OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
23549
Component
Diesel Engine
Fluid
MOBIL 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The aluminum level is abnormal. An increase in the copper level is noted. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

CONTAMINATION

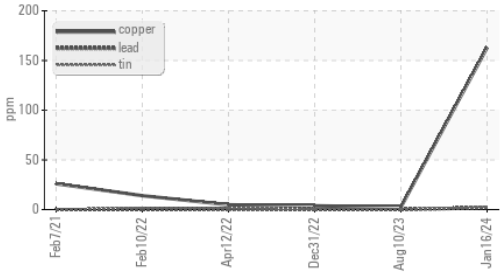
Sodium and/or potassium levels are high. Test for glycol is negative.

FLUID CONDITION

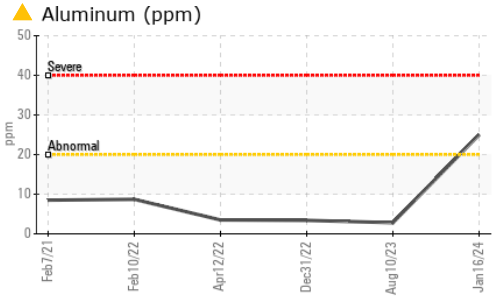
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0829837	WC0829412	WC0711017
Sample Date		Client Info		16 Jan 2024	10 Aug 2023	31 Dec 2022
Machine Age	mls	Client Info		386897	346765	307724
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	52	11	19
Chromium	ppm	ASTM D5185m	>20	4	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 25	3	3
Lead	ppm	ASTM D5185m	>40	2	0	0
Copper	ppm	ASTM D5185m	>330	▲ 163	2	4
Tin	ppm	ASTM D5185m	>15	2	<1	0
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	>25	9	4	5
Potassium	ppm	ASTM D5185m	>20	▲ 56	3	4
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	1	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	12.5	8.0	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.8	19.7	20.8
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	>118	4	0	<1
Boron	ppm	ASTM D5185m		1	0	8
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		61	61	69
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		926	940	1057
Calcium	ppm	ASTM D5185m		1215	1077	1244
Phosphorus	ppm	ASTM D5185m		935	1011	1114
Zinc	ppm	ASTM D5185m		1125	1255	1427
Sulfur	ppm	ASTM D5185m		1934	3128	3444
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.3	16.5	19.3
Base Number (BN)	mg KOH/g	ASTM D2896		5.3	8.4	6.4
Visc @ 100°C	cSt	ASTM D445		13.4	13.7	13.8

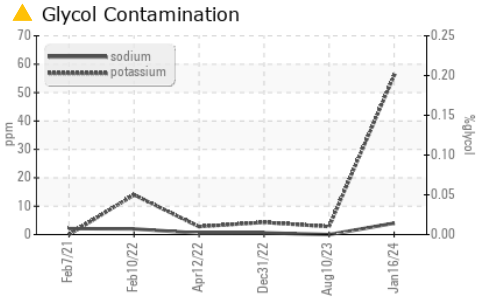
Non-ferrous Metals



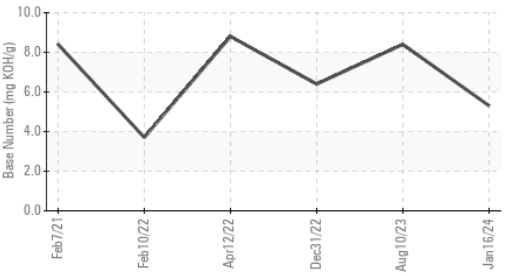
Aluminum (ppm)



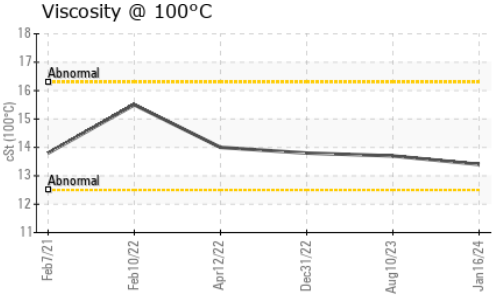
Glycol Contamination



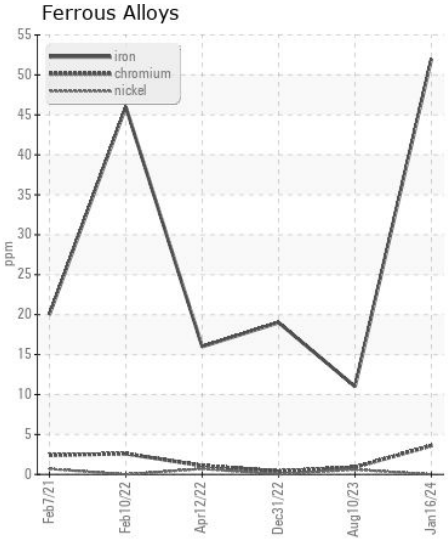
Base Number



Viscosity @ 100°C



Ferrous Alloys



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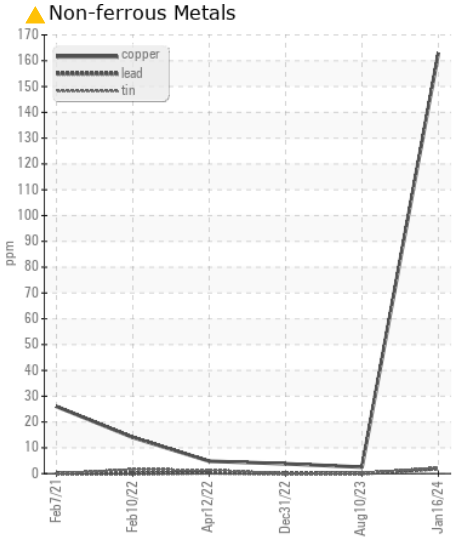
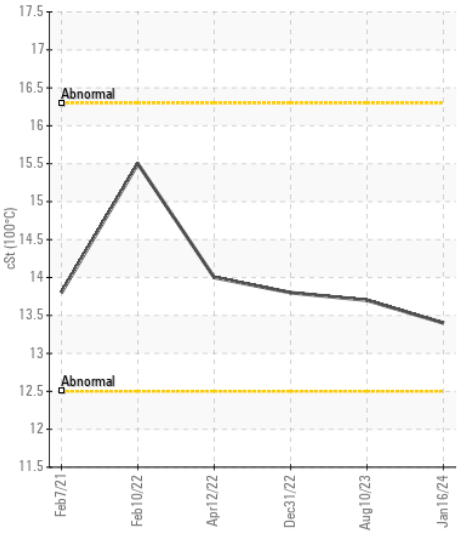
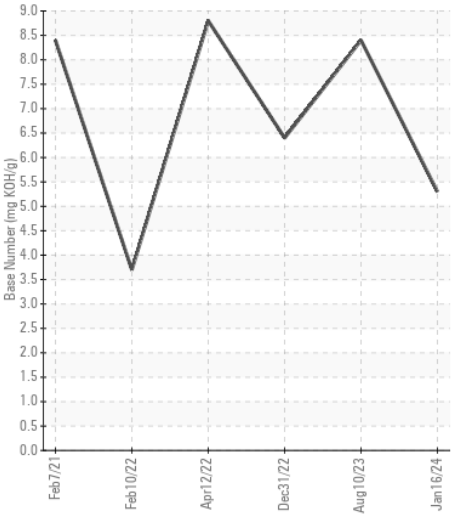


Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0829837
Lab Number : 06077519
Unique Number : 10859610
Test Package : FLEET

Recieved : 01 Feb 2024
Diagnosed : 05 Feb 2024
Diagnostician : 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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