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

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

All component wear rates are normal.

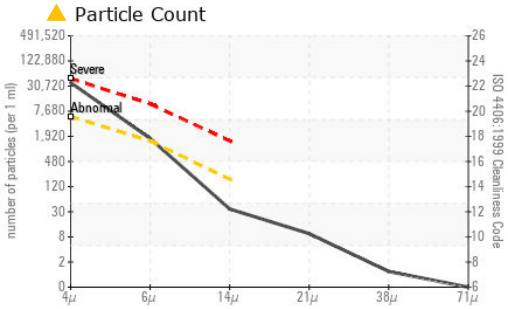
CONTAMINATION

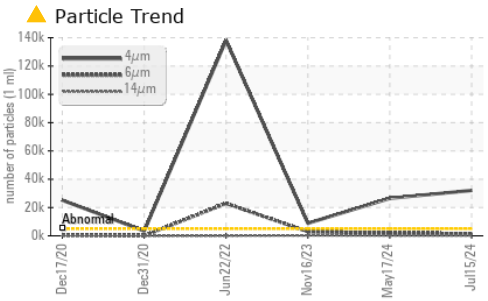
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

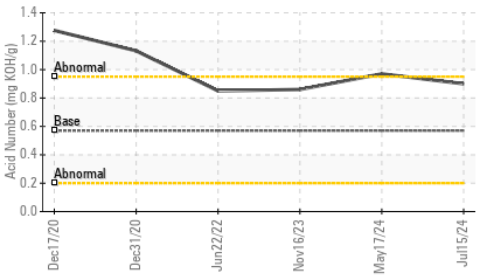
FLUID CONDITION

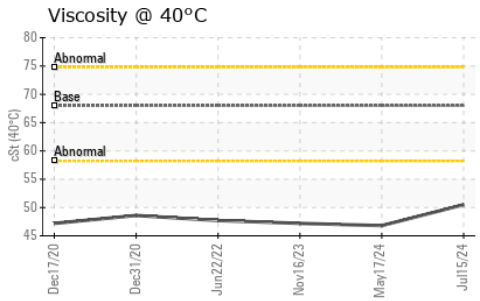
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

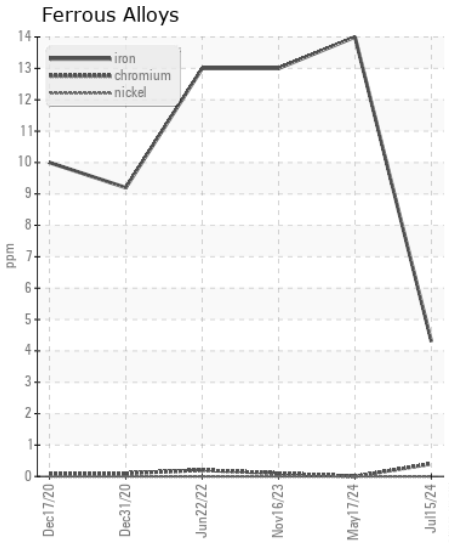
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0950516**	WC0924390	WC0846323
Sample Date		Client Info		**15 Jul 2024**	17 May 2024	16 Nov 2023
Machine Age	hrs	Client Info		**10335**	4738	4230
Oil Age	hrs	Client Info		**1500**	2000	1000
Filter Age	hrs	Client Info		**1500**	2000	2000
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>20	**4**	14	13
Chromium	ppm	ASTM D5185m	>10	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>10	**4**	8	8
Lead	ppm	ASTM D5185m	>10	**<1**	2	1
Copper	ppm	ASTM D5185m	>75	**18**	54	52
Tin	ppm	ASTM D5185m	>10	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	**4**	10	9
Potassium	ppm	ASTM D5185m	>20	**2**	1	0
Water		WC Method	>0.1	**NEG**	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ **32090**	▲ 26486	● 8868
Particles >6µm		ASTM D7647	>1300	● **1494**	● 1928	▲ 2898
Particles >14µm		ASTM D7647	>160	**31**	84	● 252
Particles >21µm		ASTM D7647	>40	**8**	24	● 58
Particles >38µm		ASTM D7647	>10	**1**	1	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/18/12**	▲ 22/18/14	▲ 20/19/15
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		**<1**	3	3
Boron	ppm	ASTM D5185m	5	**3**	2	2
Barium	ppm	ASTM D5185m	5	**0**	0	0
Molybdenum	ppm	ASTM D5185m	5	**1**	1	<1
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	25	**9**	9	0
Calcium	ppm	ASTM D5185m	200	**811**	1099	1054
Phosphorus	ppm	ASTM D5185m	300	**442**	578	499
Zinc	ppm	ASTM D5185m	370	**576**	647	605
Sulfur	ppm	ASTM D5185m	2500	**2790**	5719	4389
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	**0.90**	0.97	0.86
Visc @ 40°C	cSt	ASTM D445	68	**50.5**	46.8	47.2

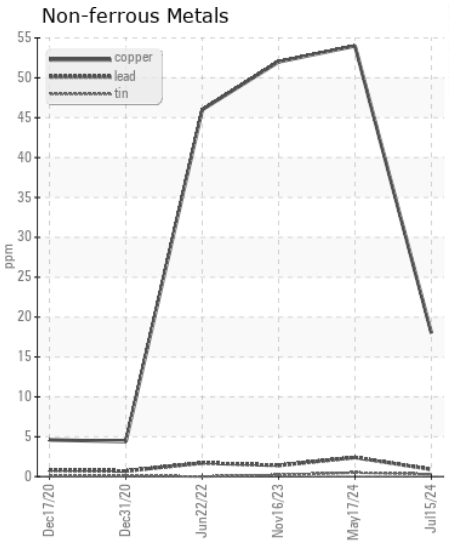


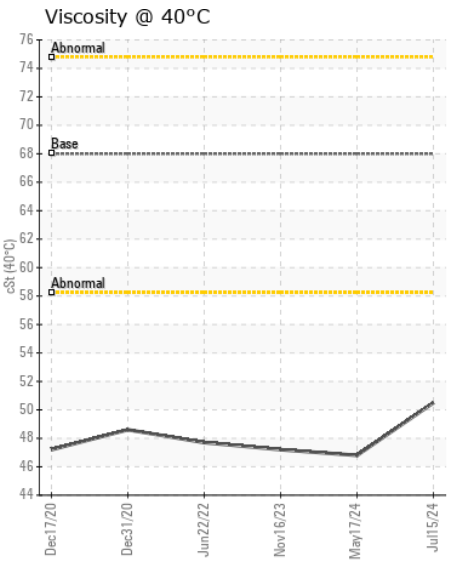


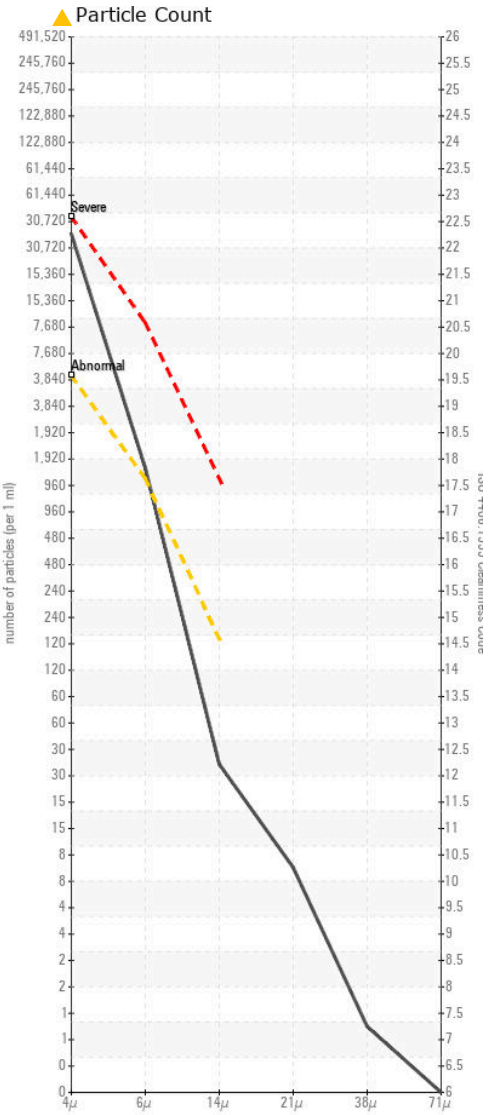


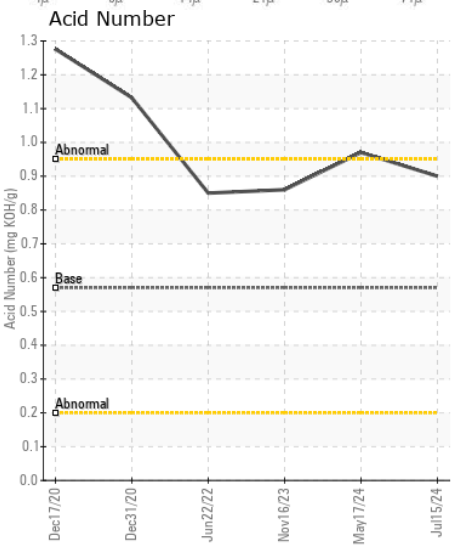












Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0950516
Lab Number : 06240223
Unique Number : 11129057
Test Package : CONST

Received : 18 Jul 2024
Tested : 19 Jul 2024
Diagnosed : 20 Jul 2024 - Wes Davis

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:
F: (919)484-2136