



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR A934C-HD-LI C-49 (S/N 045168-1006)
Component
Swing Drive
Fluid
KENDALL LIMITED 80W90 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0899809	WC0819348	WC0692220
Sample Date		Client Info		27 Feb 2024	26 Jun 2023	26 Sep 2022
Machine Age	hrs	Client Info		27156	26065	24774
Oil Age	hrs	Client Info		1091	1291	970
Filter Age	hrs	Client Info		0	0	970
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Not Changed	Changed	Changed
Sample Status				MARGINAL	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>1450	842	825	▲ 1661
Chromium	ppm	ASTM D5185m	>11	6	5	15
Nickel	ppm	ASTM D5185m	>3	1	1	1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>4	<1	<1	3
Lead	ppm	ASTM D5185m	>4	2	<1	<1
Copper	ppm	ASTM D5185m	>542	191	169	288
Tin	ppm	ASTM D5185m	>38	7	10	10
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

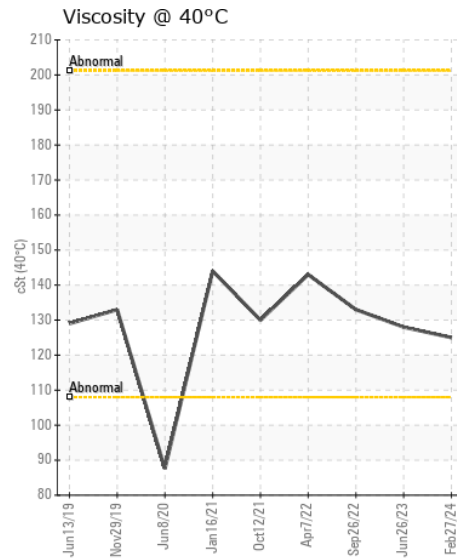
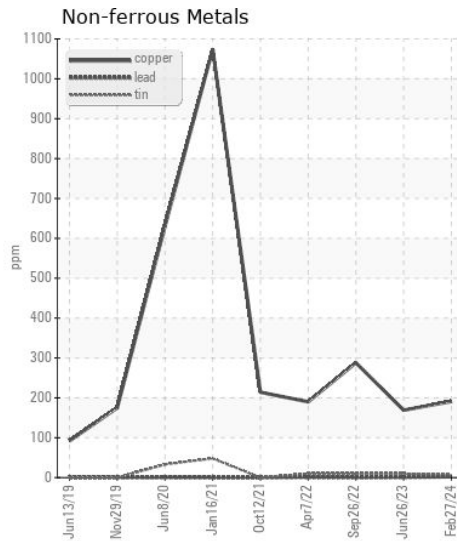
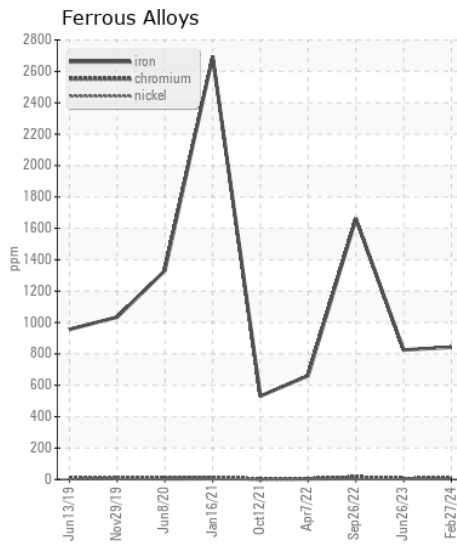
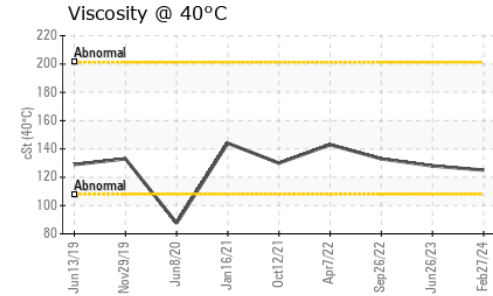
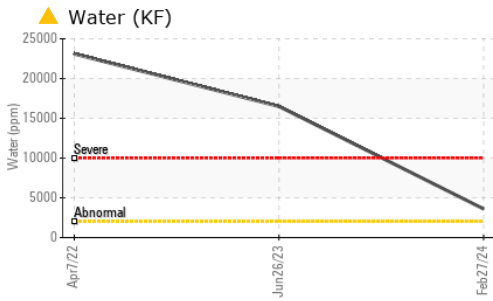
There is a light concentration of water present in the oil.

Silicon	ppm	ASTM D5185m	>15	8	6	8
Potassium	ppm	ASTM D5185m	>20	0	5	1
Water	%	ASTM D6304	>0.2	▲ 0.360	▲ 1.65	---
ppm Water	ppm	ASTM D6304	>2000	▲ 3600	▲ 16500	---
Silt	scalar	*Visual	NONE	NONE	▲ HEAVY	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	0.2%	▲ 0.2%	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	<1	0
Boron	ppm	ASTM D5185m		40	69	233
Barium	ppm	ASTM D5185m		3	0	0
Molybdenum	ppm	ASTM D5185m		2	<1	2
Manganese	ppm	ASTM D5185m		6	7	13
Magnesium	ppm	ASTM D5185m		4	4	10
Calcium	ppm	ASTM D5185m		55	13	36
Phosphorus	ppm	ASTM D5185m		642	723	1713
Zinc	ppm	ASTM D5185m		35	40	37
Sulfur	ppm	ASTM D5185m		19927	21116	27985
Visc @ 40°C	cSt	ASTM D445		125	128	133



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0899809 **Received** : 29 Feb 2024
Lab Number : 06105547 **Tested** : 04 Mar 2024
Unique Number : 10903777 **Diagnosed** : 04 Mar 2024 - Don Baldrige
Test Package : CONST (Additional Tests: KF)

FRANKLIN IRON & METAL CORP
 1939 EAST 1ST ST
 DAYTON, OH
 US 45403
 Contact: BILL PITTL JR
 parts@frankliniron.com
 T: (937)253-8184
 F:

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)