MOB I

LIEBHERR

OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
(348445) STRADA CRUSH
Machine Id
LIEBHERR R945 052652-1866
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

We advise that you check for visible metal particles in the oil. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). We were unable to perform a particle count due to metal particles present in this sample.

WEAR

Copper ppm levels are severe. Iron ppm levels are abnormal. Aluminum ppm levels are noted. Moderate concentration of visible metal present. Cylinder wear is indicated. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

CONTAMINATION

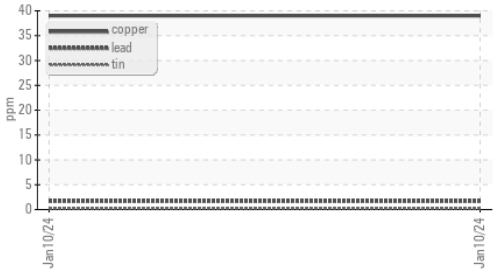
There is a moderate amount of visible silt present in the sample. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

FLUID CONDITION

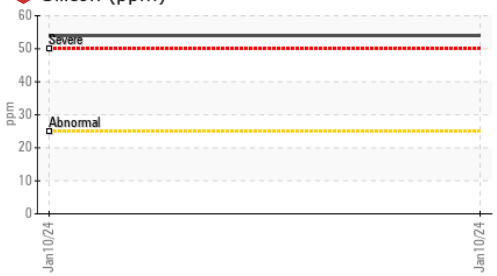
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0242307	---	---
Sample Date		Client Info		10 Jan 2024	---	---
Machine Age	hrs	Client Info		5034	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---
PQ		ASTM D8184*		22	---	---
Iron	ppm	ASTM D5185(m)	>50	▲ 71	---	---
Chromium	ppm	ASTM D5185(m)	>15	2	---	---
Nickel	ppm	ASTM D5185(m)	>5	<1	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>8	▲ 13	---	---
Lead	ppm	ASTM D5185(m)	>5	2	---	---
Copper	ppm	ASTM D5185(m)	>15	⬢ 39	---	---
Tin	ppm	ASTM D5185(m)	>5	<1	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	⬢ MODER	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Silicon	ppm	ASTM D5185(m)	>25	⬢ 54	---	---
Potassium	ppm	ASTM D5185(m)	>20	4	---	---
Water		WC Method	>0.1	NEG	---	---
Silt	scalar	Visual*	NONE	▲ MODER	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	NEG	---	---
Sodium	ppm	ASTM D5185(m)		5	---	---
Boron	ppm	ASTM D5185(m)	0	<1	---	---
Barium	ppm	ASTM D5185(m)	0	<1	---	---
Molybdenum	ppm	ASTM D5185(m)	0	0	---	---
Manganese	ppm	ASTM D5185(m)	<1	<1	---	---
Magnesium	ppm	ASTM D5185(m)	7	16	---	---
Calcium	ppm	ASTM D5185(m)	1317	981	---	---
Phosphorus	ppm	ASTM D5185(m)	611	494	---	---
Zinc	ppm	ASTM D5185(m)	696	556	---	---
Sulfur	ppm	ASTM D5185(m)	2574	2758	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	46	▲ 33.2	---	---

Non-ferrous Metals

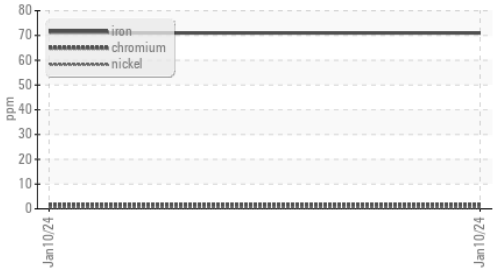


Silicon (ppm)

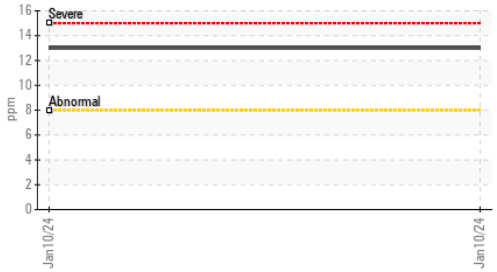


Viscosity @ 40°C

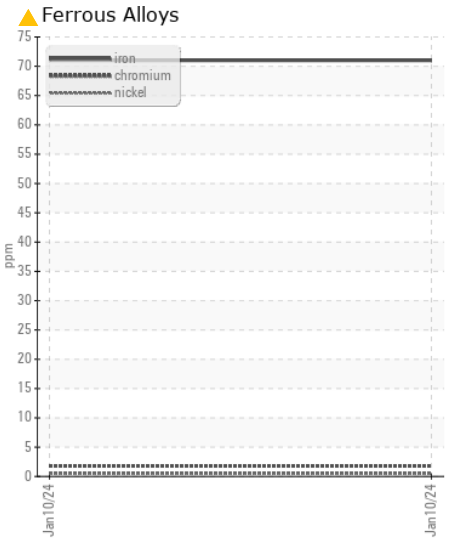
Ferrous Alloys



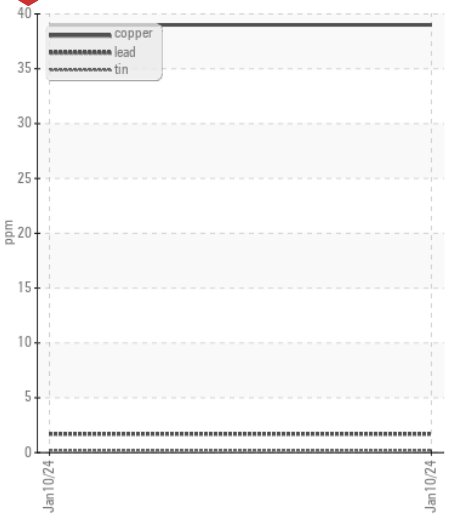
Aluminum (ppm)



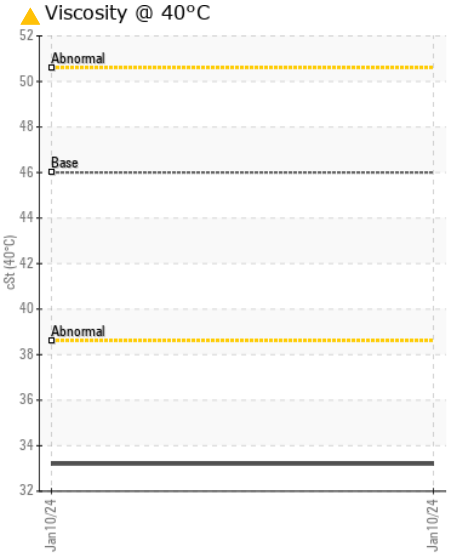
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Filter (Magn: 100 x)

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0242307 **Recieved** : 16 Jan 2024
Lab Number : 02609028 **Diagnosed** : 18 Jan 2024
Unique Number : 5710114 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PQ, PRTCOUNT, PrtFilter)

CON-DRAIN LTD.
30 FLORAL PARKWAY
CONCORD, ON
CA L4K 4R1
Contact: B BAXTER
B.BAXTER@CONDRAIN.COM
T:
F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.