



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
AMR-St Joe
Machine Id
115441 LIEBHERR LH50 115441
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		DJJ0018515	DJJ0018479	DJJ0018530
Sample Date		Client Info		18 Jun 2024	10 Jan 2024	30 May 2023
Machine Age	hrs	Client Info		0	1496	998
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	28	23	14
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>2	0	<1	1
Lead	ppm	ASTM D5185m	>4	0	2	<1
Copper	ppm	ASTM D5185m	>10	4	4	3
Tin	ppm	ASTM D5185m	>2	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

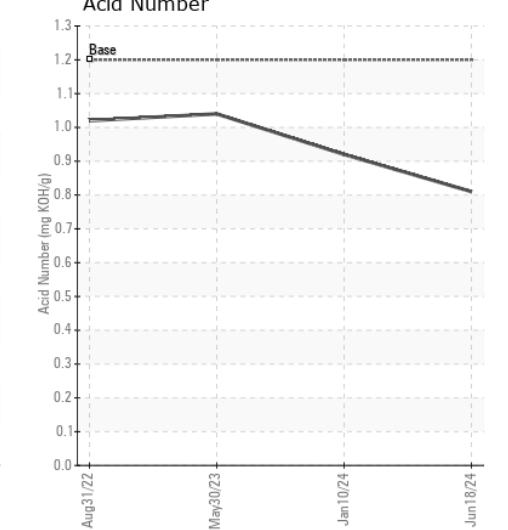
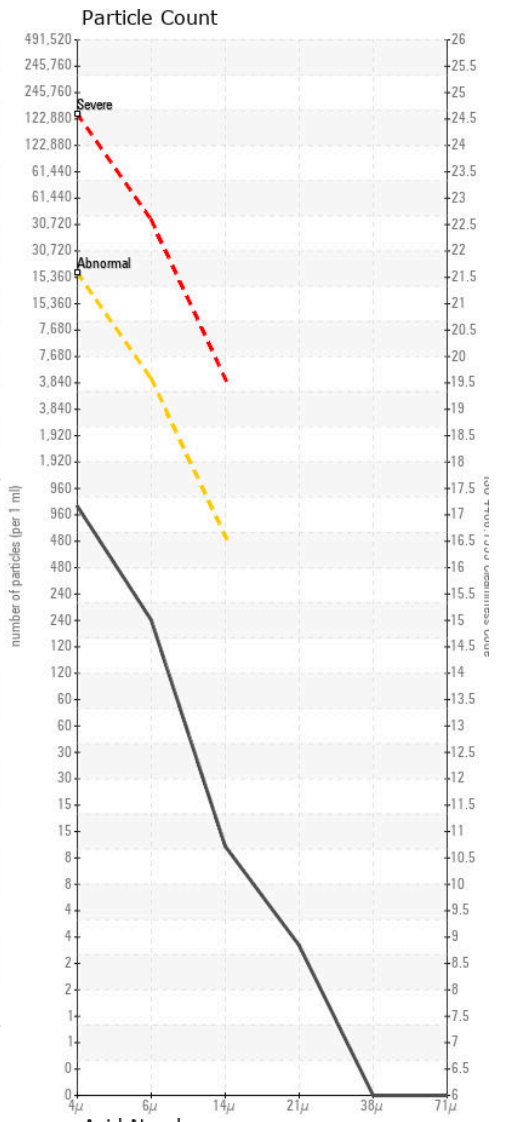
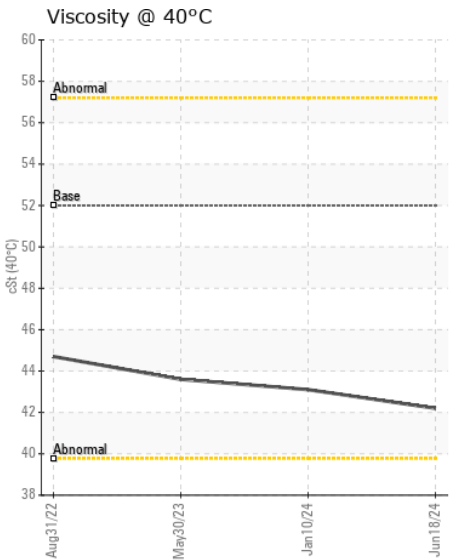
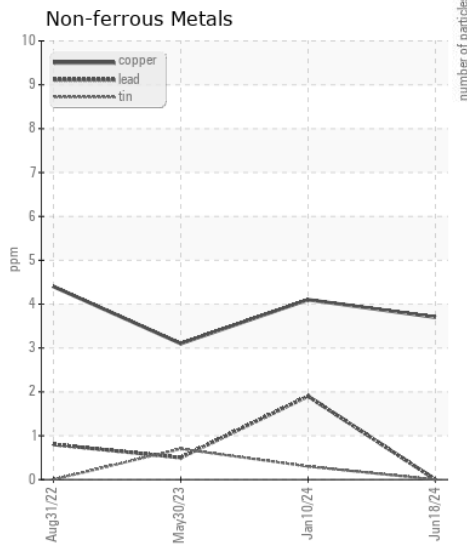
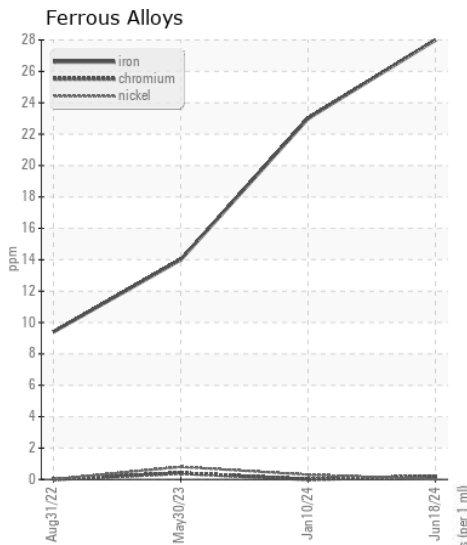
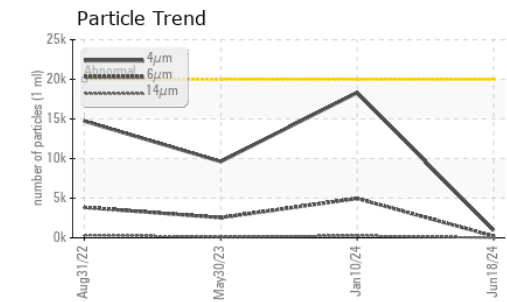
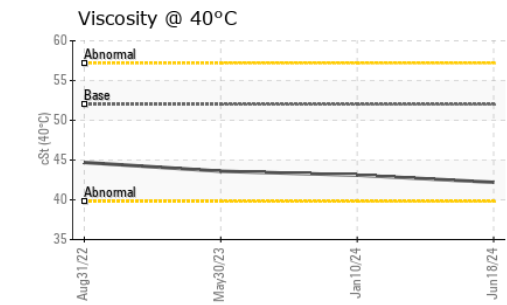
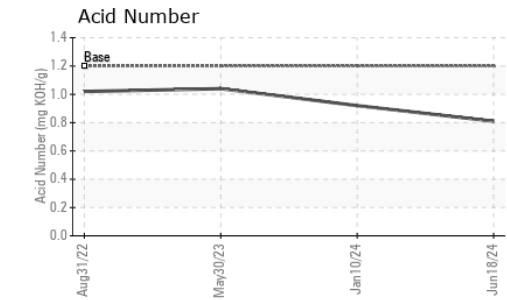
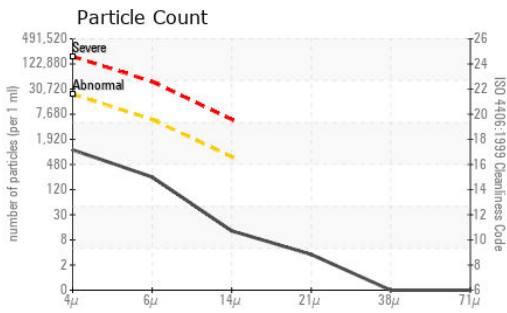
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>17	2	1	<1
Potassium	ppm	ASTM D5185m	>20	0	2	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	942	18311	9618
Particles >6µm		ASTM D7647	>5000	212	4958	2541
Particles >14µm		ASTM D7647	>640	11	263	114
Particles >21µm		ASTM D7647	>160	3	53	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	17/15/11	21/19/15	20/19/14
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		0	0	0
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	7	2	7	6
Calcium	ppm	ASTM D5185m	1500	794	938	1092
Phosphorus	ppm	ASTM D5185m	750	435	513	559
Zinc	ppm	ASTM D5185m	820	511	608	688
Sulfur	ppm	ASTM D5185m	4000	2829	3382	4319
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.81	0.92	1.04
Visc @ 40°C	cSt	ASTM D445	52	42.2	43.1	43.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0018515
Lab Number : 06222821
Unique Number : 11101018
Test Package : CONST

Received : 27 Jun 2024
Tested : 01 Jul 2024
Diagnosed : 01 Jul 2024 - Wes Davis

ADVANTAGE METALS RECYCLING - ST JOSEPH
 750 S 4TH ST
 ST JOSEPH, MO
 US 64501

Contact: RICK ARCHER
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 F: (816)364-3611

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)