CONST

MileGuard™

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 938K 938K-1 (S/N SWL00533)
Component
Diesel Engine
Fluid
MOBIL DELVAC SUPER 1400 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

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

CONTAMINATION

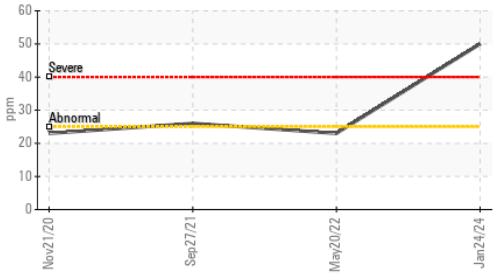
There is no indication of any contamination in the oil.

FLUID CONDITION

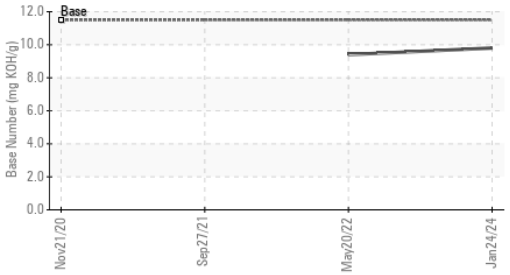
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TLY0002236	TLY0001162	TLY0000966
Sample Date		Client Info		24 Jan 2024	20 May 2022	27 Sep 2021
Machine Age	hrs	Client Info		11925	11424	10766
Oil Age	hrs	Client Info		11424	658	549
Filter Age	hrs	Client Info		11424	658	549
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	68	43	57
Chromium	ppm	ASTM D5185m	>20	2	1	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	▲ 50	23	26
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	3	1	1
Tin	ppm	ASTM D5185m	>15	0	<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	10	9	9
Potassium	ppm	ASTM D5185m	>20	1	0	2
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	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.4	8.4	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	20.8	21.5
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		29	9	9
Boron	ppm	ASTM D5185m		31	40	43
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		46	44	56
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		575	471	571
Calcium	ppm	ASTM D5185m		1511	1719	1828
Phosphorus	ppm	ASTM D5185m		807	775	809
Zinc	ppm	ASTM D5185m		931	942	927
Sulfur	ppm	ASTM D5185m		2551	2654	1603
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	18.4	19.8
Base Number (BN)	mg KOH/g	ASTM D2896	11.5	9.8	9.4	---
Visc @ 100°C	cSt	ASTM D445	15.0	12.5	12.3	11.3

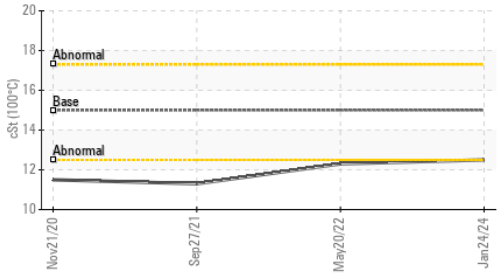
Aluminum (ppm)



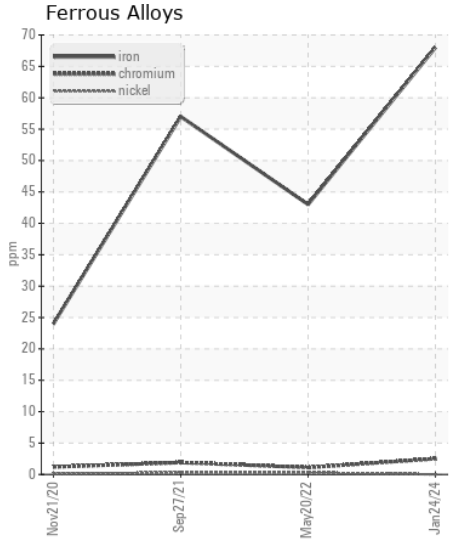
Base Number



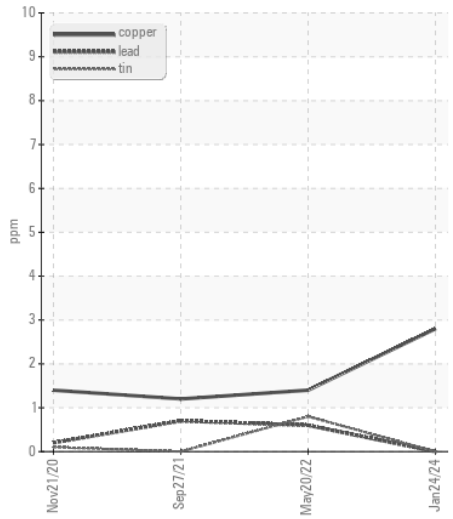
Viscosity @ 100°C



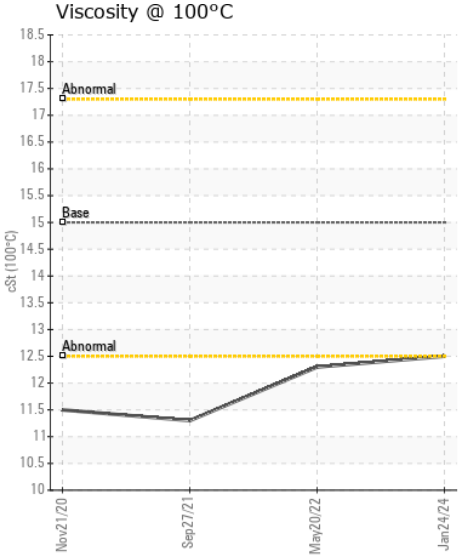
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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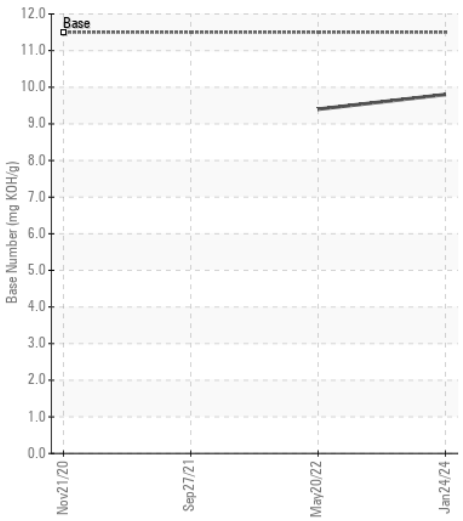

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TLY0002236 **Recieved** : 30 Jan 2024
Lab Number : 06073552 **Diagnosed** : 31 Jan 2024
Unique Number : 10850229 **Diagnostician** : Don Baldridge
Test Package : CONST (Additional Tests: TBN)

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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