



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR A944C-HD-LI C-47 (S/N 041373-194)
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0899823	WC0869365	WC0794431
Sample Date		Client Info		13 Feb 2024	15 Nov 2023	13 Apr 2023
Machine Age	hrs	Client Info		18026	17631	16797
Oil Age	hrs	Client Info		392	2488	16797
Filter Age	hrs	Client Info		392	2488	244
Oil Changed		Client Info		Not Chngd	Changed	Changed
Filter Changed		Client Info		Not Chngd	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	8	14	6
Chromium	ppm	ASTM D5185m	>5	0	<1	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		70	71	89
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	2	0
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>125	1	2	<1
Tin	ppm	ASTM D5185m	>5	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

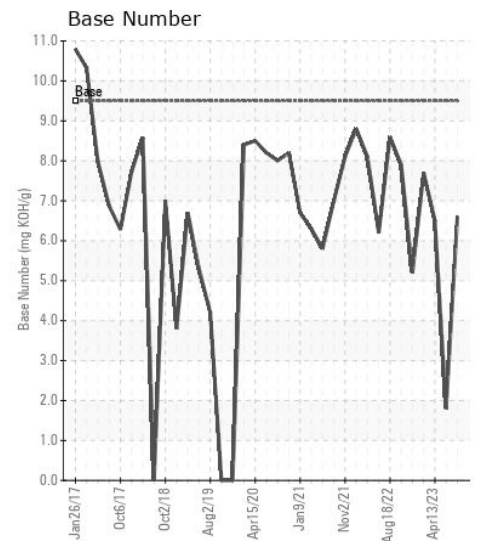
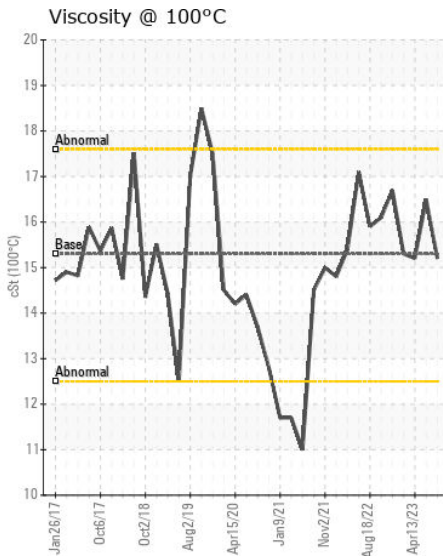
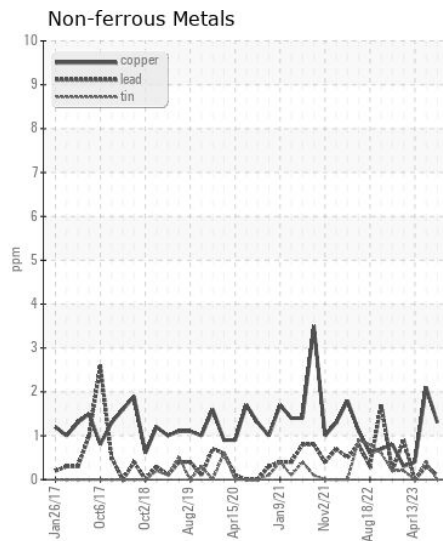
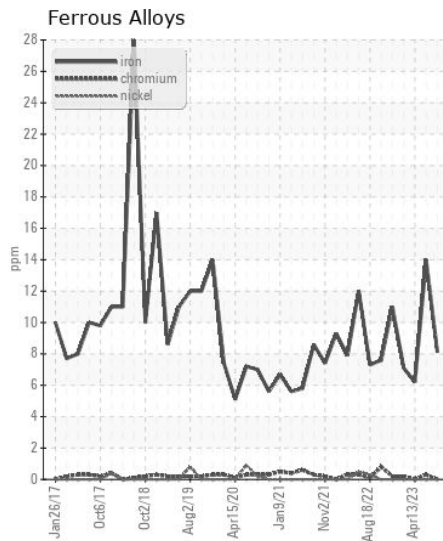
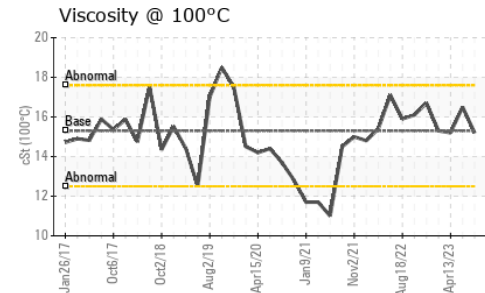
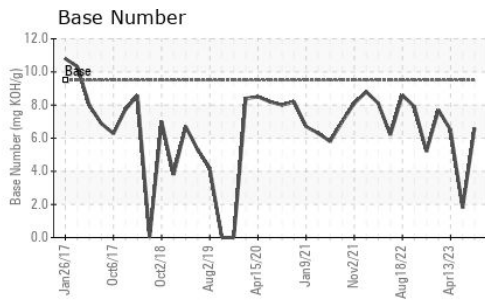
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	7	6	6
Potassium	ppm	ASTM D5185m	>20	8	2	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	2.4	▲ 4	2
Nitration	Abs/cm	*ASTM D7624	>20	8.3	10.5	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.5	26.6	20.0
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	2	<1
Boron	ppm	ASTM D5185m	85	81	42	101
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		6	4	4
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	350	424	383	389
Calcium	ppm	ASTM D5185m	1800	1732	1498	1776
Phosphorus	ppm	ASTM D5185m	1000	975	828	976
Zinc	ppm	ASTM D5185m	1100	1159	1090	1186
Sulfur	ppm	ASTM D5185m	3500	3673	2995	3842
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	14.7	13.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	6.6	▲ 1.8	6.5
Visc @ 100°C	cSt	ASTM D445	15.3	15.2	▲ 16.5	15.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0899823

Lab Number : 06101297

Unique Number : 10899527

Test Package : CONST (Additional Tests: TBN)

Received : 27 Feb 2024

Tested : 28 Feb 2024

Diagnosed : 28 Feb 2024 - Wes Davis

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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)