



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
AMR-Columbus
Machine Id
17571 LIEBHERR R924CEW 031533-1069
Component
Left Final Drive
Fluid
LIEBHERR GEAR BASIC 90 LS (1 GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0017214	DJJ0017123	DJJ0017116
Sample Date		Client Info		08 Apr 2024	27 Nov 2023	27 Jul 2023
Machine Age	hrs	Client Info		14011	13372	12824
Oil Age	hrs	Client Info		1500	1000	500
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The chromium level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	298	179	171
Chromium	ppm	ASTM D5185m	>10	▲ 12	6	7
Nickel	ppm	ASTM D5185m	>10	2	0	<1
Titanium	ppm	ASTM D5185m		2	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	● 17	● 10	● 13
Lead	ppm	ASTM D5185m	>25	<1	0	0
Copper	ppm	ASTM D5185m	>50	26	18	18
Tin	ppm	ASTM D5185m	>10	<1	<1	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

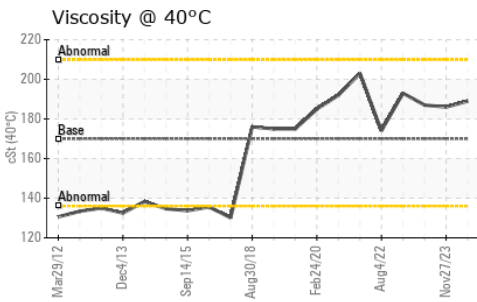
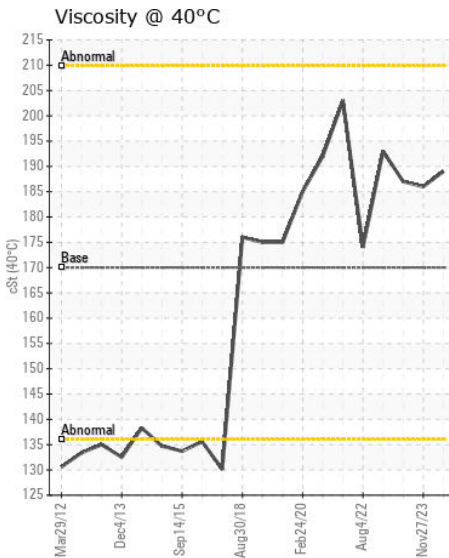
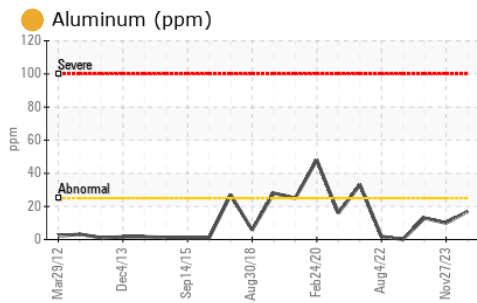
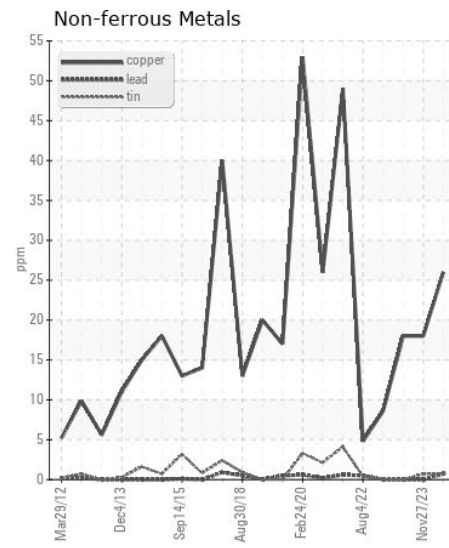
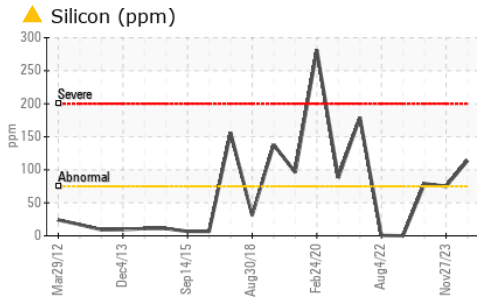
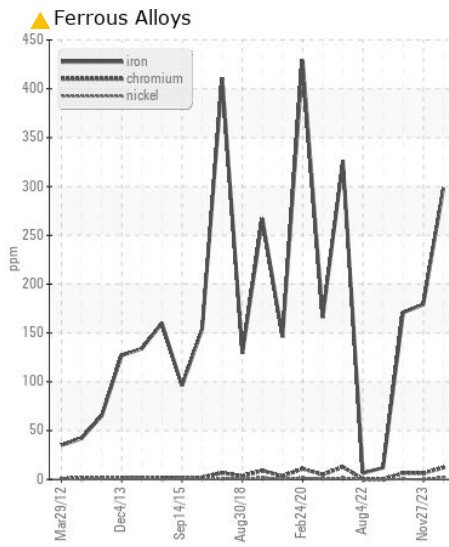
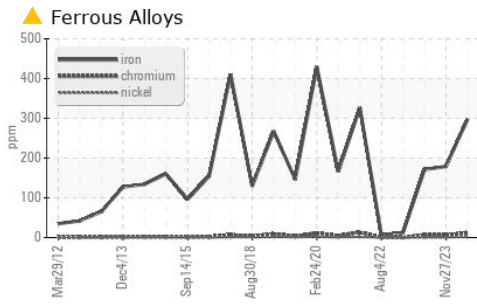
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>75	▲ 114	▲ 75	▲ 79
Potassium	ppm	ASTM D5185m	>20	5	2	4
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	LIGHT
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	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		5	5	5
Boron	ppm	ASTM D5185m	0	19	6	0
Barium	ppm	ASTM D5185m	0	2	0	0
Molybdenum	ppm	ASTM D5185m	0	2	0	<1
Manganese	ppm	ASTM D5185m	0	2	2	2
Magnesium	ppm	ASTM D5185m	<1	7	3	5
Calcium	ppm	ASTM D5185m	<1	246	175	169
Phosphorus	ppm	ASTM D5185m	2143	2377	2231	2513
Zinc	ppm	ASTM D5185m	<1	25	16	6
Sulfur	ppm	ASTM D5185m	23468	61600	27070	35890
Visc @ 40°C	cSt	ASTM D445	170	189	186	187



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0017214
Lab Number : 06150744
Unique Number : 10980822
Test Package : CONST

Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 18 Apr 2024 - Don Baldrige

ADVANTAGE METALS RECYCLING - COLUMBUS
 2466 NW K-7 HWY
 COLUMBUS, KS
 US 66725

Contact: TERRY PROFFITT
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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)

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