CONST

LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR LH50M 1203-78470
Component
Diesel Engine
Fluid
LIEBHERR MOTOROIL 10W-40 LOW ASH (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

Metal levels are typical for a new component breaking in.

CONTAMINATION

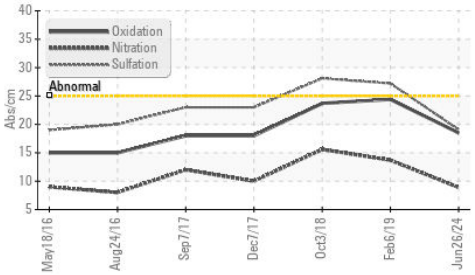
There is no indication of any contamination in the oil.

FLUID CONDITION

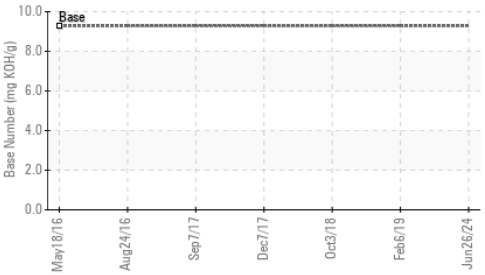
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0264418	LHMC72906	LHMC103565
Sample Date		Client Info		26 Jun 2024	06 Feb 2019	03 Oct 2018
Machine Age	hrs	Client Info		246	5203	4452
Oil Age	hrs	Client Info		246	751	712
Filter Age	hrs	Client Info		246	751	712
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	29	59	51
Chromium	ppm	ASTM D5185m	>5	<1	3	2
Nickel	ppm	ASTM D5185m	>5	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	5	23	13
Lead	ppm	ASTM D5185m	>30	4	17	28
Copper	ppm	ASTM D5185m	>125	25	10	19
Tin	ppm	ASTM D5185m	>5	2	1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>60	12	9	8
Potassium	ppm	ASTM D5185m	>20	16	4	5
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	0.2	1.2	1.4
Nitration	Abs/cm	*ASTM D7624	>20	8.9	13.7	15.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	27.2	28.1
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
Sodium	ppm	ASTM D5185m		6	3	6
Boron	ppm	ASTM D5185m	169	140	34	8
Barium	ppm	ASTM D5185m	0	21	<1	0
Molybdenum	ppm	ASTM D5185m	2	4	0	<1
Manganese	ppm	ASTM D5185m	<1	2	<1	2
Magnesium	ppm	ASTM D5185m	724	781	215	20
Calcium	ppm	ASTM D5185m	1323	1604	1952	2481
Phosphorus	ppm	ASTM D5185m	678	868	625	546
Zinc	ppm	ASTM D5185m	776	988	715	788
Sulfur	ppm	ASTM D5185m	2859	4787	2903	2052
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.5	24.4	23.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.28	9.5	---	---
Visc @ 100°C	cSt	ASTM D445	13.0	13.1	13.58	15.3

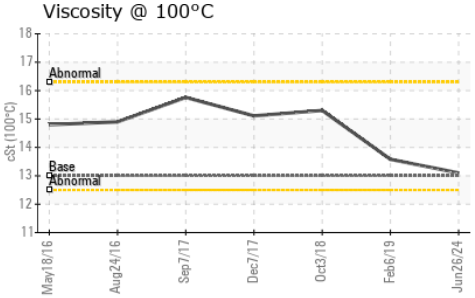
FT-IR (Direct Trend)



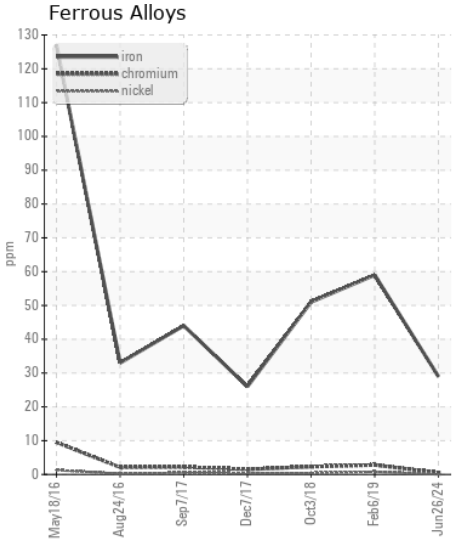
Base Number



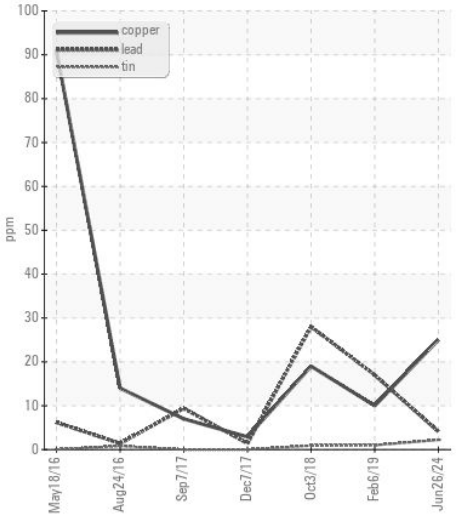
Viscosity @ 100°C



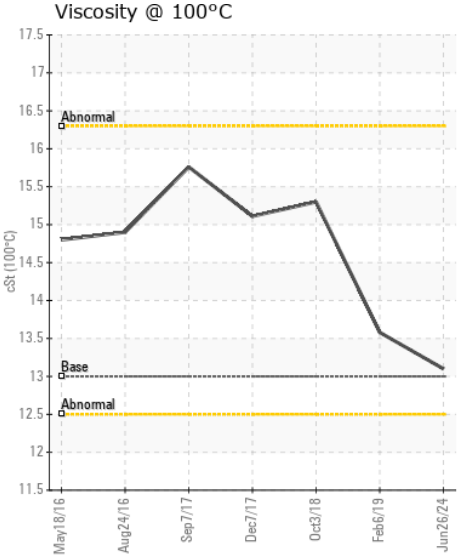
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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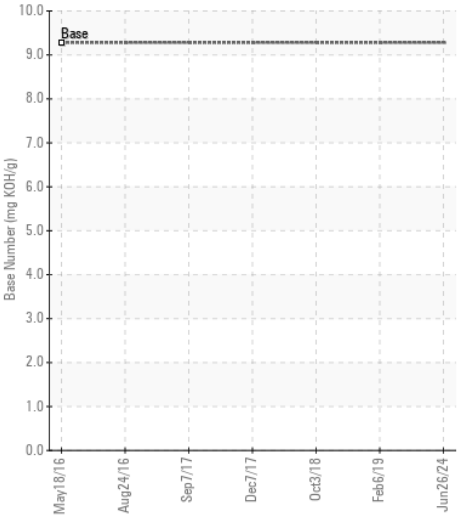

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0264418
Lab Number : 06229412
Unique Number : 11112905
Test Package : CONST (Additional Tests: TBN)

Received : 05 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Wes Davis

PSC METALS INC
214 GARDNER AVE
NEW CASTLE, PA
US 16101
Contact: SERVICE MANAGER

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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