



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31255
 Component
Swing Drive
 Fluid
CHEVRON DELO GEAR ESI OIL 80W90 (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0924403	WC0846726	WC0716031
Sample Date		Client Info		28 May 2024	12 Sep 2023	29 Jul 2022
Machine Age	hrs	Client Info		2206	1336	490
Oil Age	hrs	Client Info		2000	248	490
Filter Age	hrs	Client Info		2000	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

Gear wear is indicated.

Iron	ppm	ASTM D5185m	>400	▲ 444	▲ 690	▲ 411
Chromium	ppm	ASTM D5185m	>10	4	6	3
Nickel	ppm	ASTM D5185m	>10	0	1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	1
Aluminum	ppm	ASTM D5185m	>25	<1	2	<1
Lead	ppm	ASTM D5185m	>50	8	<1	<1
Copper	ppm	ASTM D5185m	>200	63	122	24
Tin	ppm	ASTM D5185m	>10	<1	1	2
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

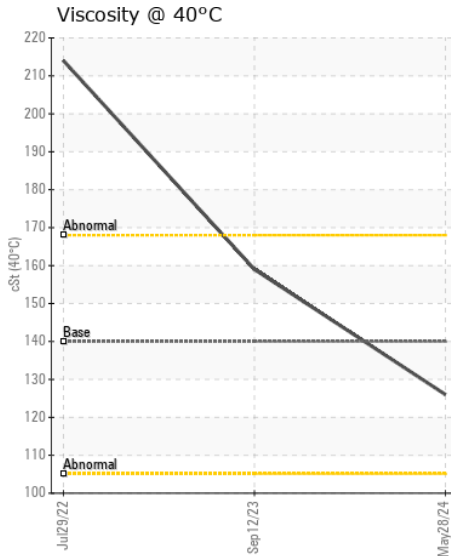
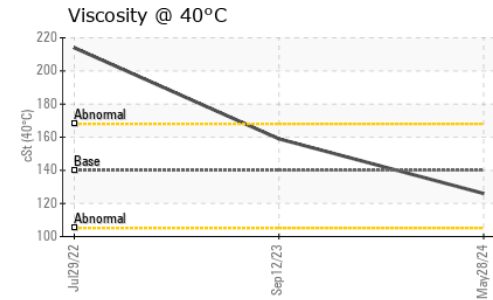
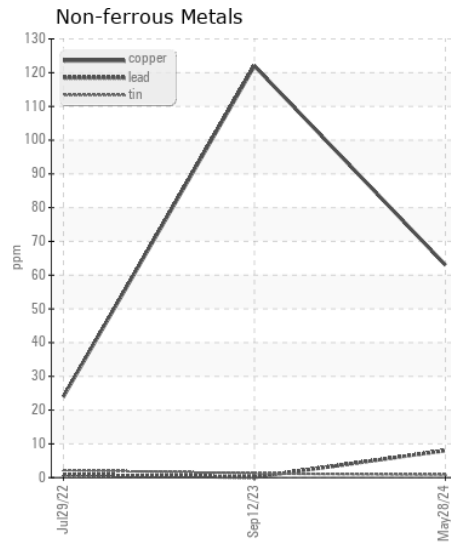
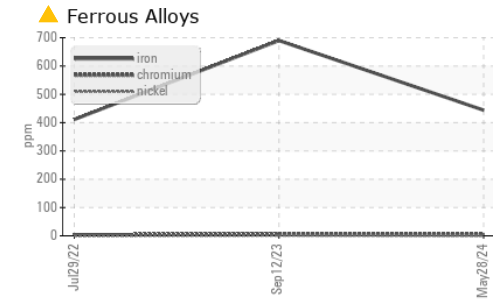
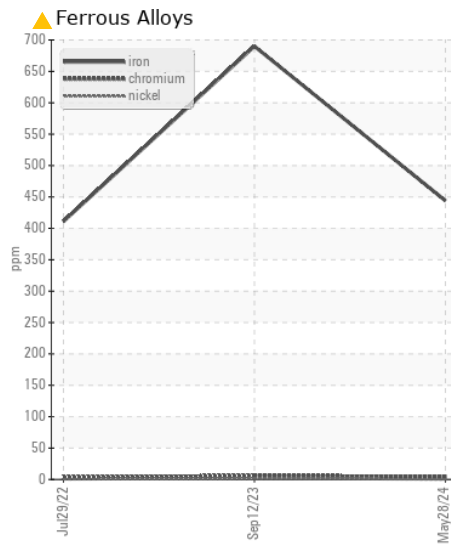
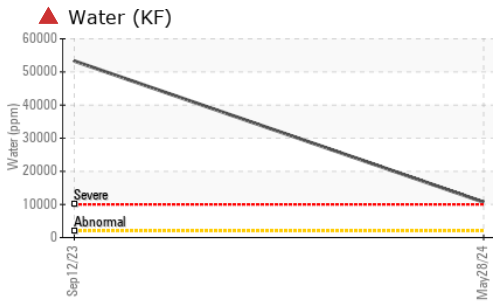
Appearance is hazy. There is a high concentration of water present in the oil.

Silicon	ppm	ASTM D5185m	>50	3	5	2
Potassium	ppm	ASTM D5185m	>20	10	89	3
Water	%	ASTM D6304	>0.2	▲ 1.07	▲ 5.33	---
ppm Water	ppm	ASTM D6304	>2000	▲ 10700	▲ 53300	---
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	● HAZY	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	▲ 0.2%	▲ 0.2%	NEG

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		6	54	7
Boron	ppm	ASTM D5185m	15	129	101	5
Barium	ppm	ASTM D5185m	0	<1	0	4
Molybdenum	ppm	ASTM D5185m	0	7	14	<1
Manganese	ppm	ASTM D5185m		4	5	5
Magnesium	ppm	ASTM D5185m	0	17	14	3
Calcium	ppm	ASTM D5185m	5	69	71	8
Phosphorus	ppm	ASTM D5185m	600	1917	1678	2192
Zinc	ppm	ASTM D5185m	0	97	110	88
Sulfur	ppm	ASTM D5185m	22000	20997	22887	25056
Visc @ 40°C	cSt	ASTM D445	140	126	159	214



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0924403 **Received** : 30 May 2024
Lab Number : 06196054 **Tested** : 03 Jun 2024
Unique Number : 11058177 **Diagnosed** : 03 Jun 2024 - Sean Felton
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)

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