CONST

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
LIEBHERR 944B-HD C-41 (S/N 022530-744)
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (6 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

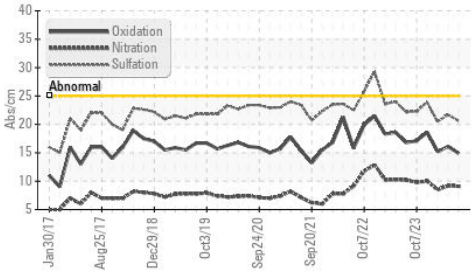
Sodium and/or potassium levels are high. Test for glycol is negative.

FLUID CONDITION

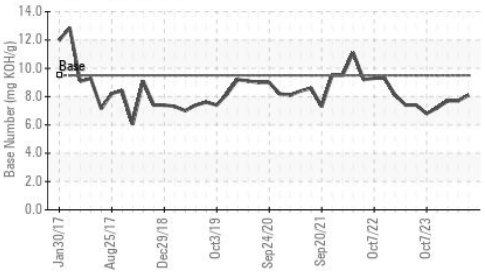
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0920337	WC0899841	WC06076576
Sample Date		Client Info		15 May 2024	16 Mar 2024	29 Jan 2024
Machine Age	hrs	Client Info		38746	38395	39252
Oil Age	hrs	Client Info		351	303	38092
Filter Age	hrs	Client Info		351	303	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	17	32	11
Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		87	140	84
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	3	5	2
Lead	ppm	ASTM D5185m	>30	2	2	<1
Copper	ppm	ASTM D5185m	>125	<1	2	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		1	2	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>60	10	13	6
Potassium	ppm	ASTM D5185m	>20	▲ 90	▲ 85	7
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.9	0.9	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.1	9.2	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	21.7	20.5
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		▲ 98	▲ 90	6
Boron	ppm	ASTM D5185m	85	34	67	104
Barium	ppm	ASTM D5185m		0	2	<1
Molybdenum	ppm	ASTM D5185m		2	2	2
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	350	395	598	423
Calcium	ppm	ASTM D5185m	1800	1921	2807	1709
Phosphorus	ppm	ASTM D5185m	1000	1067	1475	1000
Zinc	ppm	ASTM D5185m	1100	1189	1789	1197
Sulfur	ppm	ASTM D5185m	3500	4192	5850	3537
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	16.1	15.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	8.1	7.7	7.7
Visc @ 100°C	cSt	ASTM D445	15.3	14.2	14.3	14.3

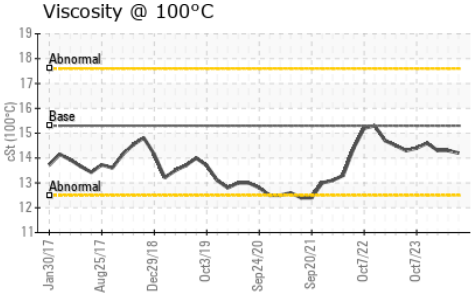
FT-IR (Direct Trend)



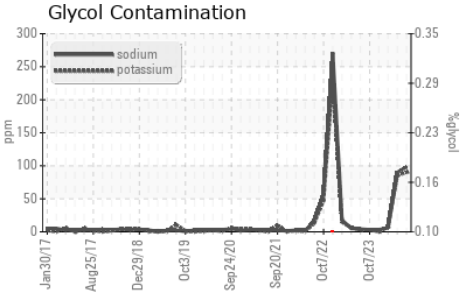
Base Number



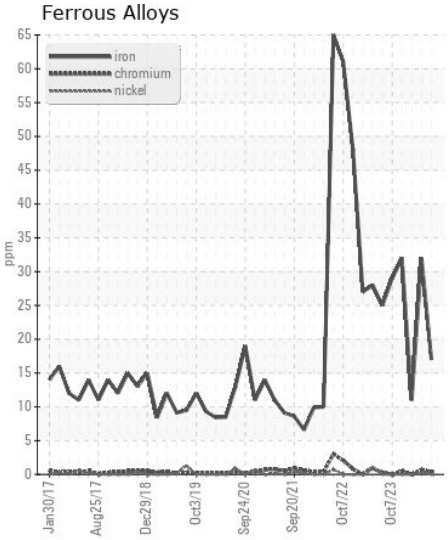
Viscosity @ 100°C



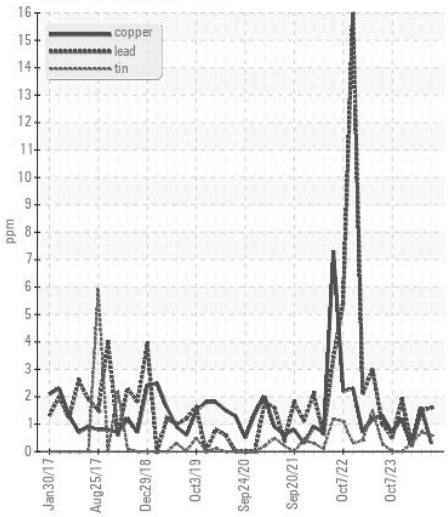
Glycol Contamination



Ferrous Alloys



Non-ferrous Metals



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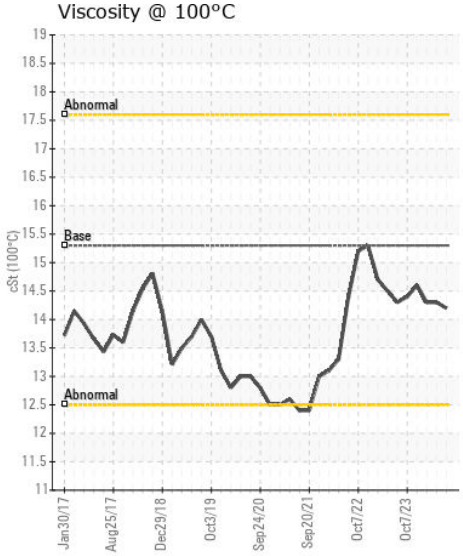

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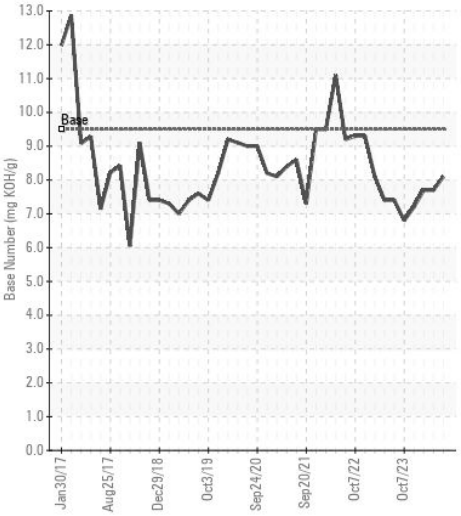

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0920337
Lab Number : 06194813
Unique Number : 11056936
Test Package : CONST (Additional Tests: Glycol, TBN)

Received : 29 May 2024
Tested : 31 May 2024
Diagnosed : 31 May 2024 - Jonathan Hester

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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