



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id  
**LIEBHERR A934C-HD-ERC-LI C-50 (S/N 060798-1419)**  
Component  
**Hydraulic System**  
Fluid  
**CHEVRON RANDO HD 46 (104 GAL)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0869357</b>	WC0809696	WC0692190
Sample Date		Client Info		<b>16 Apr 2024</b>	08 Jul 2023	01 Feb 2023
Machine Age	hrs	Client Info		<b>23905</b>	22309	21367
Oil Age	hrs	Client Info		<b>2538</b>	942	2008
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Not Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	ATTENTION	ATTENTION

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>&lt;1</b>	<1	1
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Lead	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

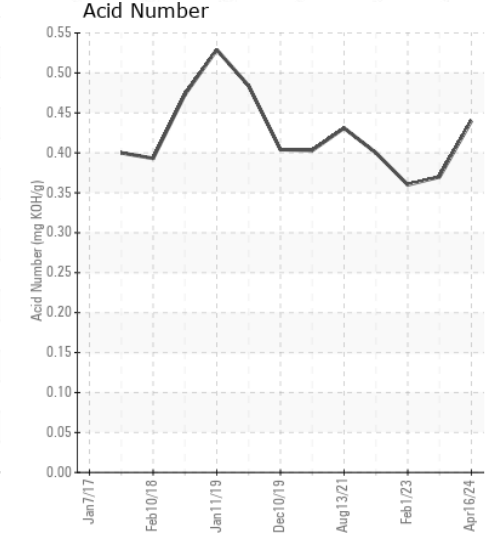
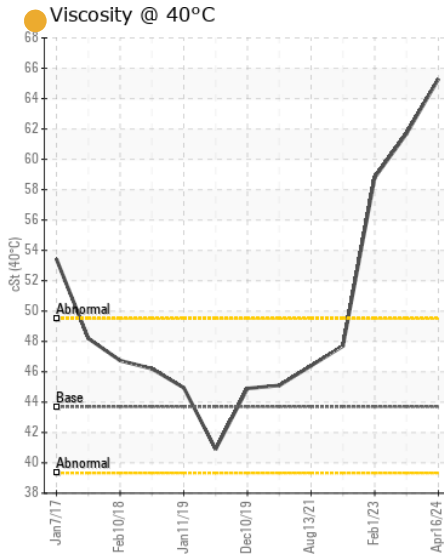
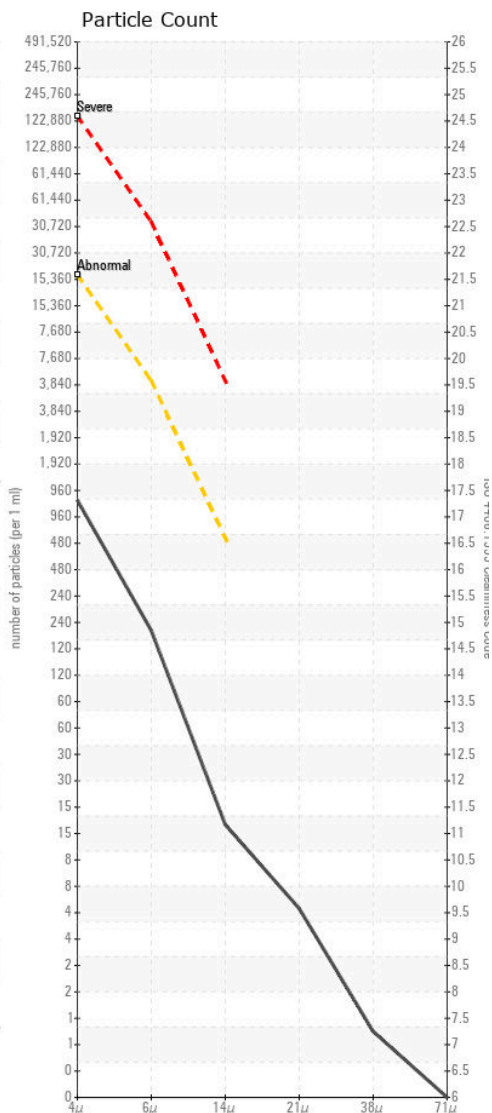
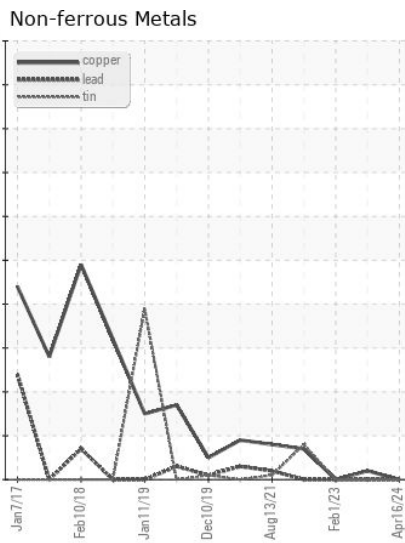
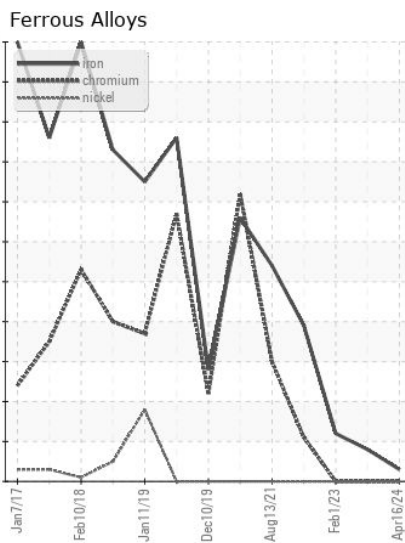
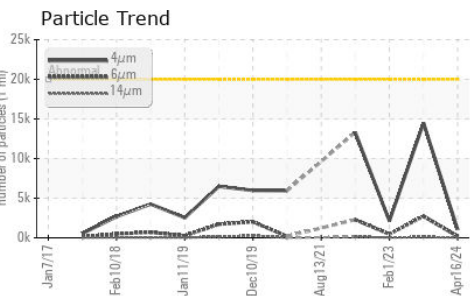
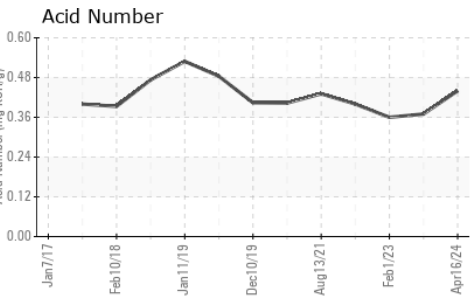
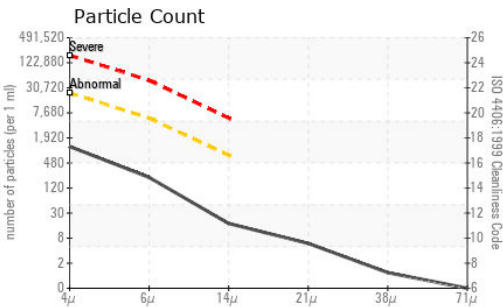
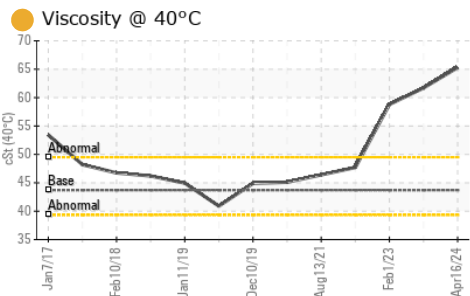
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>17	<b>&lt;1</b>	<1	<1
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>1048</b>	14496	2125
Particles >6µm		ASTM D7647	>5000	<b>190</b>	2722	464
Particles >14µm		ASTM D7647	>640	<b>15</b>	105	31
Particles >21µm		ASTM D7647	>160	<b>5</b>	23	7
Particles >38µm		ASTM D7647	>40	<b>1</b>	1	0
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>17/15/11</b>	21/19/14	18/16/12
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	1
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>0</b>	1	1
Calcium	ppm	ASTM D5185m		<b>55</b>	85	157
Phosphorus	ppm	ASTM D5185m		<b>358</b>	358	360
Zinc	ppm	ASTM D5185m		<b>471</b>	440	480
Sulfur	ppm	ASTM D5185m		<b>1100</b>	1052	926
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.44</b>	0.37	0.36
Visc @ 40°C	cSt	ASTM D445	43.7	<b>65.3</b>	61.7	58.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0869357  
**Lab Number** : 06160271  
**Unique Number** : 10995694  
**Test Package** : CONST  
**Received** : 25 Apr 2024  
**Tested** : 26 Apr 2024  
**Diagnosed** : 26 Apr 2024 - Don Baldrige

**FRANKLIN IRON & METAL CORP**  
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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)