



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 31240
 Component
Hydraulic System
 Fluid
CHEVRON HYDRAULIC AW ISO 68 (100 GAL)

RECOMMENDATION

Oil and filter 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		WC0913675	WC0716015	WC0492918
Sample Date		Client Info		12 Apr 2024	28 Jul 2022	26 Aug 2020
Machine Age	hrs	Client Info		10788	9451	8324
Oil Age	hrs	Client Info		1000	1627	2000
Filter Age	hrs	Client Info		1000	1627	1000
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	16	8	6
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>10	10	6	<1
Lead	ppm	ASTM D5185m	>10	0	<1	<1
Copper	ppm	ASTM D5185m	>75	47	38	2
Tin	ppm	ASTM D5185m	>10	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

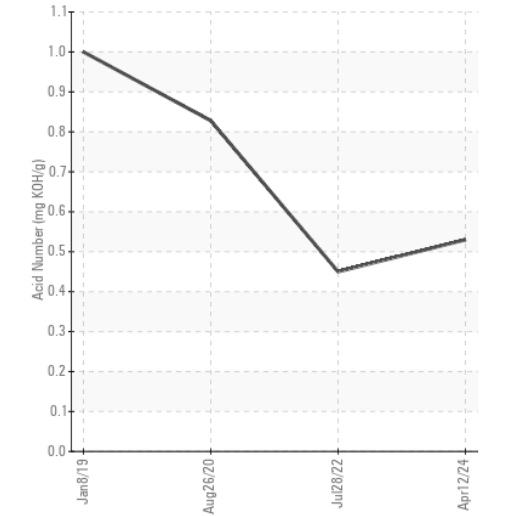
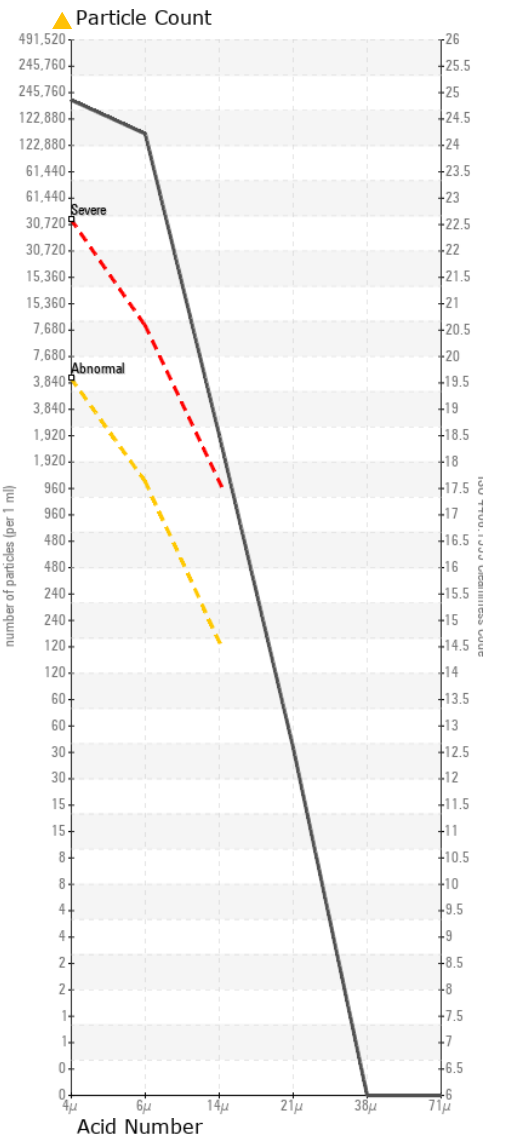
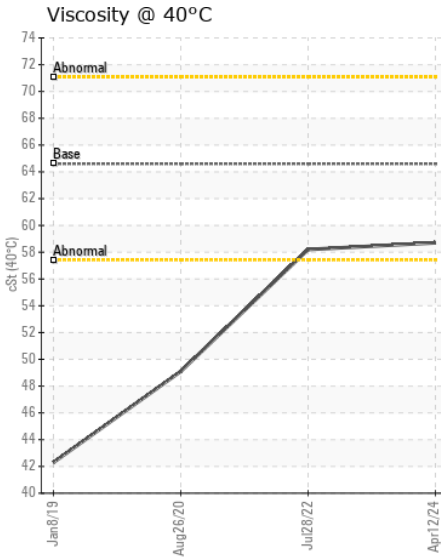
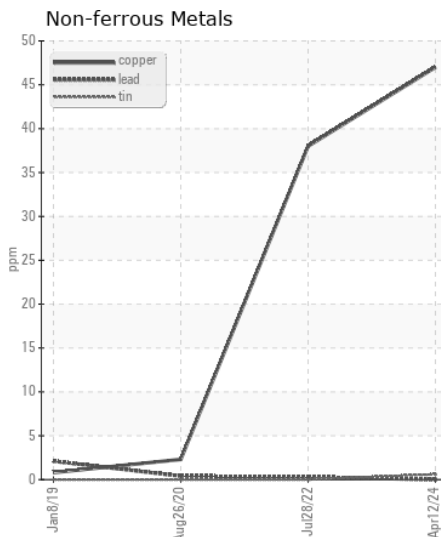
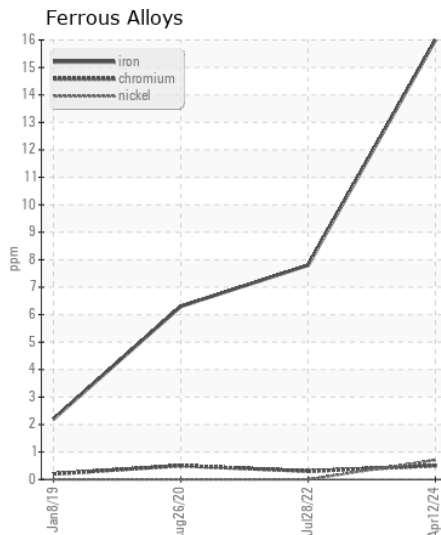
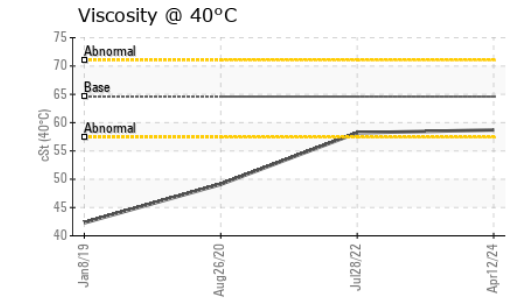
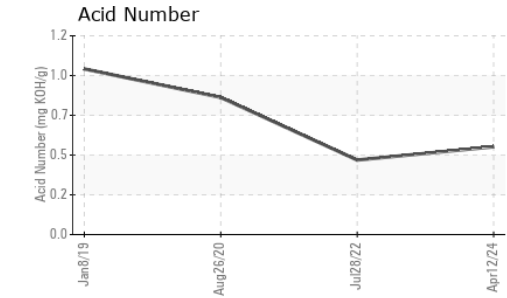
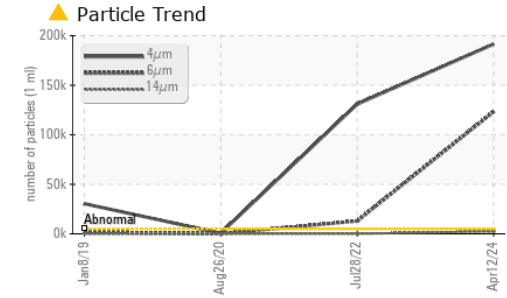
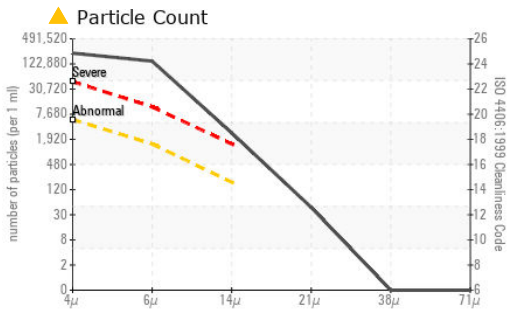
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>20	10	2	4
Potassium	ppm	ASTM D5185m	>20	4	1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ 191595	▲ 130865	568
Particles >6µm		ASTM D7647	>1300	▲ 123295	▲ 12923	26
Particles >14µm		ASTM D7647	>160	▲ 2398	15	3
Particles >21µm		ASTM D7647	>40	▲ 40	3	1
Particles >38µm		ASTM D7647	>10	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 25/24/18	▲ 24/21/11	16/12/9
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		3	0	2
Boron	ppm	ASTM D5185m		7	10	20
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	1	1
Manganese	ppm	ASTM D5185m		1	0	0
Magnesium	ppm	ASTM D5185m		13	6	0
Calcium	ppm	ASTM D5185m		216	284	830
Phosphorus	ppm	ASTM D5185m		419	407	584
Zinc	ppm	ASTM D5185m		511	508	752
Sulfur	ppm	ASTM D5185m		1693	1538	2062
Acid Number (AN)	mg KOH/g	ASTM D8045		0.53	0.45	0.828
Visc @ 40°C	cSt	ASTM D445	64.6	58.7	58.2	49.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0913675
Lab Number : 06151046
Unique Number : 10981124
Test Package : CONST

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