MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
RIG 5
Machine Id
CATERPILLAR 3512 R5-G-04 NKL
Component
Diesel Engine
Fluid
{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

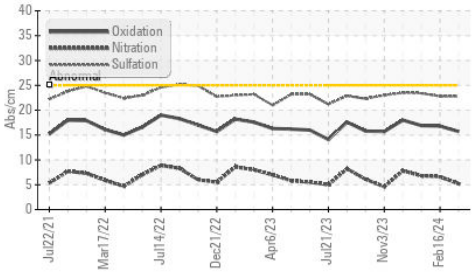
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

FLUID CONDITION

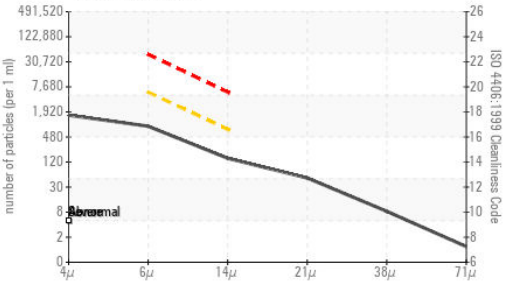
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013849	KL0013840	KL0013192
Sample Date		Client Info		20 Mar 2024	16 Feb 2024	11 Jan 2024
Machine Age	days	Client Info		45326	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	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	4	1	3
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	4	3
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	6	6	1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
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	10	▲ 93
Potassium	ppm	ASTM D5185m	>20	2	2	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	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.2	6.6	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	22.8	23.4
Particles >4µm		ASTM D7647		1401	4472	1852
Particles >6µm		ASTM D7647	>5000	763	2436	1009
Particles >14µm		ASTM D7647	>640	130	415	172
Particles >21µm		ASTM D7647	>160	44	140	58
Particles >38µm		ASTM D7647	>40	7	22	9
Particles >71µm		ASTM D7647	>10	1	2	1
Oil Cleanliness		ISO 4406 (c)	>19/16	17/14	18/16	17/15
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		<1	<1	0
Boron	ppm	ASTM D5185m		431	306	363
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		122	119	122
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		599	629	652
Calcium	ppm	ASTM D5185m		1511	1432	1471
Phosphorus	ppm	ASTM D5185m		791	692	737
Zinc	ppm	ASTM D5185m		821	836	809
Sulfur	ppm	ASTM D5185m		2827	2418	2771
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	16.8	16.9
Base Number (BN)	mg KOH/g	ASTM D2896		9.76	10.16	9.04
Visc @ 100°C	cSt	ASTM D445		14.0	13.2	13.2

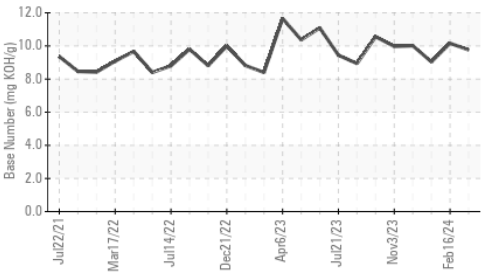
FT-IR (Direct Trend)



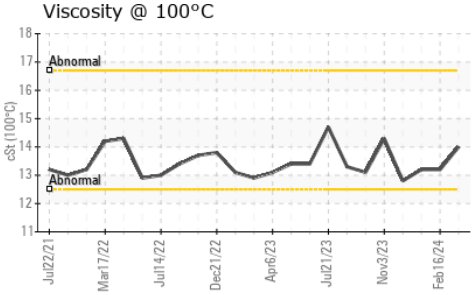
Particle Count



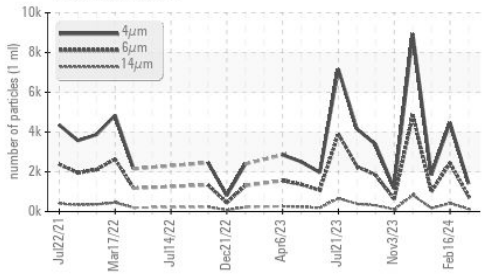
Base Number



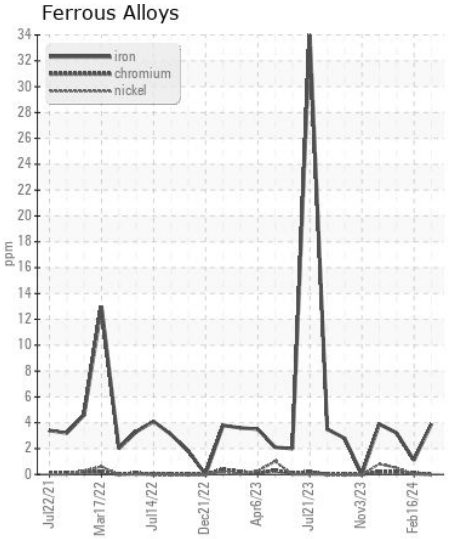
Viscosity @ 100°C



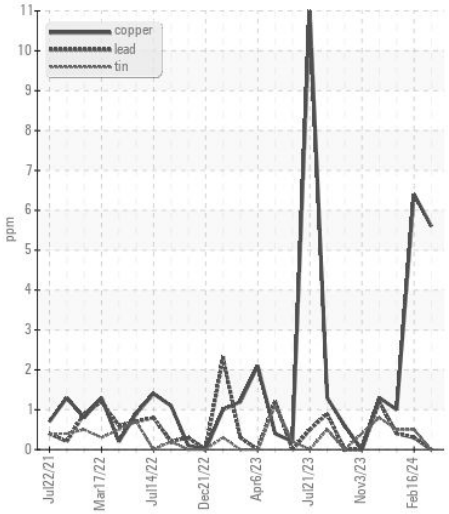
Particle Trend



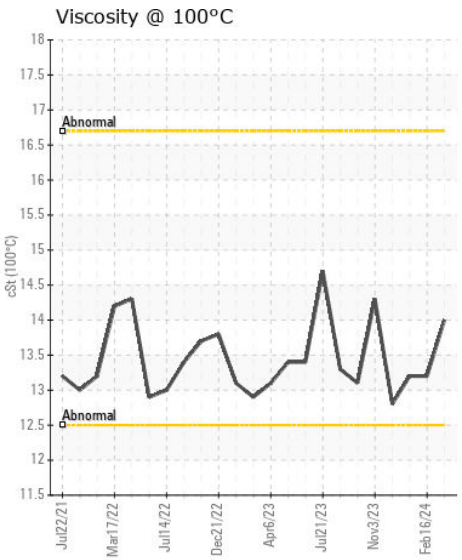
Ferrous Alloys



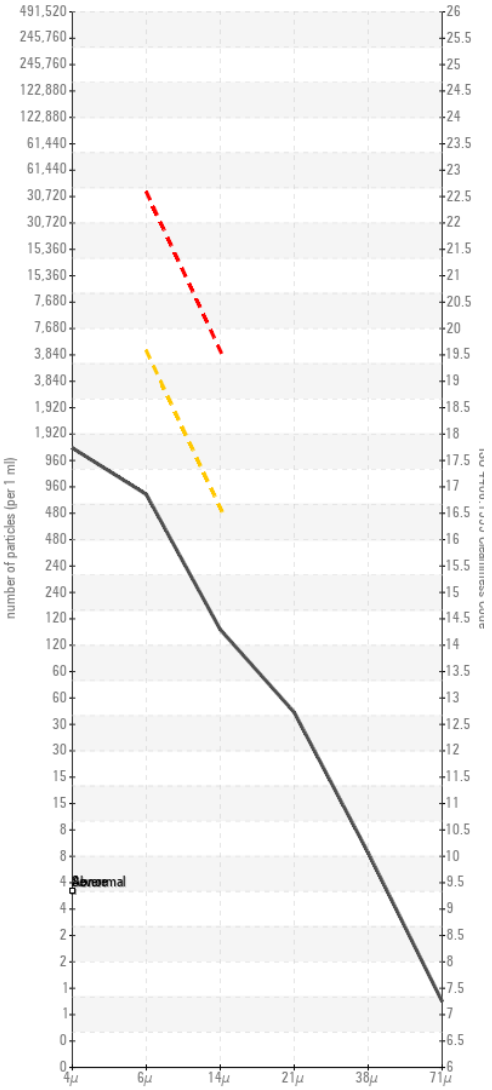
Non-ferrous Metals



Viscosity @ 100°C



Particle Count



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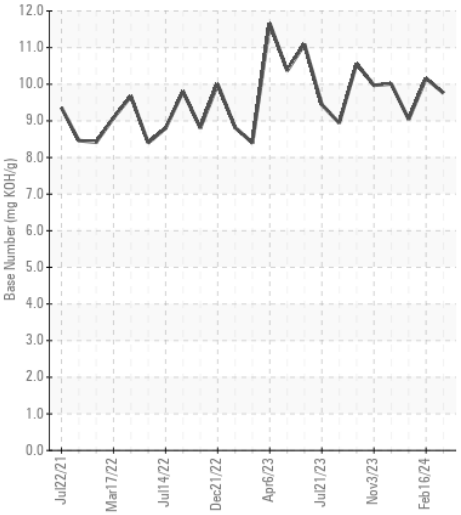

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013849
Lab Number : 06145354
Unique Number : 10970162
Test Package : MOB 2 (Additional Tests: PrtCount)

Received : 10 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Jonathan Hester

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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