MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
RIG 1
Machine Id
CATERPILLAR 3512 R1-G-01
Component
Diesel Engine
Fluid
CHEVRON 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

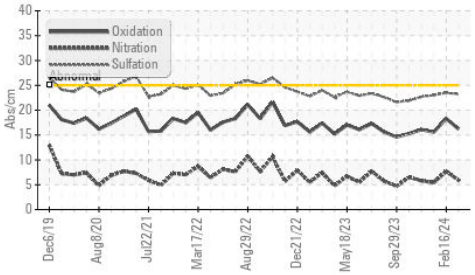
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

FLUID CONDITION

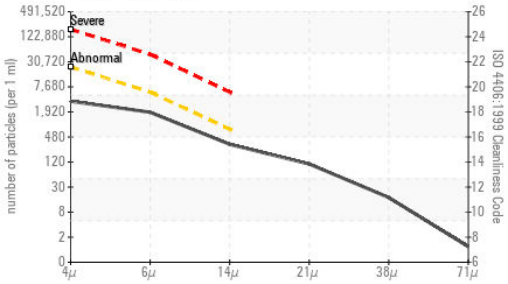
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013873	KL0013836	KL0014041
Sample Date		Client Info		20 Mar 2024	16 Feb 2024	11 Jan 2024
Machine Age	days	Client Info		45362	45338	45303
Oil Age	days	Client Info		0	0	0
Filter Age	days	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	2	1	4
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	4	4
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	99	▲ 478	167
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	19	5	7
Potassium	ppm	ASTM D5185m	>20	2	<1	1
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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.9	7.7	5.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	23.5	23.0
Particles >4µm		ASTM D7647	>20000	3027	1731	2819
Particles >6µm		ASTM D7647	>5000	1649	943	1536
Particles >14µm		ASTM D7647	>640	281	161	261
Particles >21µm		ASTM D7647	>160	95	54	88
Particles >38µm		ASTM D7647	>40	15	8	14
Particles >71µm		ASTM D7647	>10	1	1	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/18/15	18/17/15	19/18/15
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	>50	0	1	0
Boron	ppm	ASTM D5185m		340	305	364
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		102	117	117
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		499	638	620
Calcium	ppm	ASTM D5185m		1235	1471	1418
Phosphorus	ppm	ASTM D5185m		666	725	727
Zinc	ppm	ASTM D5185m		687	829	792
Sulfur	ppm	ASTM D5185m		2423	2530	2963
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	18.3	15.6
Base Number (BN)	mg KOH/g	ASTM D2896		10.21	9.17	8.26
Visc @ 100°C	cSt	ASTM D445	14.4	13.4	13.1	13.6

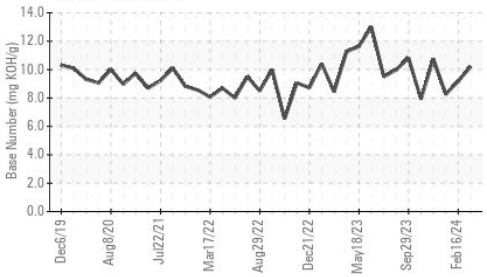
FT-IR (Direct Trend)



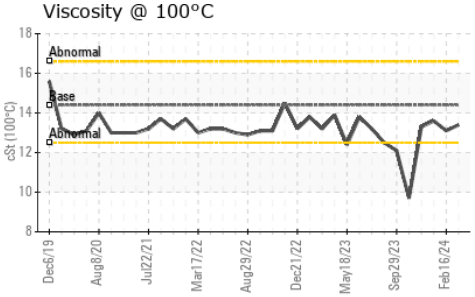
Particle Count



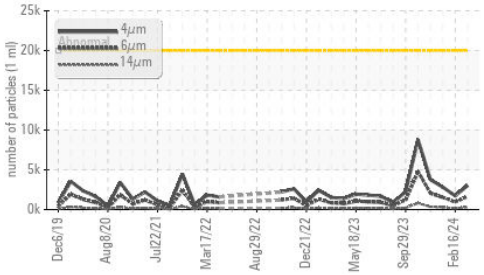
Base Number



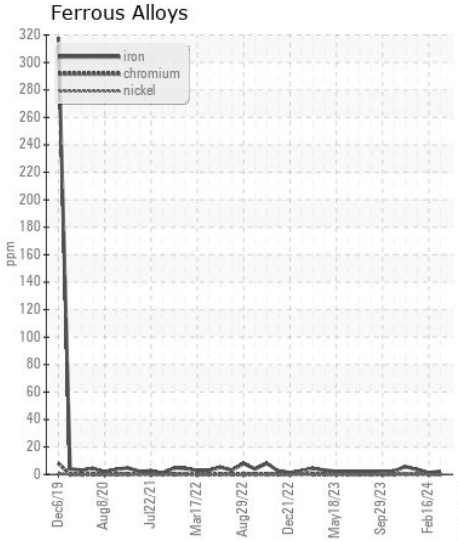
Viscosity @ 100°C



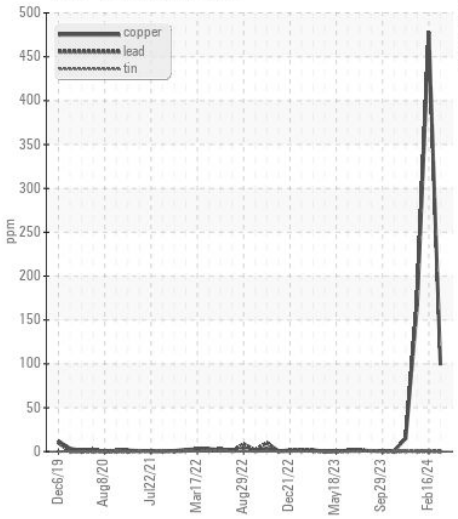
Particle Trend



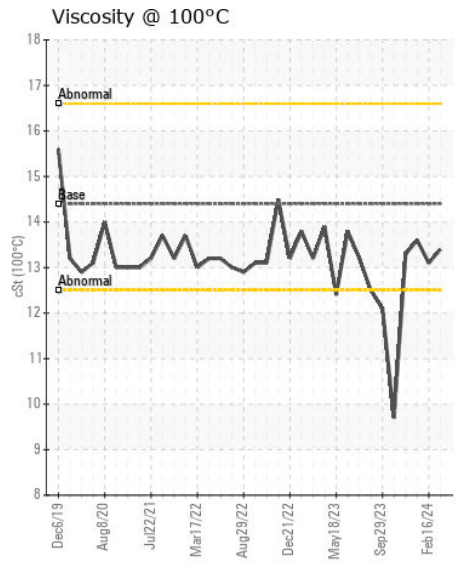
Ferrous Alloys



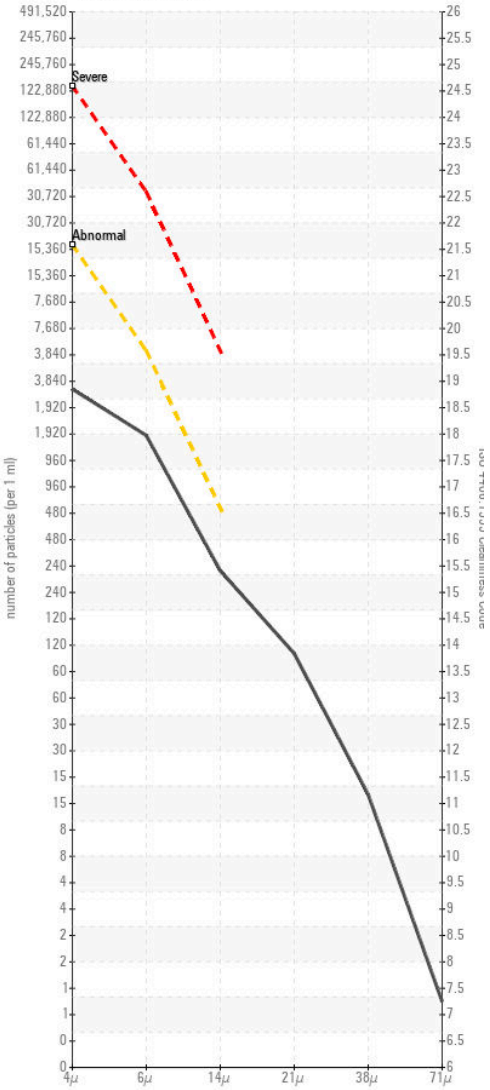
Non-ferrous Metals



Viscosity @ 100°C



Particle Count



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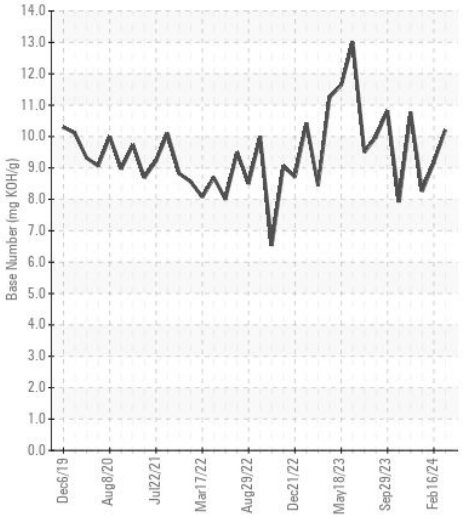

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013873
Lab Number : 06145347
Unique Number : 10970155
Test Package : MOB 2 (Additional Tests: PrtCount)

Received : 10 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 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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