



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
AMR-Cheyenne
Machine Id
143343-1217 LIEBHERR LH60M 143343-1217
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0017331	DJJ0017310	DJJ0017308
Sample Date		Client Info		21 Jun 2024	19 Mar 2024	07 Dec 2023
Machine Age	hrs	Client Info		0	2527	1893
Oil Age	hrs	Client Info		0	500	1893
Filter Age	hrs	Client Info		0	500	0
Oil Changed		Client Info		Not Changed	Not Changed	Changed
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	6	4	6
Chromium	ppm	ASTM D5185m	>40	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	0	<1	<1
Lead	ppm	ASTM D5185m	>5	0	0	<1
Copper	ppm	ASTM D5185m	>15	5	3	4
Tin	ppm	ASTM D5185m	>5	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

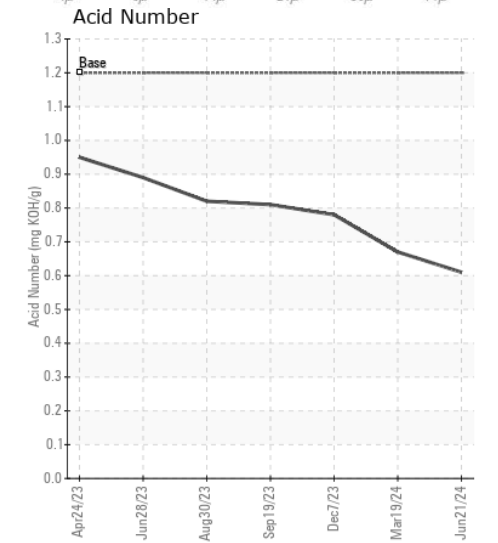
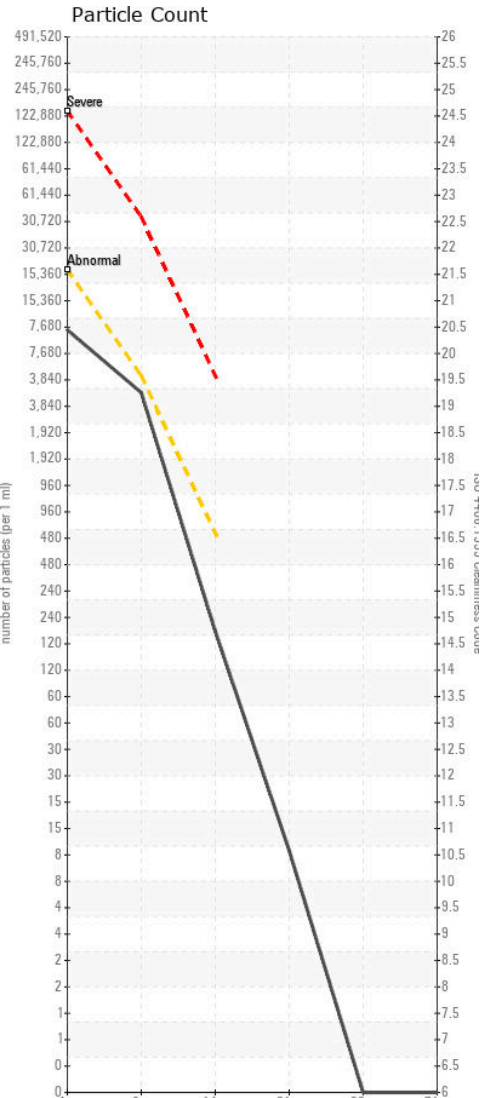
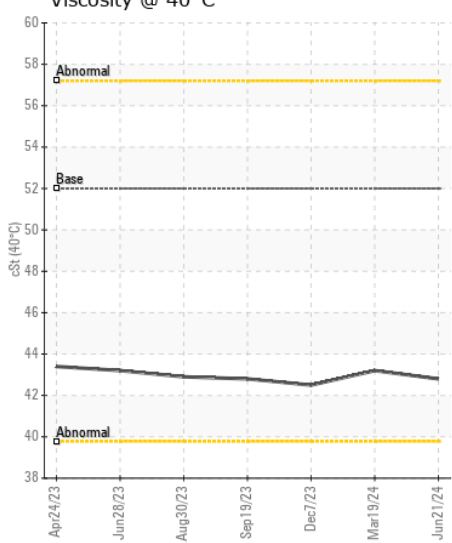
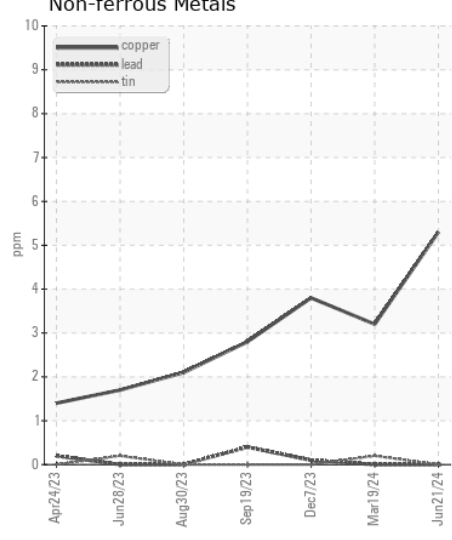
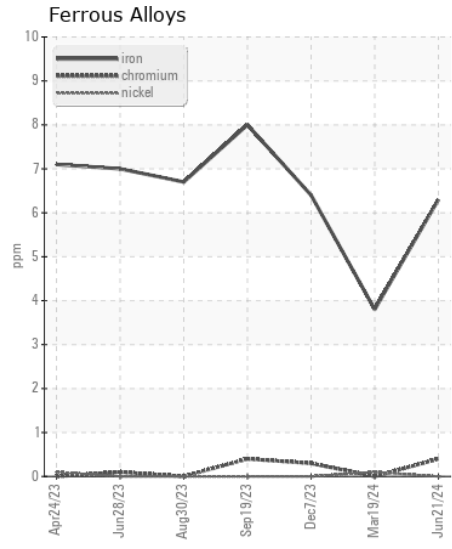
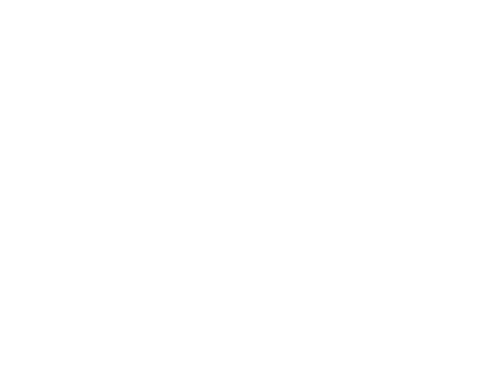
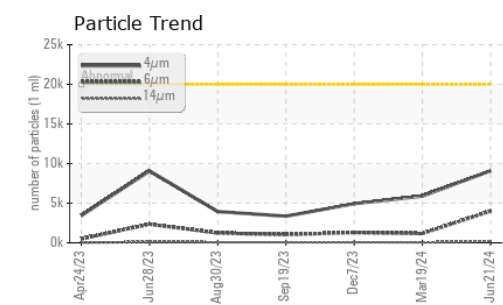
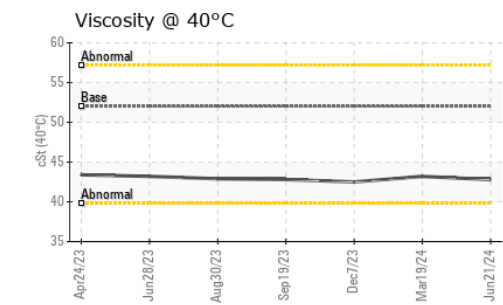
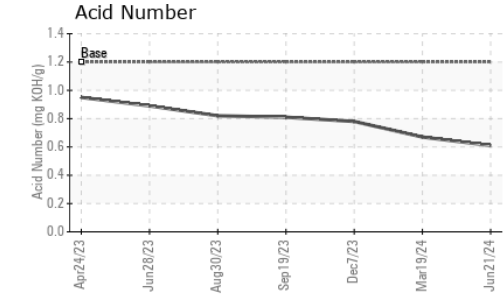
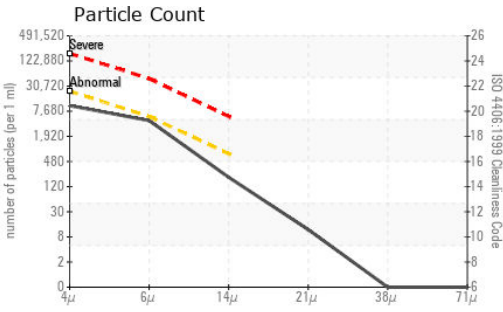
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	3	2	4
Potassium	ppm	ASTM D5185m	>20	0	<1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	9097	5898	4940
Particles >6µm		ASTM D7647	>5000	4004	1171	1300
Particles >14µm		ASTM D7647	>640	177	51	71
Particles >21µm		ASTM D7647	>160	10	8	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	20/19/15	20/17/13	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		3	3	2
Boron	ppm	ASTM D5185m		2	2	4
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	7	1	4	8
Calcium	ppm	ASTM D5185m	1500	360	374	729
Phosphorus	ppm	ASTM D5185m	750	387	416	503
Zinc	ppm	ASTM D5185m	820	450	505	608
Sulfur	ppm	ASTM D5185m	4000	1831	1997	2864
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.61	0.67	0.78
Visc @ 40°C	cSt	ASTM D445	52	42.8	43.2	42.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0017331 **Received** : 27 Jun 2024
Lab Number : 06222820 **Tested** : 01 Jul 2024
Unique Number : 11101017 **Diagnosed** : 01 Jul 2024 - Jonathan Hester
Test Package : CONST

ADVANTAGE METALS RECYCLING - CHEYENNE
 1015 S. PACKARD ST
 KANSAS CITY, KS
 US 66105
 Contact: BRIAN JACOBS
 BRIAN.JACOBS@ADVANTAGERECYCLING.COM
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Certificate L2367
 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)