



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR CR-6611

Component
1 Winch

Fluid
GEAR OIL ISO 220 (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

WEAR

Gear wear is indicated.

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

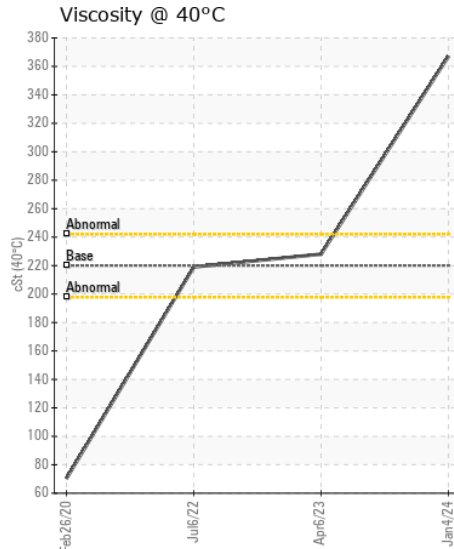
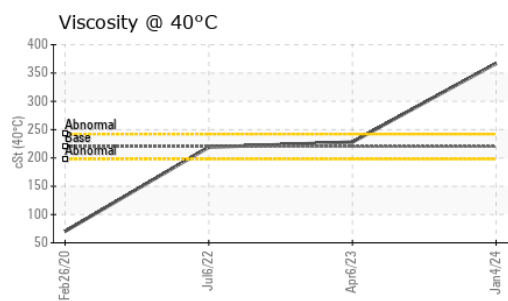
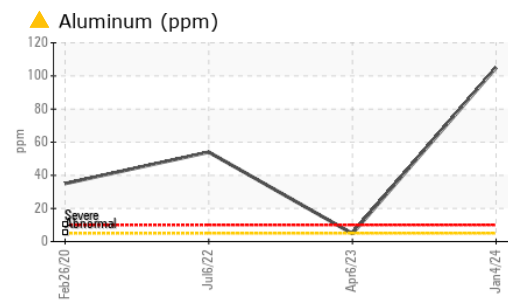
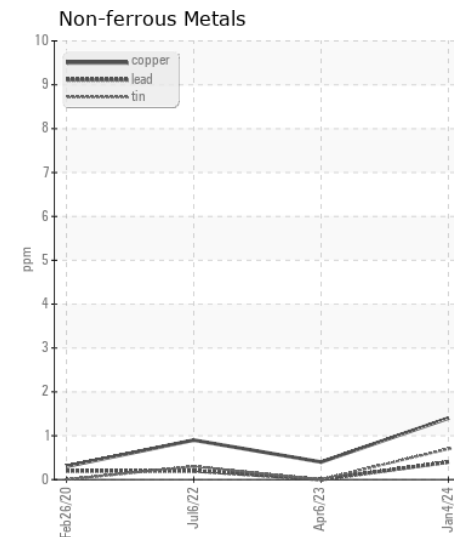
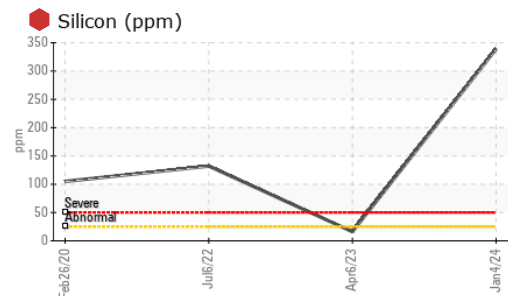
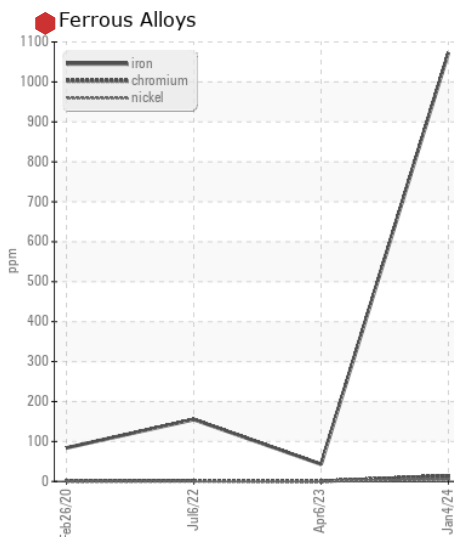
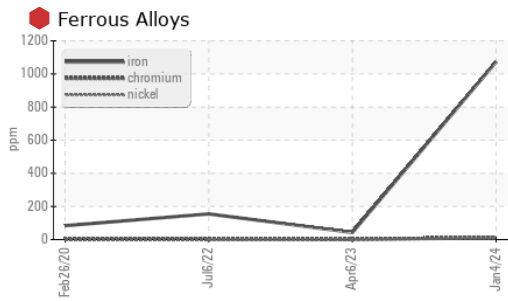
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0873348	WC0746699	WC0704516
Sample Date		Client Info		04 Jan 2024	06 Apr 2023	06 Jul 2022
Machine Age	hrs	Client Info		13887	13215	12454
Oil Age	hrs	Client Info		0	754	404
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	ABNORMAL

Iron	ppm	ASTM D5185m	>150	1073	43	155
Chromium	ppm	ASTM D5185m	>10	14	<1	2
Nickel	ppm	ASTM D5185m	>10	6	0	<1
Titanium	ppm	ASTM D5185m		4	<1	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>5	105	5	54
Lead	ppm	ASTM D5185m	>15	<1	0	<1
Copper	ppm	ASTM D5185m	>80	1	<1	<1
Tin	ppm	ASTM D5185m		<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>25	339	16	132
Potassium	ppm	ASTM D5185m	>20	17	3	11
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	MODER	MODER	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	>0.2	NEG	0.2%	0.2%

Sodium	ppm	ASTM D5185m		10	0	5
Boron	ppm	ASTM D5185m	50	29	12	54
Barium	ppm	ASTM D5185m	15	7	0	1
Molybdenum	ppm	ASTM D5185m	15	2	0	<1
Manganese	ppm	ASTM D5185m		6	<1	1
Magnesium	ppm	ASTM D5185m	50	24	2	11
Calcium	ppm	ASTM D5185m	50	170	10	38
Phosphorus	ppm	ASTM D5185m	350	737	404	623
Zinc	ppm	ASTM D5185m	100	38	11	24
Sulfur	ppm	ASTM D5185m	12500	6297	7383	16542
Visc @ 40°C	cSt	ASTM D445	220	367.1	228	219



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0873348 **Received** : 30 Jan 2024
Lab Number : **06074228** **Diagnosed** : 02 Feb 2024
Unique Number : 10856319 **Diagnostician** : Jonathan Hester
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)