



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31250
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 68 (--- GAL)

RECOMMENDATION

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

WEAR

All component wear rates are normal.

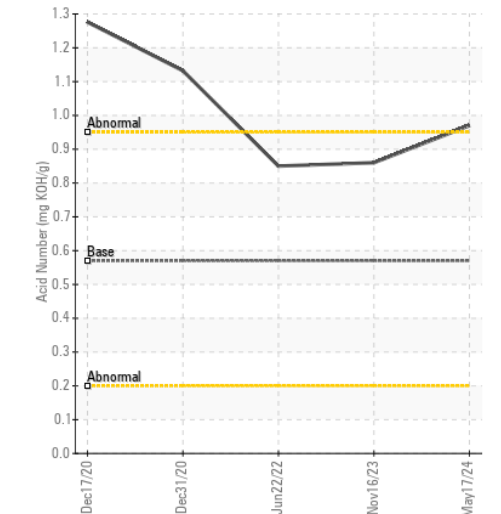
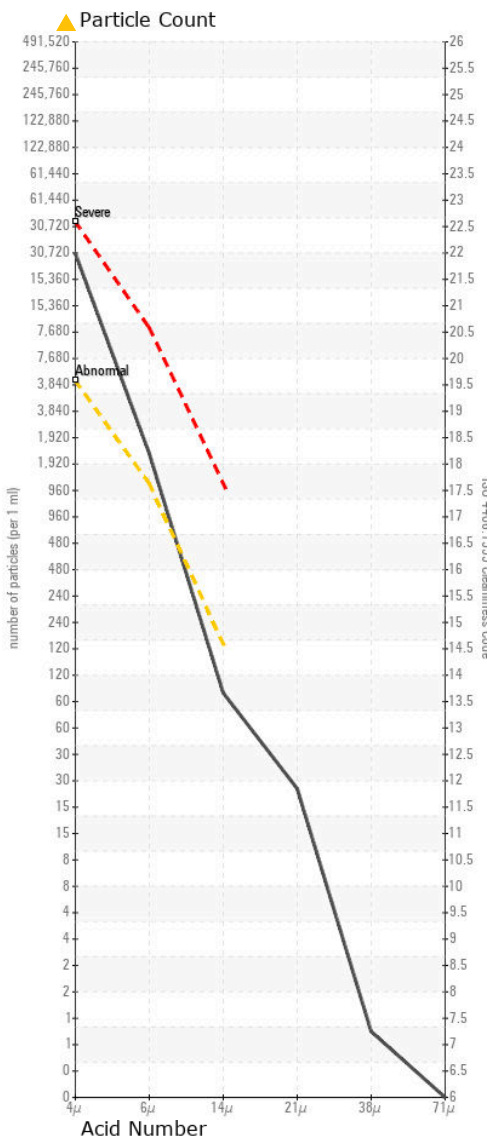
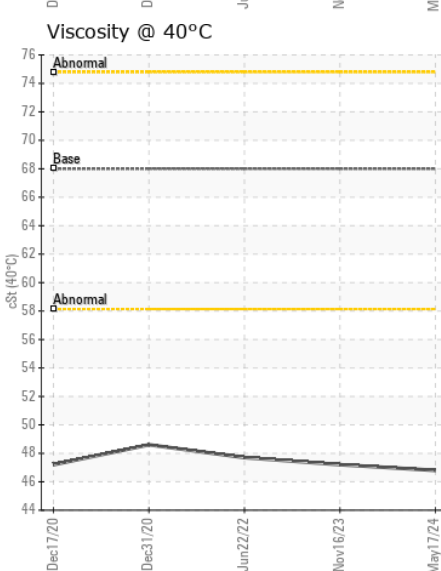
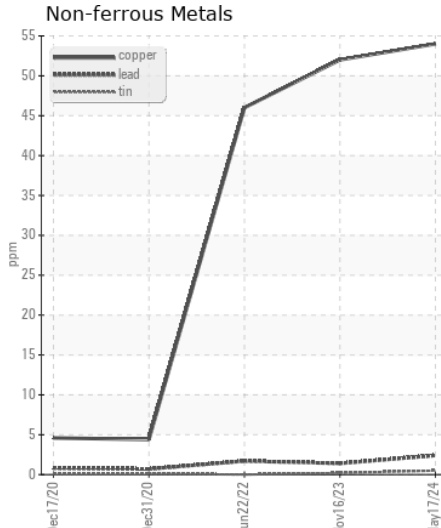
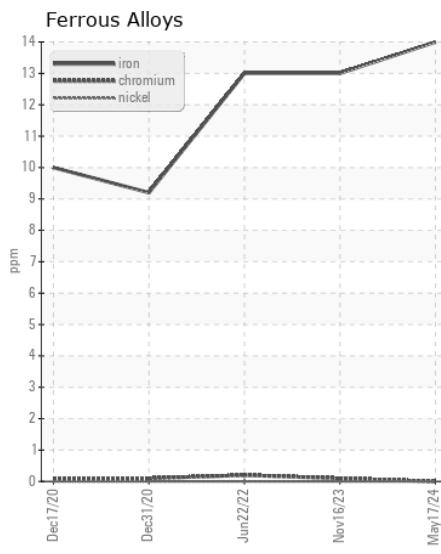
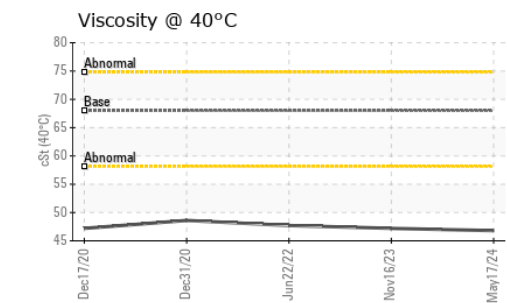
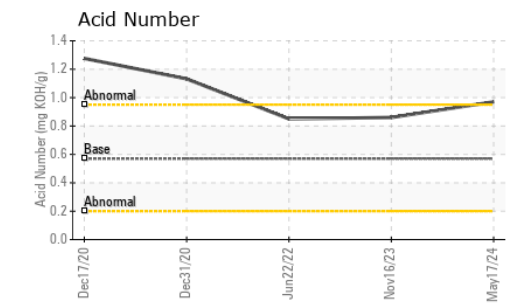
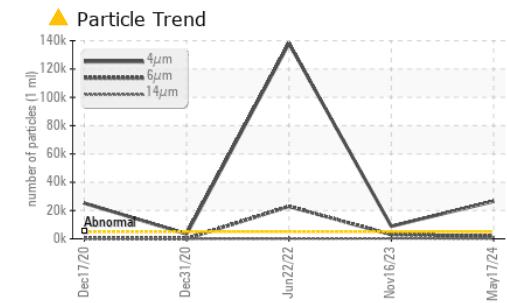
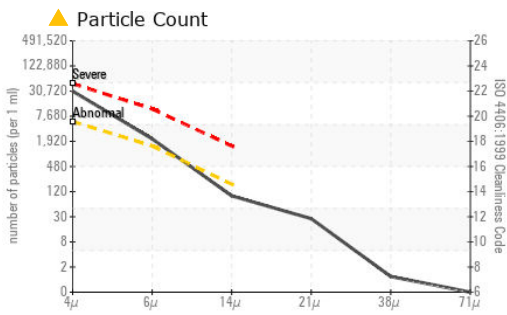
CONTAMINATION

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

Confirm oil type. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0924390	WC0846323	WC0689320
Sample Date		Client Info		17 May 2024	16 Nov 2023	22 Jun 2022
Machine Age	hrs	Client Info		4738	4230	2315
Oil Age	hrs	Client Info		2000	1000	2300
Filter Age	hrs	Client Info		2000	2000	500
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>20	14	13	13
Chromium	ppm	ASTM D5185m	>10	0	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	8	8	8
Lead	ppm	ASTM D5185m	>10	2	1	2
Copper	ppm	ASTM D5185m	>75	54	52	46
Tin	ppm	ASTM D5185m	>10	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	10	9	9
Potassium	ppm	ASTM D5185m	>20	1	0	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ 26486	▲ 8868	▲ 138140
Particles >6µm		ASTM D7647	>1300	● 1928	▲ 2898	▲ 22924
Particles >14µm		ASTM D7647	>160	84	● 252	39
Particles >21µm		ASTM D7647	>40	24	● 58	6
Particles >38µm		ASTM D7647	>10	1	1	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/18/14	▲ 20/19/15	▲ 24/22/12
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	>0.1	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		3	3	<1
Boron	ppm	ASTM D5185m	5	2	2	2
Barium	ppm	ASTM D5185m	5	0	0	<1
Molybdenum	ppm	ASTM D5185m	5	1	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	25	9	0	9
Calcium	ppm	ASTM D5185m	200	1099	1054	1114
Phosphorus	ppm	ASTM D5185m	300	578	499	561
Zinc	ppm	ASTM D5185m	370	647	605	708
Sulfur	ppm	ASTM D5185m	2500	5719	4389	5122
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.97	0.86	0.85
Visc @ 40°C	cSt	ASTM D445	68	46.8	47.2	47.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0924390
 Lab Number : 06186068
 Unique Number : 11042820
 Test Package : CONST

Received : 21 May 2024
 Tested : 22 May 2024
 Diagnosed : 23 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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 F: (919)484-2136