CONST

LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
LIEBHERR R954 014564-629
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W40 (6 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

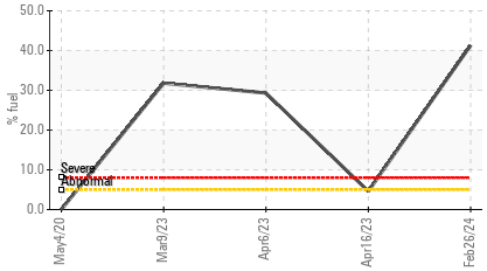
There is a high amount of fuel present in the oil.

FLUID CONDITION

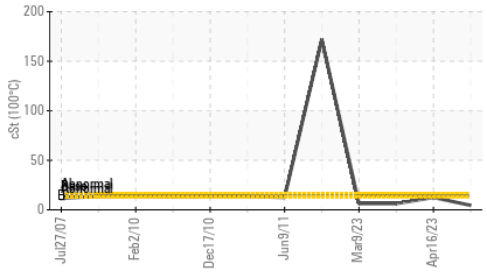
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258528	LH0254318	LH0254404
Sample Date		Client Info		26 Feb 2024	16 Apr 2023	06 Apr 2023
Machine Age	hrs	Client Info		15490	15292	0
Oil Age	hrs	Client Info		198	1	0
Filter Age	hrs	Client Info		198	0	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Filter Changed		Client Info		N/A	Not Changd	N/A
Sample Status				SEVERE	MARGINAL	SEVERE
Iron	ppm	ASTM D5185m	>100	8	<1	0
Chromium	ppm	ASTM D5185m	>5	1	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	<1	0
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>125	2	0	2
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>60	8	8	6
Potassium	ppm	ASTM D5185m	>20	4	2	<1
Fuel	%	ASTM D3524	>5	▲ 41.3	▲ 4.6	▲ 29.3
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.6	3.8	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.7	15.8	16.4
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	<1	0
Boron	ppm	ASTM D5185m	250	45	6	13
Barium	ppm	ASTM D5185m	10	2	0	0
Molybdenum	ppm	ASTM D5185m	100	9	49	36
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	450	329	369	284
Calcium	ppm	ASTM D5185m	3000	● 723	1655	1154
Phosphorus	ppm	ASTM D5185m	1150	● 402	931	689
Zinc	ppm	ASTM D5185m	1350	● 479	1191	819
Sulfur	ppm	ASTM D5185m	4250	1808	3414	2152
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.3	12.1	11.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.8	8.1	7.5
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 4.5	12.5	▲ 6.3

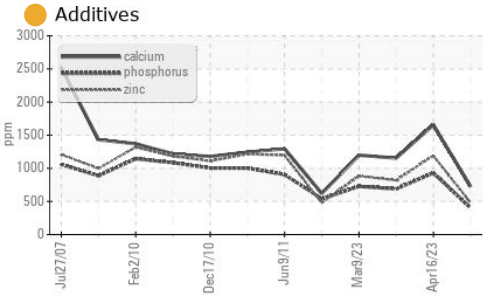
Fuel Dilution



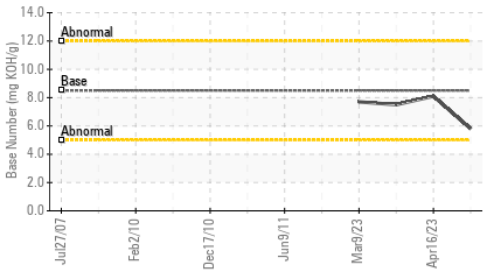
Viscosity @ 100°C



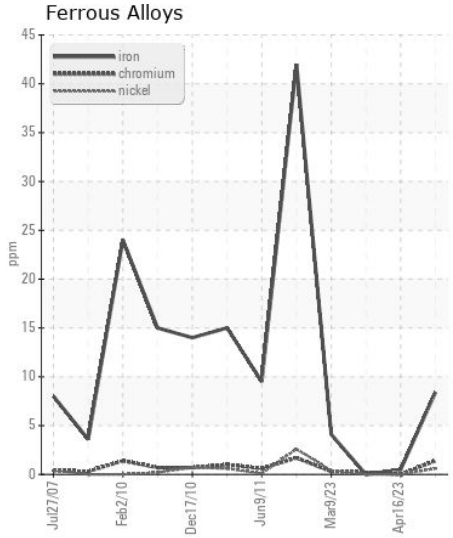
Additives



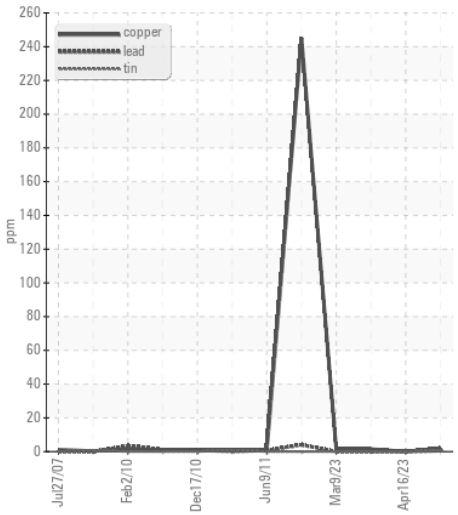
Base Number



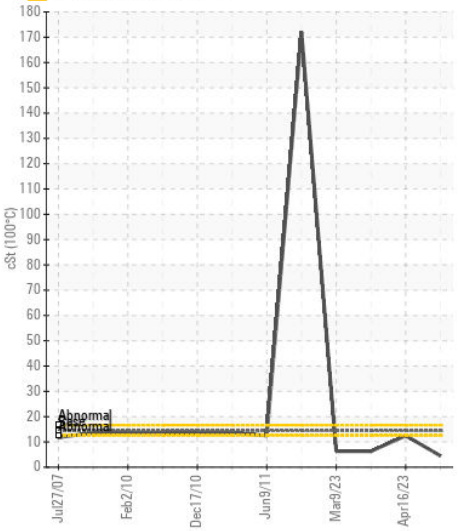
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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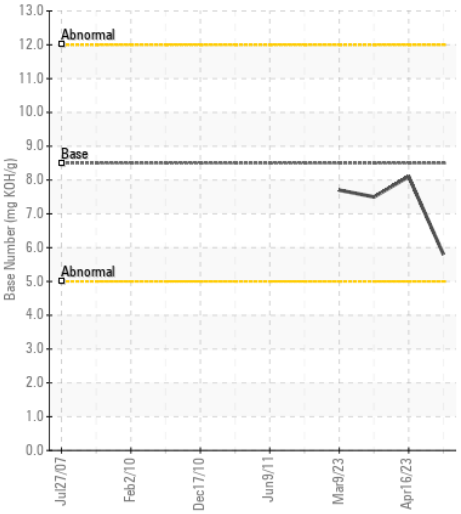

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0258528
Lab Number : 06101478
Unique Number : 10899708
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

Received : 27 Feb 2024
Tested : 04 Mar 2024
Diagnosed : 04 Mar 2024 - Jonathan Hester

HENEGHAN WRECKING
1321 W CONCORD PL
CHICAGO, IL
US 60622
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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