



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR A934C-HD-LI C-48 (S/N 045988-1007)
Component
Hydraulic System
Fluid
CHEVRON RANDO HD 46 (91 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0920297	WC0794445	WC0723284
Sample Date		Client Info		24 Jun 2024	23 Jun 2023	29 Aug 2022
Machine Age	hrs	Client Info		26123	25091	23967
Oil Age	hrs	Client Info		2000	1124	929
Filter Age	hrs	Client Info		0	0	929
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Not Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	4	3	2
Chromium	ppm	ASTM D5185m	>5	1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>2	2	<1	1
Lead	ppm	ASTM D5185m	>4	<1	0	0
Copper	ppm	ASTM D5185m	>10	1	<1	1
Tin	ppm	ASTM D5185m	>2	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

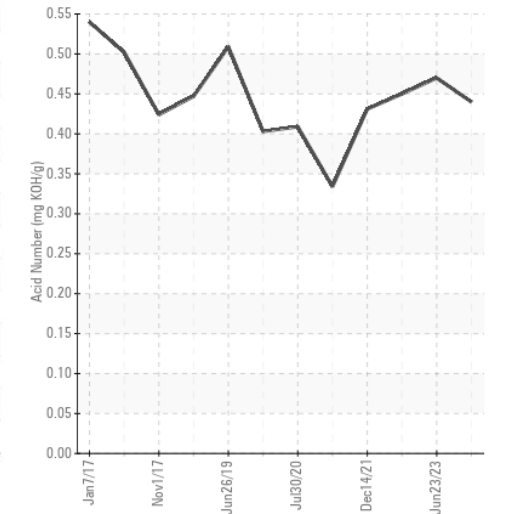
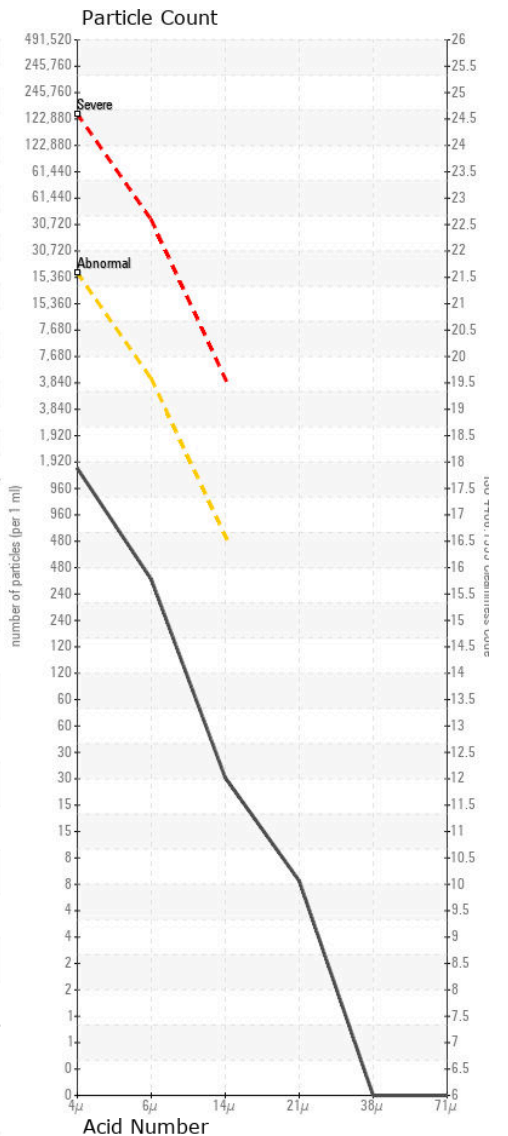
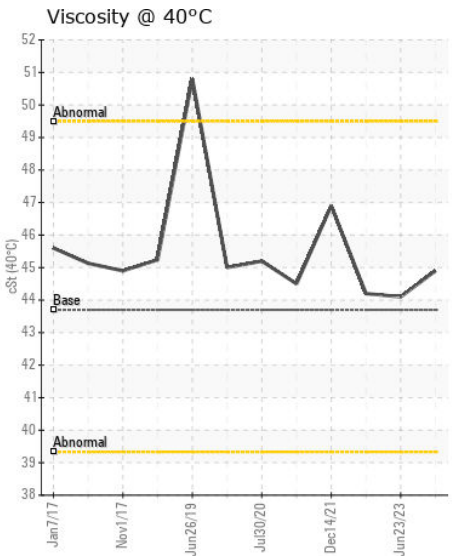
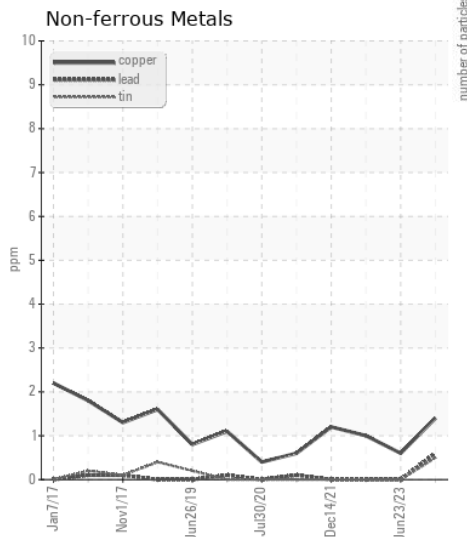
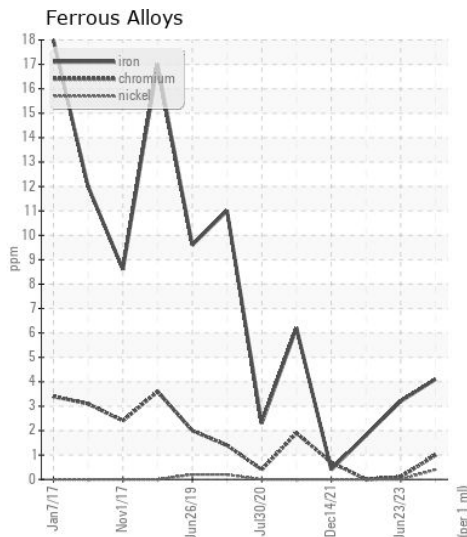
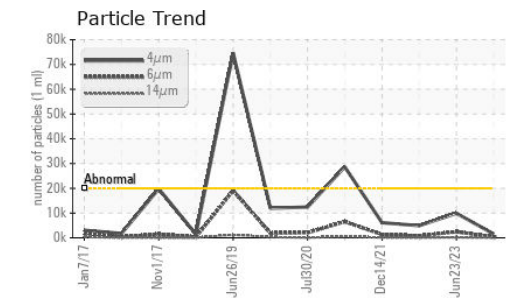
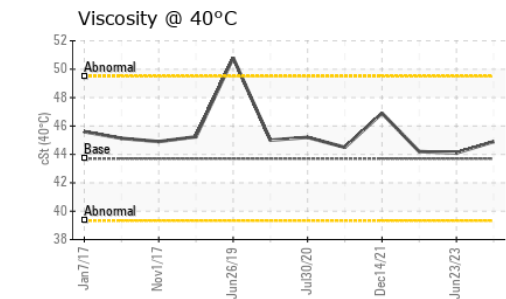
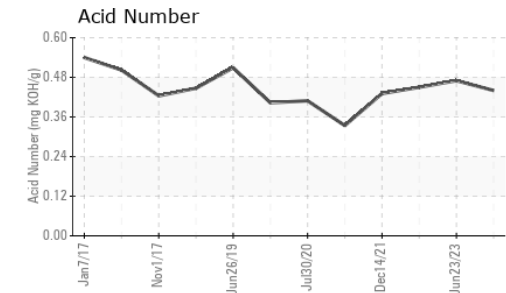
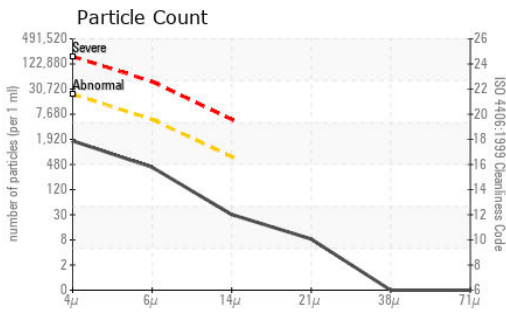
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>17	1	0	0
Potassium	ppm	ASTM D5185m	>20	1	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	1547	9911	4899
Particles >6µm		ASTM D7647	>5000	362	2430	806
Particles >14µm		ASTM D7647	>640	27	166	55
Particles >21µm		ASTM D7647	>160	7	41	16
Particles >38µm		ASTM D7647	>40	0	1	1
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	18/16/12	20/18/15	19/17/13
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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	1	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		2	5	0
Calcium	ppm	ASTM D5185m		59	81	55
Phosphorus	ppm	ASTM D5185m		296	348	342
Zinc	ppm	ASTM D5185m		454	450	415
Sulfur	ppm	ASTM D5185m		848	1047	957
Acid Number (AN)	mg KOH/g	ASTM D8045		0.44	0.47	0.45
Visc @ 40°C	cSt	ASTM D445	43.7	44.9	44.1	44.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0920297

Lab Number : 06223438

Unique Number : 11101635

Test Package : CONST

Received : 28 Jun 2024

Tested : 01 Jul 2024

Diagnosed : 01 Jul 2024 - Don Baldrige

FRANKLIN IRON & METAL CORP

1939 EAST 1ST ST

DAYTON, OH

US 45403

Contact: BILL PITTL JR

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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)