



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR 944B-HD C-41 (S/N 022530-744)
Component
Hydraulic System
Fluid
CHEVRON RANDO HD 68 (150 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0948361	WC0879512	WC0828411
Sample Date		Client Info		12 Jul 2024	29 Jan 2024	04 Aug 2023
Machine Age	hrs	Client Info		39080	39252	37154
Oil Age	hrs	Client Info		1926	938	290
Filter Age	hrs	Client Info		0	938	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	<1	0	<1
Chromium	ppm	ASTM D5185m	>40	<1	<1	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	0	0	<1
Lead	ppm	ASTM D5185m	>5	0	<1	0
Copper	ppm	ASTM D5185m	>15	<1	<1	<1
Tin	ppm	ASTM D5185m	>5	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

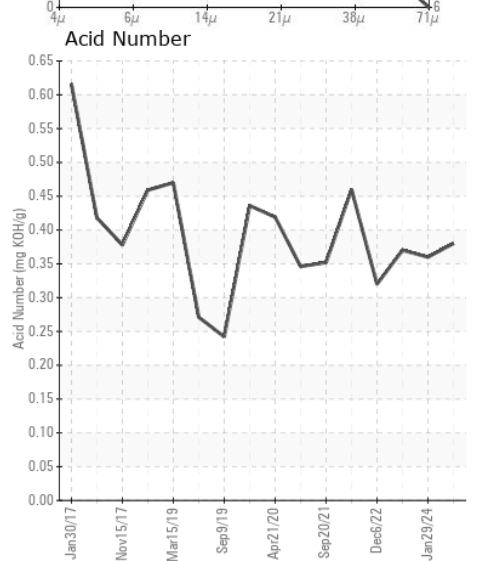
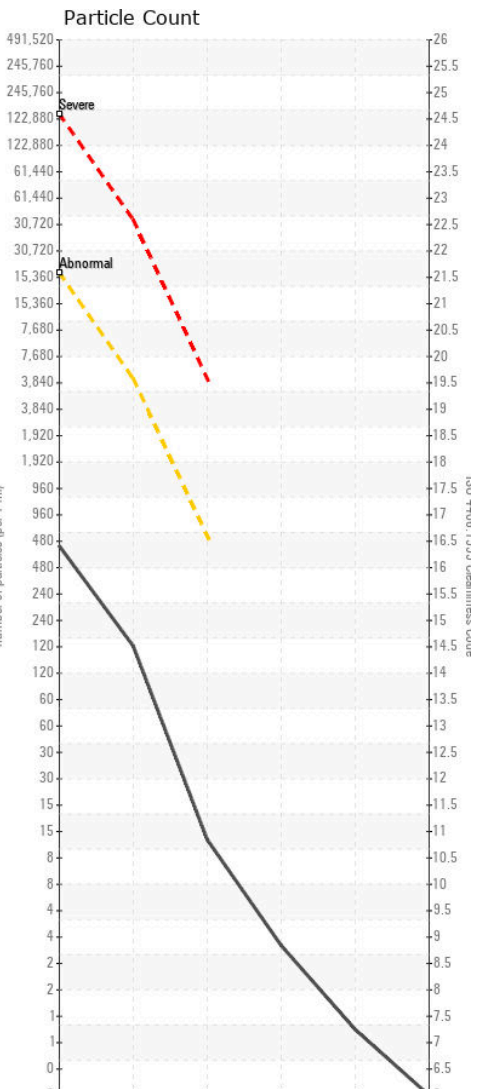
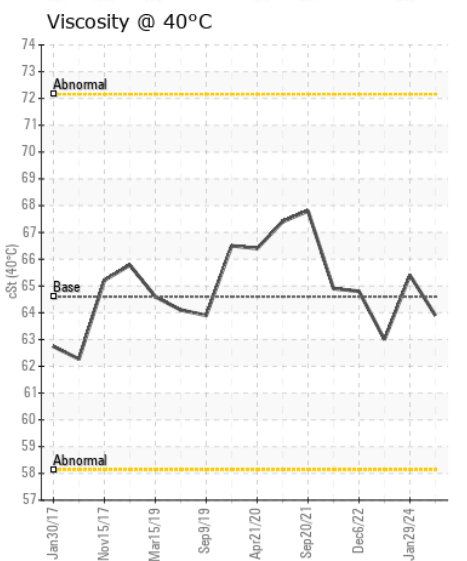
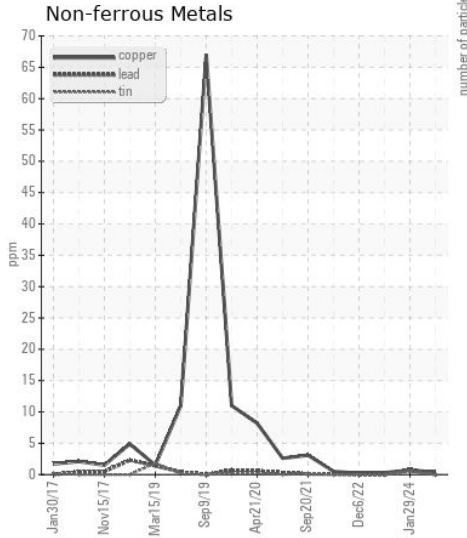
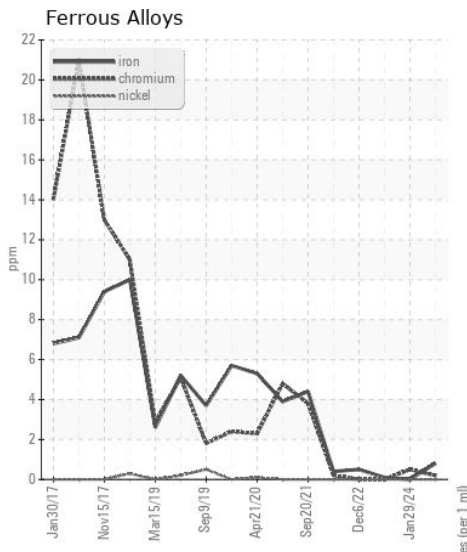
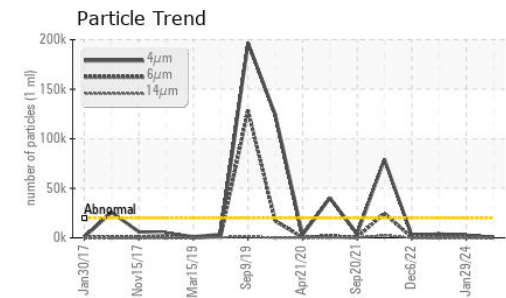
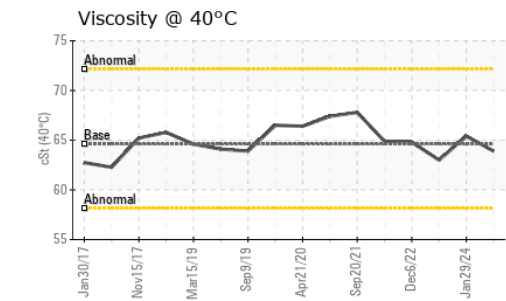
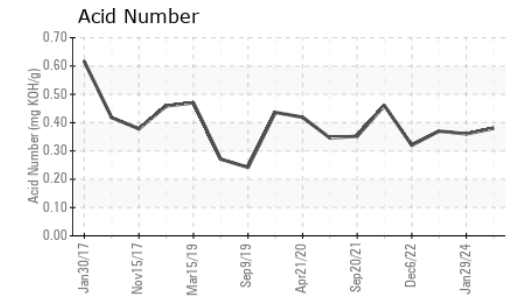
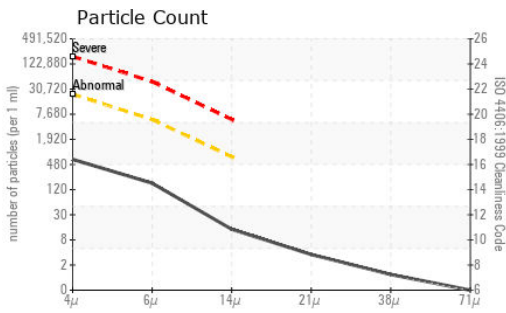
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>15	<1	0	0
Potassium	ppm	ASTM D5185m	>20	0	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	560	2558	3922
Particles >6µm		ASTM D7647	>5000	151	756	220
Particles >14µm		ASTM D7647	>640	12	48	4
Particles >21µm		ASTM D7647	>160	3	12	1
Particles >38µm		ASTM D7647	>40	1	1	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	16/14/11	19/17/13	19/15/9
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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		<1	<1	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		2	0	2
Calcium	ppm	ASTM D5185m		47	7	94
Phosphorus	ppm	ASTM D5185m		329	330	397
Zinc	ppm	ASTM D5185m		422	421	488
Sulfur	ppm	ASTM D5185m		1036	935	1228
Acid Number (AN)	mg KOH/g	ASTM D8045		0.38	0.36	0.37
Visc @ 40°C	cSt	ASTM D445	64.6	63.9	65.4	63.0



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0948361 **Received** : 17 Jul 2024
Lab Number : 06239100 **Tested** : 18 Jul 2024
Unique Number : 11127934 **Diagnosed** : 18 Jul 2024 - Wes Davis
Test Package : CONST

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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)