



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31222
Component
Right Final Drive
Fluid
GEAR OIL SAE 80W90 (--- QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0924614	WC0688999	WC0342314
Sample Date		Client Info		30 Apr 2024	31 Aug 2022	25 Jul 2019
Machine Age	hrs	Client Info		17247	16179	15419
Oil Age	hrs	Client Info		1000	250	500
Filter Age	hrs	Client Info		1000	0	500
Oil Changed		Client Info		Changed	Not Changd	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	MARGINAL

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	290	▲ 538	373
Chromium	ppm	ASTM D5185m	>10	1	3	2
Nickel	ppm	ASTM D5185m	>10	0	1	1
Titanium	ppm	ASTM D5185m		<1	1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	14	22	17
Lead	ppm	ASTM D5185m	>25	0	0	0
Copper	ppm	ASTM D5185m	>50	▲ 76	▲ 75	43
Tin	ppm	ASTM D5185m	>10	4	3	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	VLITE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

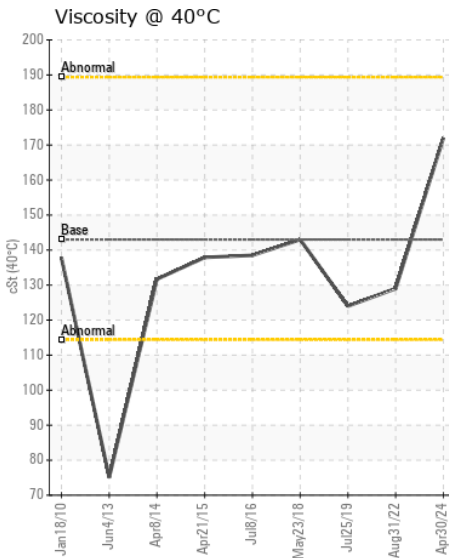
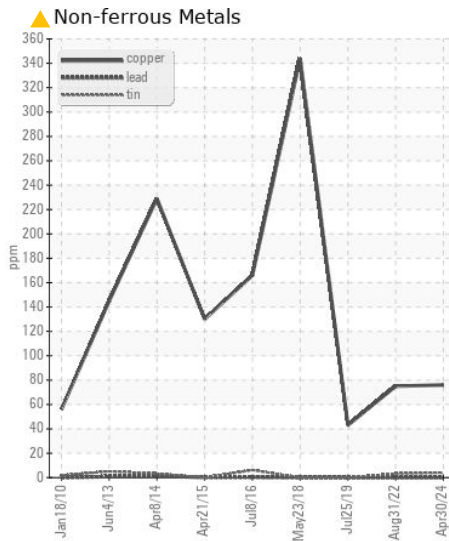
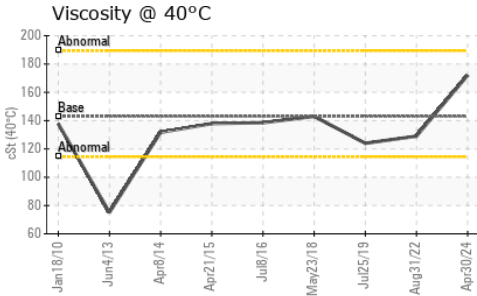
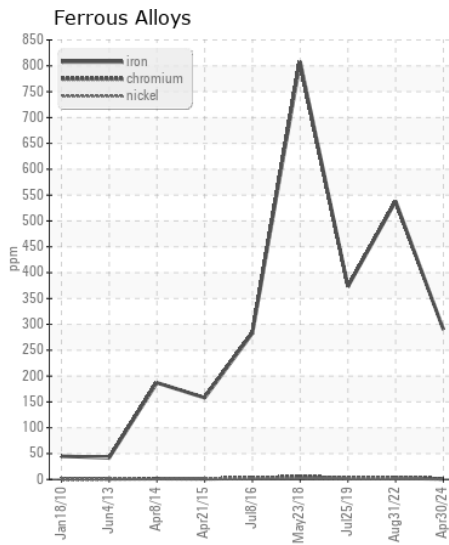
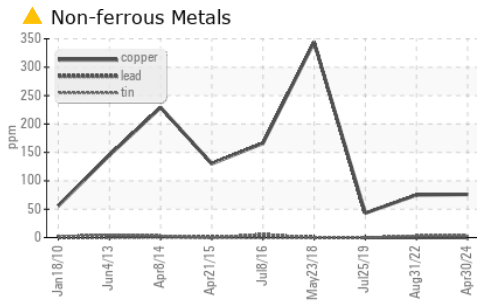
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	58	58	53
Potassium	ppm	ASTM D5185m	>20	4	4	13
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	0.2%

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m	>170	4	4	4
Boron	ppm	ASTM D5185m	400	54	86	95
Barium	ppm	ASTM D5185m	200	1	0	0
Molybdenum	ppm	ASTM D5185m	12	0	3	0
Manganese	ppm	ASTM D5185m		2	4	3
Magnesium	ppm	ASTM D5185m	12	6	14	11
Calcium	ppm	ASTM D5185m	150	26	72	44
Phosphorus	ppm	ASTM D5185m	1650	2379	1898	1816
Zinc	ppm	ASTM D5185m	125	15	64	26
Sulfur	ppm	ASTM D5185m	22500	30294	19164	15991
Visc @ 40°C	cSt	ASTM D445	143	172	129	124



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0924614
Lab Number : 06177584
Unique Number : 11023637
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)

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