MOB

LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR R938 050294-1650
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

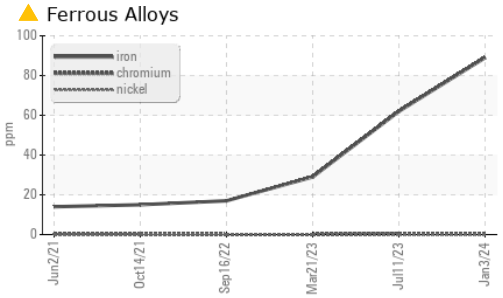
CONTAMINATION

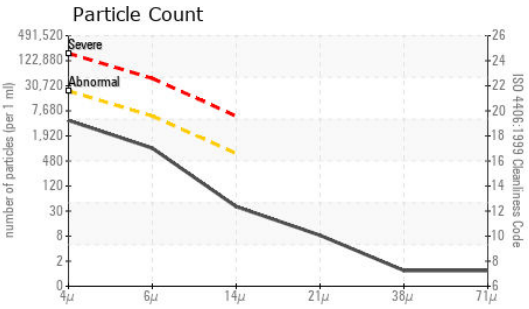
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

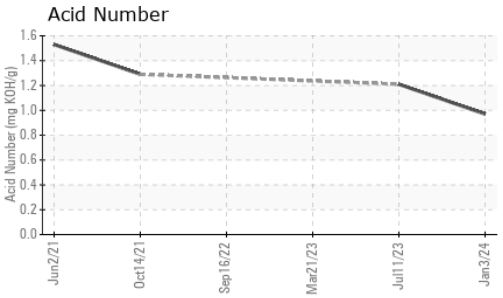
FLUID CONDITION

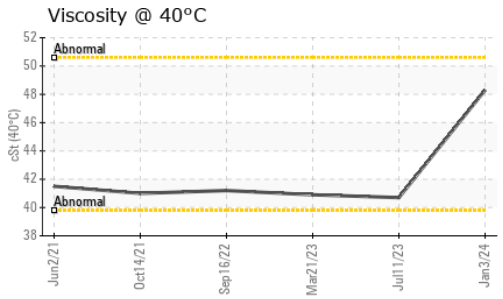
The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

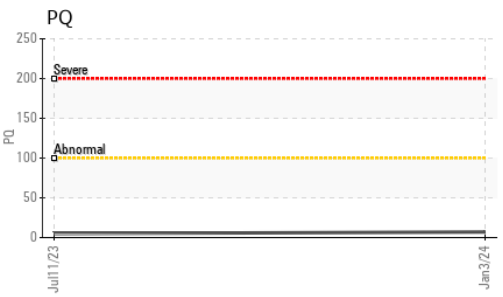
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0172356	LH0172347	LH0257074
Sample Date		Client Info		03 Jan 2024	11 Jul 2023	21 Mar 2023
Machine Age	hrs	Client Info		4931	4978	4098
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	NORMAL
PQ		ASTM D8184*		7	5	---
Iron	ppm	ASTM D5185(m)	>50	▲ 89	▲ 62	29
Chromium	ppm	ASTM D5185(m)	>15	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>8	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>5	2	1	1
Copper	ppm	ASTM D5185(m)	>15	9	8	7
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>25	4	4	4
Potassium	ppm	ASTM D5185(m)	>20	5	1	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	3950	8127	10001
Particles >6µm		ASTM D7647	>5000	854	1630	2736
Particles >14µm		ASTM D7647	>640	34	157	74
Particles >21µm		ASTM D7647	>160	7	43	10
Particles >38µm		ASTM D7647	>40	1	1	1
Particles >71µm		ASTM D7647	>10	1	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/17/12	20/18/14	21/19/13
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 D5185(m)		3	3	3
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		5	5	4
Calcium	ppm	ASTM D5185(m)		1015	995	1082
Phosphorus	ppm	ASTM D5185(m)		623	648	668
Zinc	ppm	ASTM D5185(m)		715	725	732
Sulfur	ppm	ASTM D5185(m)		4023	3835	3953
Acid Number (AN)	mg KOH/g	ASTM D974*		0.97	1.21	---
Visc @ 40°C	cSt	ASTM D7279(m)		48.3	40.7	40.9

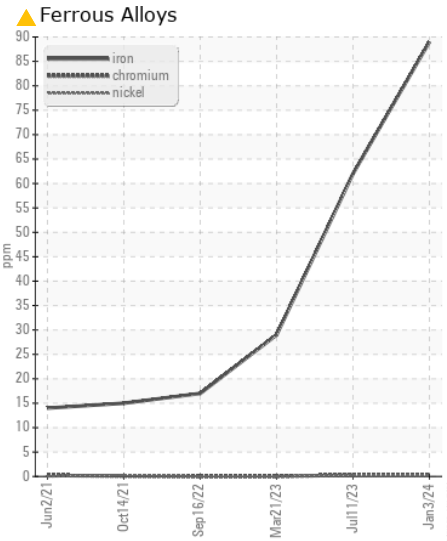


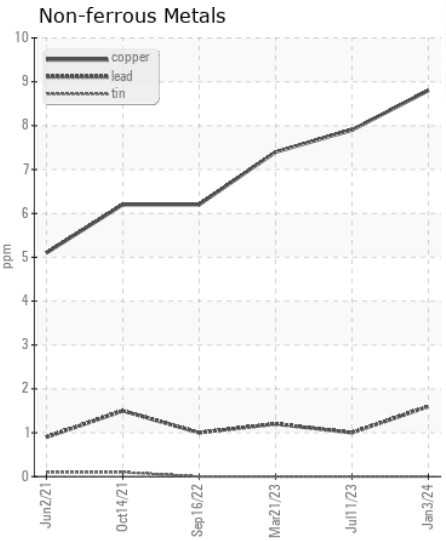


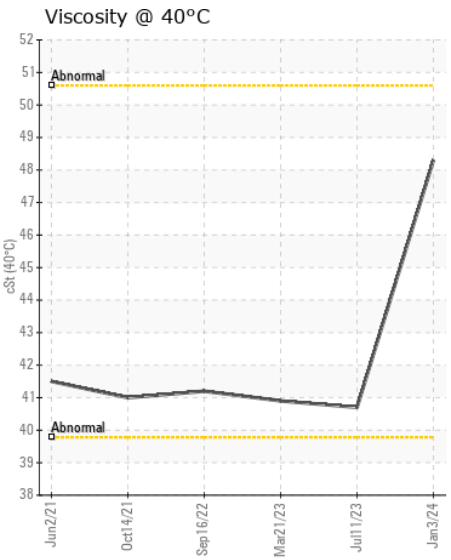


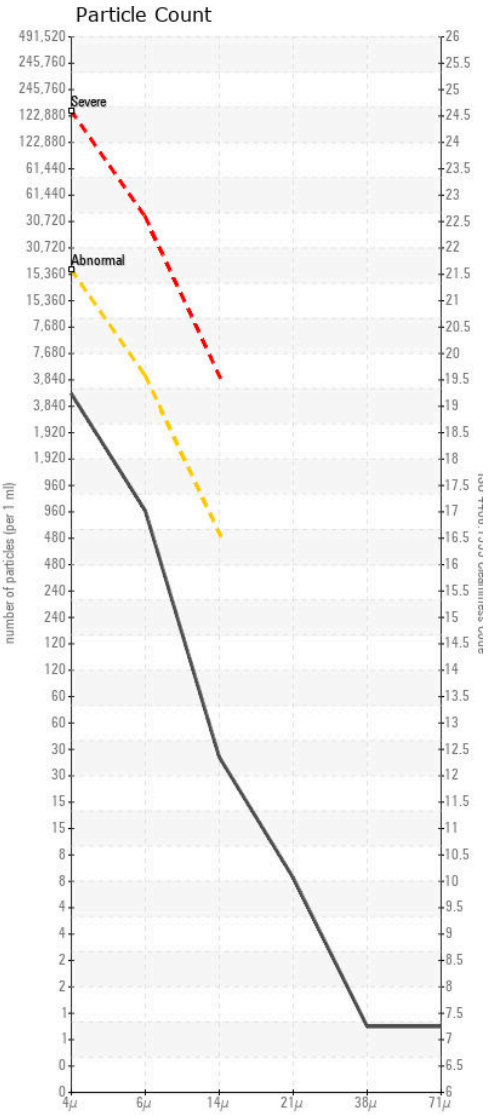


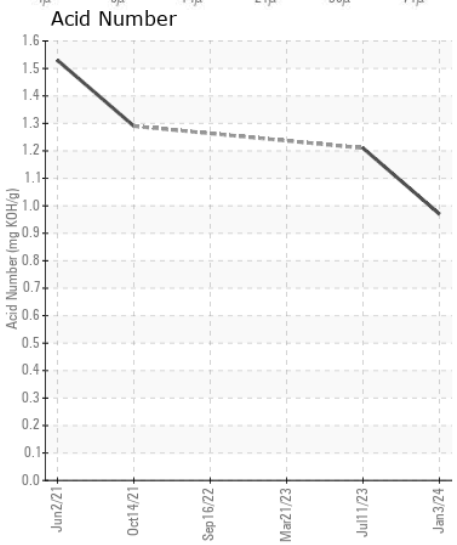












ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9		
Sample No.	: LH0172356	**Recieved**	: 11 Jan 2024
Lab Number	: 02608229	**Diagnosed**	: 16 Jan 2024
Unique Number	: 5709315	**Diagnostician**	: Kevin Marson
Test Package	: MOBCE (Additional Tests: PQ)		

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.

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