CONST

LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR L586 046715-1334
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

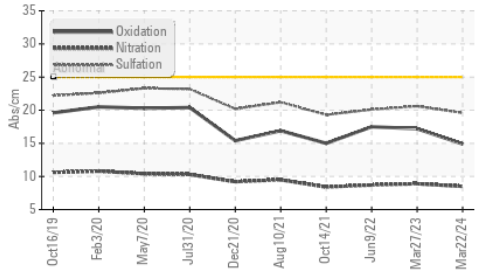
There is no indication of any contamination in the oil.

FLUID CONDITION

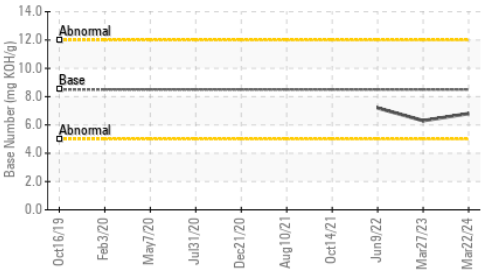
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258906	LH0254410	LH0220317
Sample Date		Client Info		22 Mar 2024	27 Mar 2023	09 Jun 2022
Machine Age	hrs	Client Info		11124	10000	9047
Oil Age	hrs	Client Info		1000	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	<1	4	4
Chromium	ppm	ASTM D5185m	>5	0	0	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	0	<1
Lead	ppm	ASTM D5185m	>30	0	<1	0
Copper	ppm	ASTM D5185m	>125	0	<1	<1
Tin	ppm	ASTM D5185m	>5	<1	0	<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	7	8	7
Potassium	ppm	ASTM D5185m	>20	3	2	0
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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.5	8.9	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	20.6	20.1
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	>44	2	2	2
Boron	ppm	ASTM D5185m	250	79	87	92
Barium	ppm	ASTM D5185m	10	<1	2	0
Molybdenum	ppm	ASTM D5185m	100	2	21	40
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	450	733	615	726
Calcium	ppm	ASTM D5185m	3000	1314	1413	1237
Phosphorus	ppm	ASTM D5185m	1150	765	776	891
Zinc	ppm	ASTM D5185m	1350	879	915	1125
Sulfur	ppm	ASTM D5185m	4250	3635	2926	3087
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	17.2	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.8	6.3	7.2
Visc @ 100°C	cSt	ASTM D445	14.4	14.0	13.5	13.8

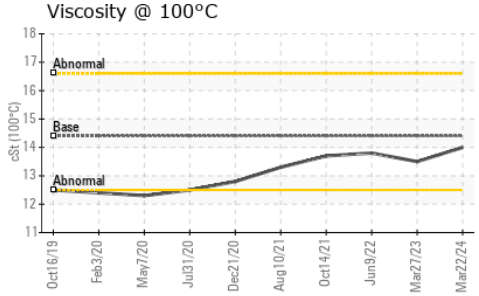
FT-IR (Direct Trend)



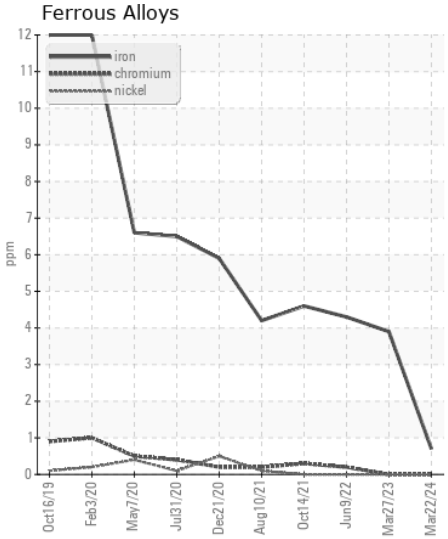
Base Number



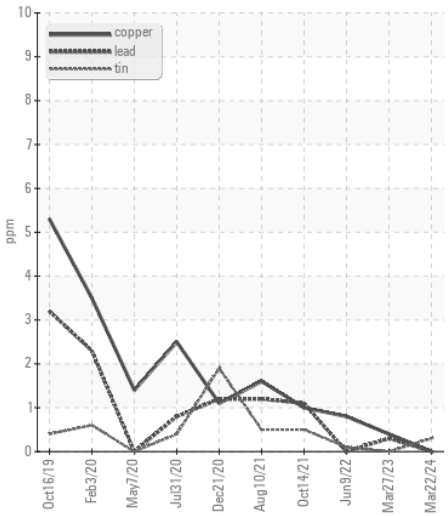
Viscosity @ 100°C



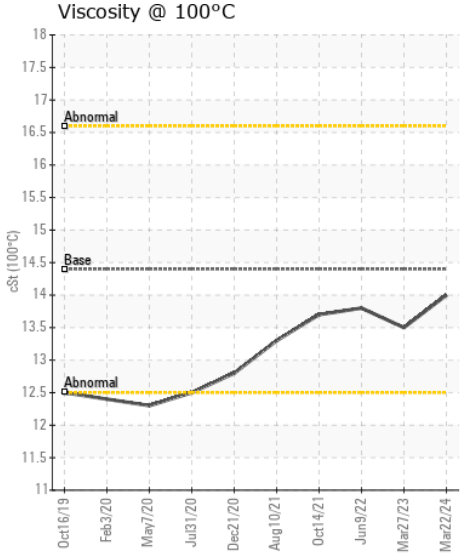
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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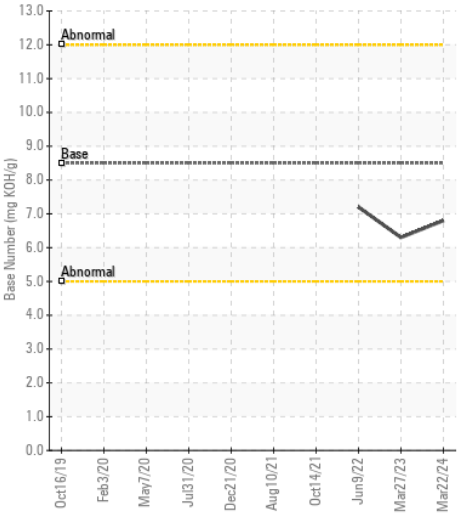

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0258906
Lab Number : 06146351
Unique Number : 10976429
Test Package : CONST (Additional Tests: TBN)

Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 12 Apr 2024 - Wes Davis

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)

OZINGA BROS INC
19001 OLD LAGRANDE RD, SUITE 300
MOKENA, IL
US 60448
Contact: TOM KONIECZNY
tom.konieczny@imcrushingllc.com
T: (847)344-1443
F: