



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
AMR-Topeka
Machine Id
17593 LIEBHERR A934CHD 056656-1007
Component
Front Left Wheel Hub
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0018413	DJJ0019420	DJJ0018601
Sample Date		Client Info		06 Feb 2024	01 Aug 2023	28 Feb 2023
Machine Age	hrs	Client Info		15401	14921	14412
Oil Age	hrs	Client Info		500	1000	500
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>450	37	46	82
Chromium	ppm	ASTM D5185m	>4	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	<1	1
Lead	ppm	ASTM D5185m	>4	0	0	0
Copper	ppm	ASTM D5185m	>75	13	16	24
Tin	ppm	ASTM D5185m		<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

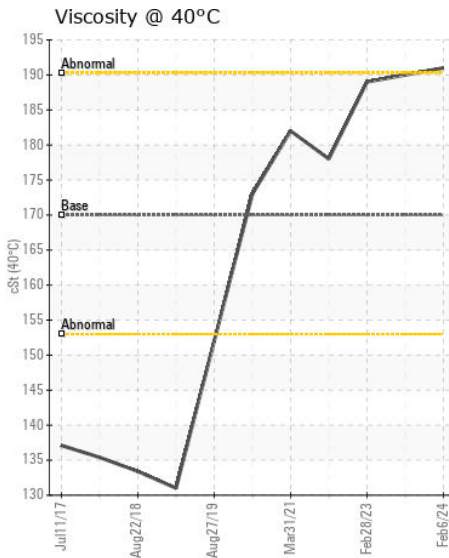
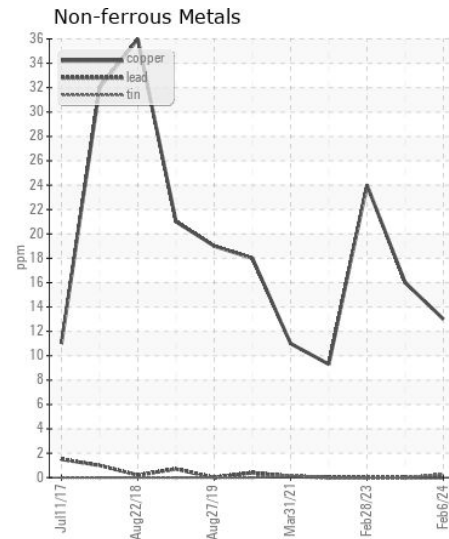
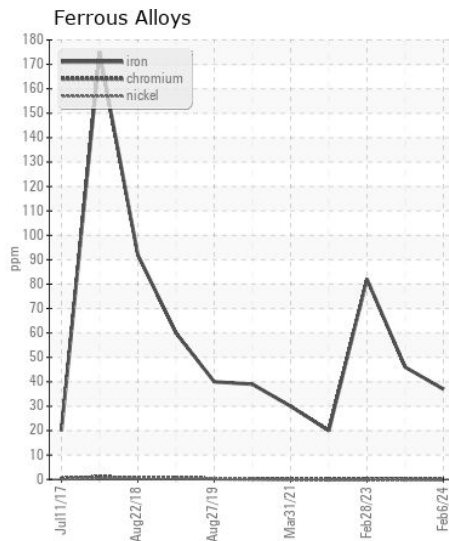
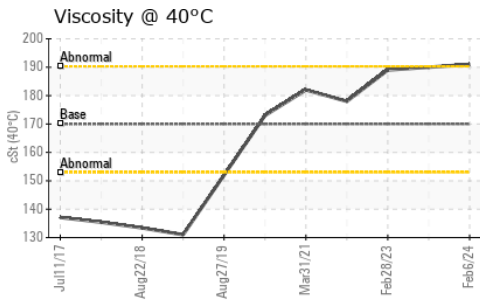
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	4	6	8
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	▲ MODER
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	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	3	4
Boron	ppm	ASTM D5185m	0	21	32	48
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0	0
Manganese	ppm	ASTM D5185m	0	1	1	2
Magnesium	ppm	ASTM D5185m	<1	0	2	4
Calcium	ppm	ASTM D5185m	<1	7	6	2
Phosphorus	ppm	ASTM D5185m	2143	2229	2497	2054
Zinc	ppm	ASTM D5185m	<1	6	8	26
Sulfur	ppm	ASTM D5185m	23468	27566	34412	25056
Visc @ 40°C	cSt	ASTM D445	170	191	190	189



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0018413
Lab Number : 06087801
Unique Number : 10875246
Test Package : CONST

Received : 13 Feb 2024
Tested : 14 Feb 2024
Diagnosed : 14 Feb 2024 - Wes Davis

ADVANTAGE METALS RECYCLING - TOPEKA
 1628 NW GORDON ST
 TOPEKA, KS
 US 66608

Contact: SETH WATSON
 SETH.WATSON@ADVANTAGERECYCLING.COM

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)

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