OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area
AMR-12 Street
Machine Id
339324 LIEBHERR LH60 1204-86896
Component
Diesel Engine
Fluid
LIEBHERR MOTOROIL 10W-40 LOW ASH (10 GAL)

RECOMMENDATION

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

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

CONTAMINATION

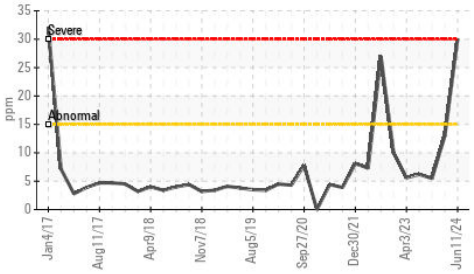
Sodium and/or potassium levels are high.

FLUID CONDITION

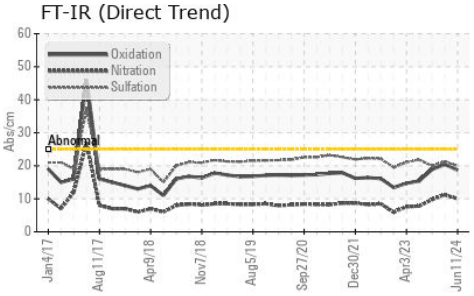
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0018451	DJJ0017127	DJJ0013899
Sample Date		Client Info		11 Jun 2024	26 Dec 2023	15 Sep 2023
Machine Age	hrs	Client Info		15501	15052	14489
Oil Age	hrs	Client Info		250	250	0
Filter Age	hrs	Client Info		250	250	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	25	15	10
Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	▲ 30	13	6
Lead	ppm	ASTM D5185m	>30	1	0	0
Copper	ppm	ASTM D5185m	>125	2	<1	<1
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>60	8	8	7
Potassium	ppm	ASTM D5185m	>20	9	17	6
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	0.6	0.9	0.7
Nitration	Abs/cm	*ASTM D7624	>20	10.0	11.2	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.9	21.3	20.0
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	▲ 259	19
Boron	ppm	ASTM D5185m	169	145	65	99
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	2	8	8	18
Manganese	ppm	ASTM D5185m	<1	<1	<1	<1
Magnesium	ppm	ASTM D5185m	724	875	800	773
Calcium	ppm	ASTM D5185m	1323	1547	1260	1378
Phosphorus	ppm	ASTM D5185m	678	953	883	859
Zinc	ppm	ASTM D5185m	776	1109	972	997
Sulfur	ppm	ASTM D5185m	2859	5168	3980	3834
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.7	20.4	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.28	8.8	8.1	8.9
Visc @ 100°C	cSt	ASTM D445	13.0	13.9	14.0	14.2

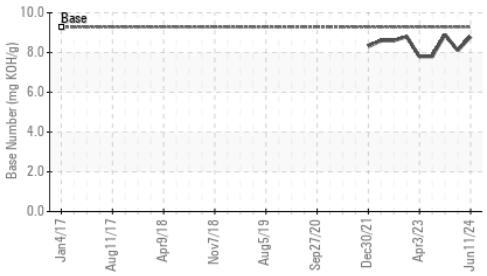
Aluminum (ppm)



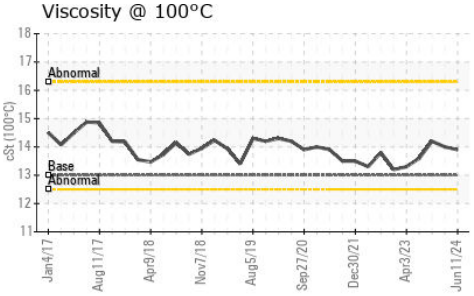
FT-IR (Direct Trend)



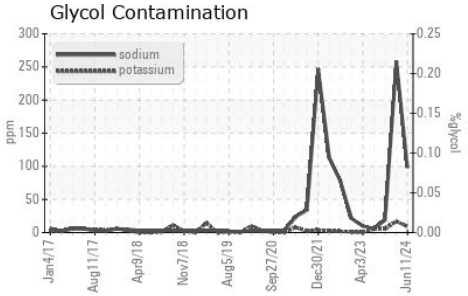
Base Number



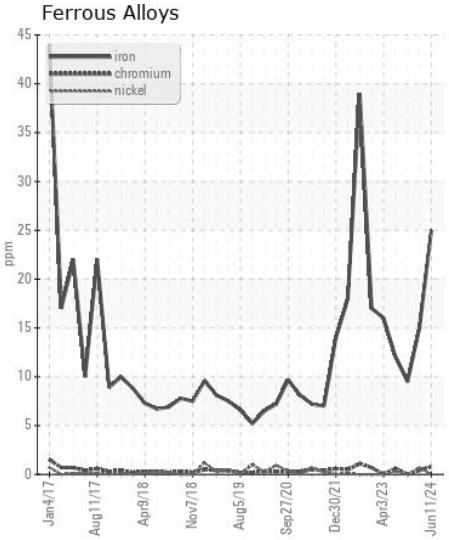
Viscosity @ 100°C



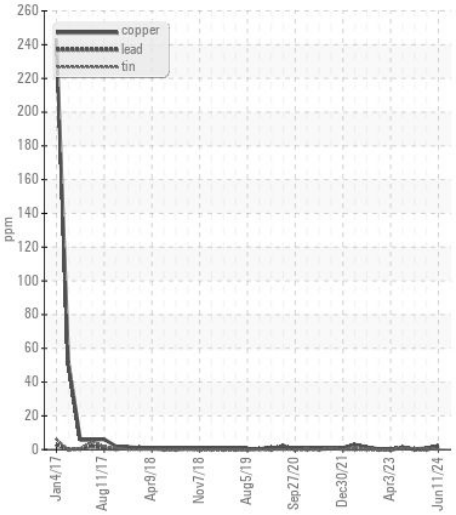
Glycol Contamination



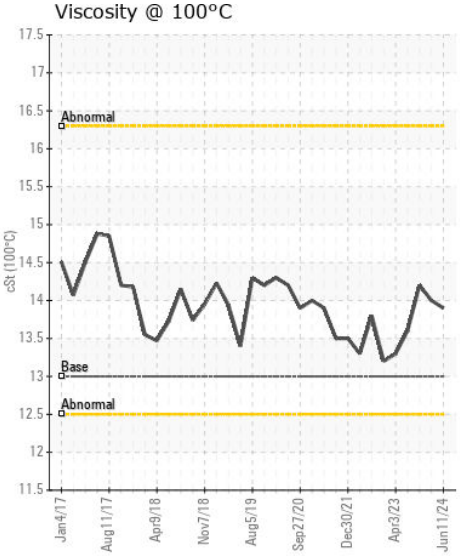
Ferrous Alloys



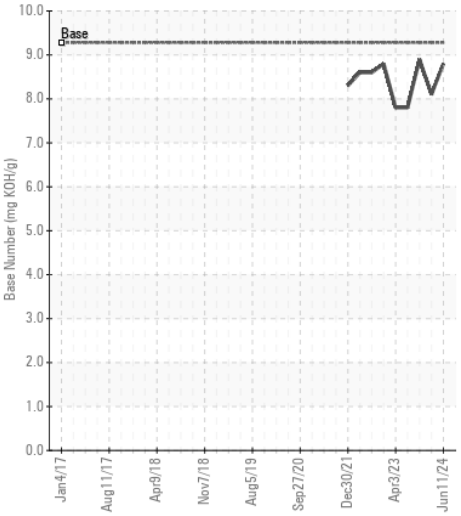
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0018451
Lab Number : 06215581
Unique Number : 11088445
Test Package : CONST (Additional Tests: Glycol, TBN)

Received : 20 Jun 2024
Tested : 21 Jun 2024
Diagnosed : 21 Jun 2024 - Sean Felton

Certificate L2367

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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