



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**LIEBHERR A934C 065595-1007**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0267142</b>	LHMC126132	LHMC88793
Sample Date		Client Info		<b>18 Apr 2024</b>	06 Sep 2018	20 Sep 2017
Machine Age	hrs	Client Info		<b>55376</b>	17429	13216
Oil Age	hrs	Client Info		<b>0</b>	0	315
Filter Age	hrs	Client Info		<b>0</b>	0	315
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	Changed
Filter Changed		Client Info		<b>Not Chngd</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	<b>4</b>	7	7
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>&lt;1</b>	1	<1
Lead	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>74	<b>0</b>	<1	2
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	6
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

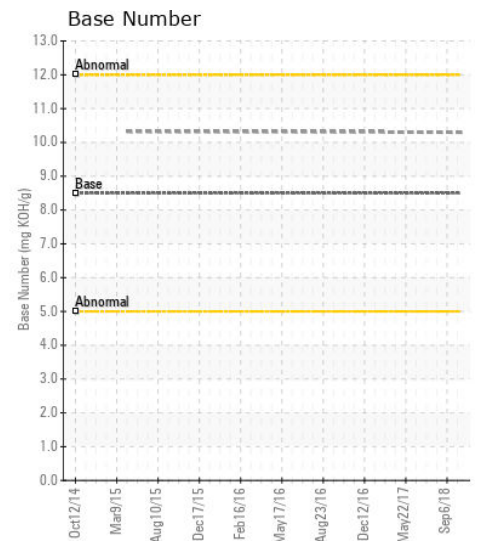
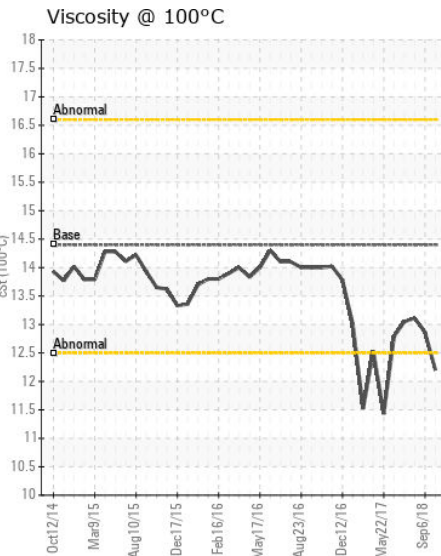
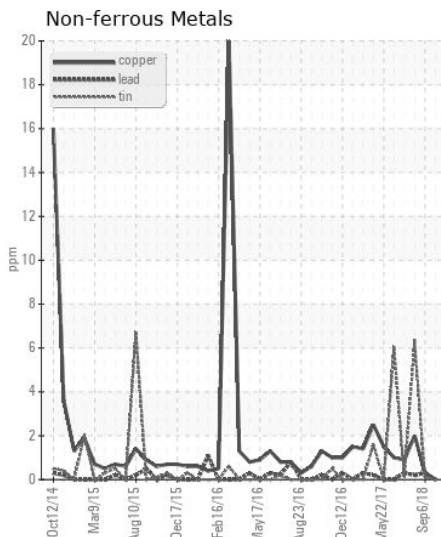
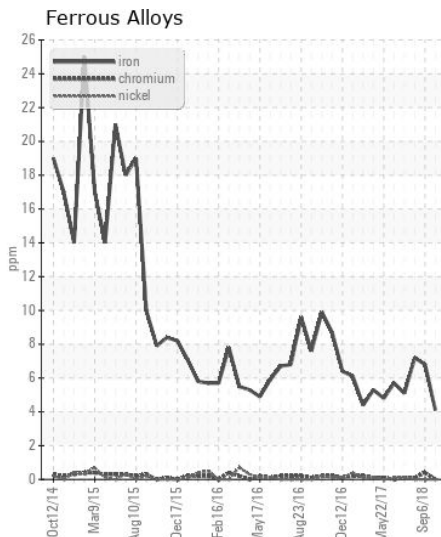
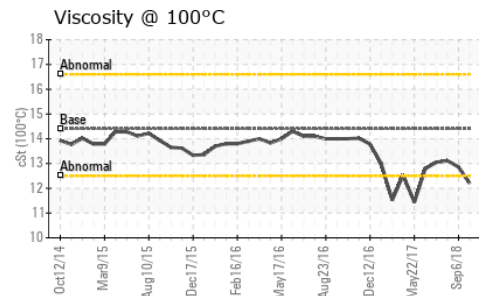
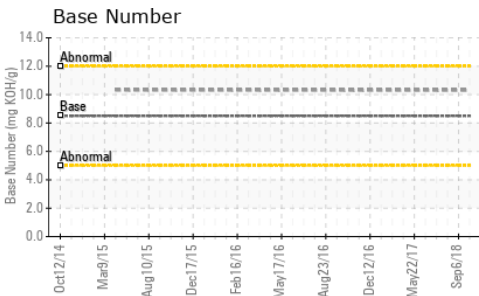
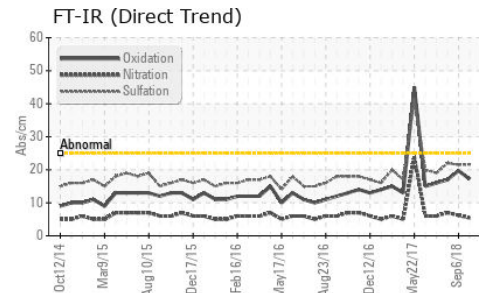
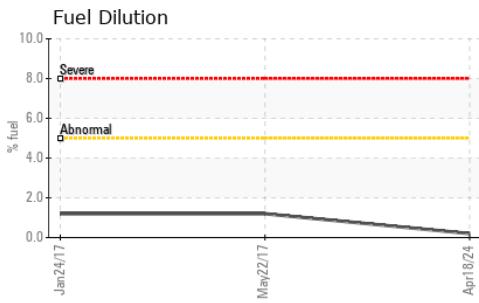
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>9</b>	2	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	2
Fuel	%	ASTM D3524	>5	<b>0.2</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.4	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.4</b>	6.2	7.
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.6</b>	21.5	22.
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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	>158	<b>1</b>	4	4
Boron	ppm	ASTM D5185m	250	<b>61</b>	39	38
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>37</b>	39	43
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>466</b>	470	507
Calcium	ppm	ASTM D5185m	3000	<b>2094</b>	1645	1824
Phosphorus	ppm	ASTM D5185m	1150	<b>884</b>	700	697
Zinc	ppm	ASTM D5185m	1350	<b>1052</b>	815	881
Sulfur	ppm	ASTM D5185m	4250	<b>3501</b>	2700	2480
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.2</b>	19.7	17.
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>10.3</b>	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.2</b>	12.86	13.11



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0267142 **Received** : 24 Apr 2024  
**Lab Number** : 06159744 **Tested** : 29 Apr 2024  
**Unique Number** : 10995167 **Diagnosed** : 29 Apr 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**DOMTAR PULP AND PAPER**  
 301 POINT BASSE AVE  
 NEKOOSA, WI  
 US 54457  
 Contact: MARK SNYDER  
 mark.snyder@domtar.com  
 T: (715)675-6900  
 F: (715)675-9748

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)