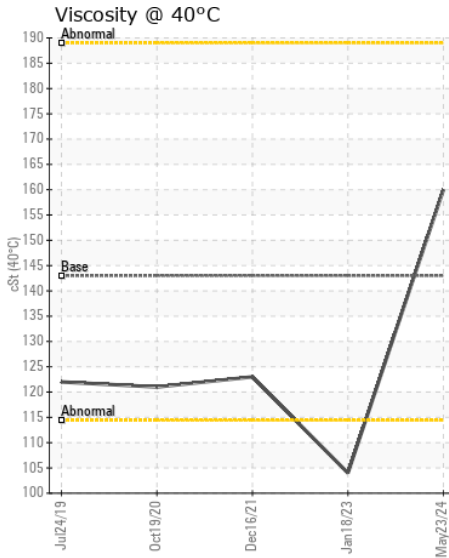
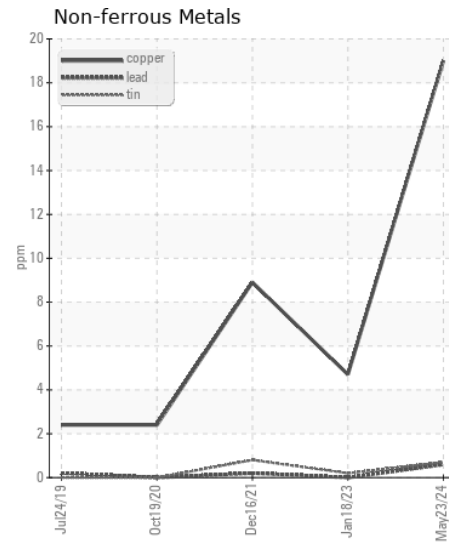
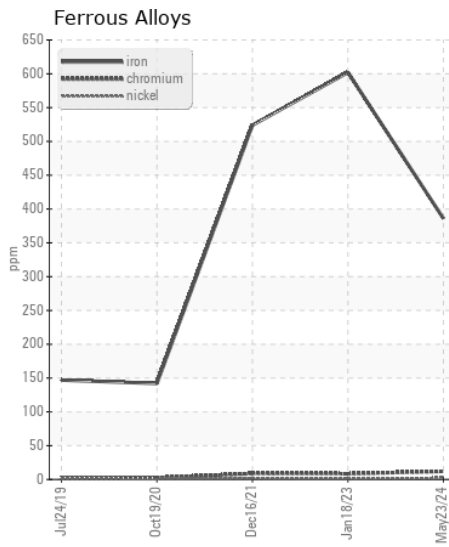
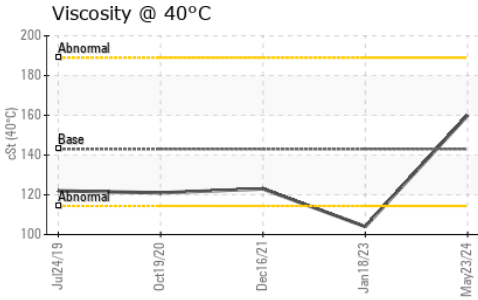
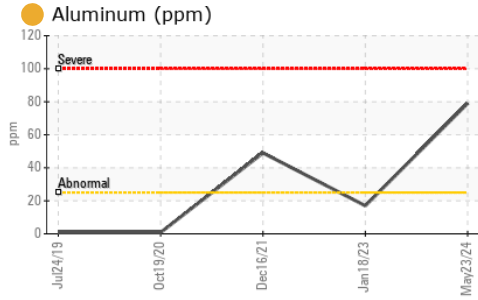
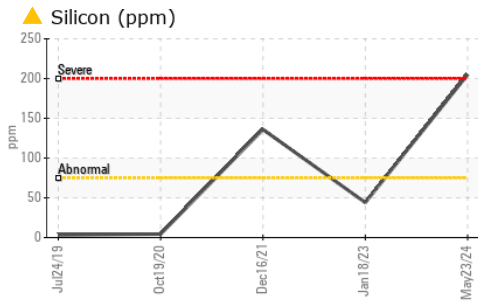
The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0924405	WC0756567	WC0639489
Sample Date		Client Info		23 May 2024	18 Jan 2023	16 Dec 2021
Machine Age	hrs	Client Info		11435	10379	8788
Oil Age	hrs	Client Info		750	500	322
Filter Age	hrs	Client Info		750	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

Iron	ppm	ASTM D5185m	>500	386	▲ 602	▲ 524
Chromium	ppm	ASTM D5185m	>10	12	8	9
Nickel	ppm	ASTM D5185m	>10	2	1	1
Titanium	ppm	ASTM D5185m		2	<1	2
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>25	79	17	49
Lead	ppm	ASTM D5185m	>25	<1	0	<1
Copper	ppm	ASTM D5185m	>50	19	5	9
Tin	ppm	ASTM D5185m	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>75	▲ 205	44	▲ 136
Potassium	ppm	ASTM D5185m	>20	20	3	11
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	MODER	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	6	3	4
Boron	ppm	ASTM D5185m	400	71	251	77
Barium	ppm	ASTM D5185m	200	<1	0	0
Molybdenum	ppm	ASTM D5185m	12	2	4	3
Manganese	ppm	ASTM D5185m		3	5	4
Magnesium	ppm	ASTM D5185m	12	4	10	12
Calcium	ppm	ASTM D5185m	150	16	61	75
Phosphorus	ppm	ASTM D5185m	1650	2197	4588	2000
Zinc	ppm	ASTM D5185m	125	24	88	56
Sulfur	ppm	ASTM D5185m	22500	26589	19545	17268
Visc @ 40°C	cSt	ASTM D445	143	160	104	123



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0924405
Lab Number : 06196069
Unique Number : 11058192
Test Package : CONST

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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