MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
RIG 3
Machine Id
CATERPILLAR 3512 R3-G-03-NKL
Component
Diesel Engine
Fluid
CHEVRON 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

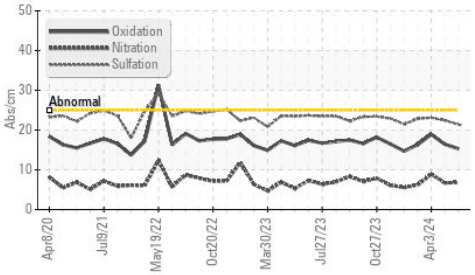
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

FLUID CONDITION

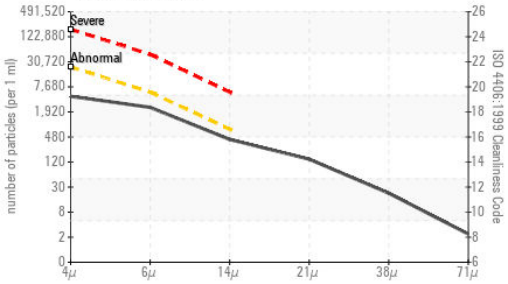
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014461	KL0014253	KL0014234
Sample Date		Client Info		16 Jun 2024	10 May 2024	03 Apr 2024
Machine Age	days	Client Info		45449	45412	45375
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	ATTENTION	NORMAL
Iron	ppm	ASTM D5185m	>100	1	5	6
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	2	<1	0
Silver	ppm	ASTM D5185m	>2	0	1	0
Aluminum	ppm	ASTM D5185m	>25	2	2	3
Lead	ppm	ASTM D5185m	>40	0	1	3
Copper	ppm	ASTM D5185m	>330	0	2	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	11	9	5
Potassium	ppm	ASTM D5185m	>20	1	2	0
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	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.8	6.7	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	22.4	23.1
Particles >4µm		ASTM D7647	>20000	3967	10518	3132
Particles >6µm		ASTM D7647	>5000	2161	5730	1706
Particles >14µm		ASTM D7647	>640	368	975	290
Particles >21µm		ASTM D7647	>160	124	328	98
Particles >38µm		ASTM D7647	>40	19	51	15
Particles >71µm		ASTM D7647	>10	2	5	2
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/18/16	21/20/17	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	2	1	<1
Boron	ppm	ASTM D5185m		332	456	285
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		75	98	133
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		413	430	635
Calcium	ppm	ASTM D5185m		1359	1426	1561
Phosphorus	ppm	ASTM D5185m		1013	981	729
Zinc	ppm	ASTM D5185m		1176	1235	818
Sulfur	ppm	ASTM D5185m		3680	3461	2798
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	16.4	18.9
Base Number (BN)	mg KOH/g	ASTM D2896		7.59	10.72	7.83
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	13.0	12.8

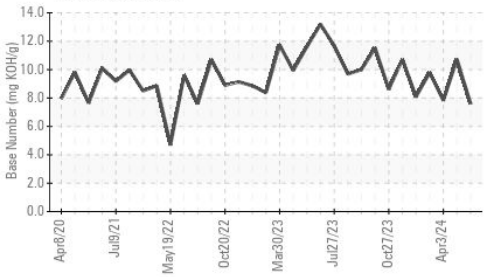
FT-IR (Direct Trend)



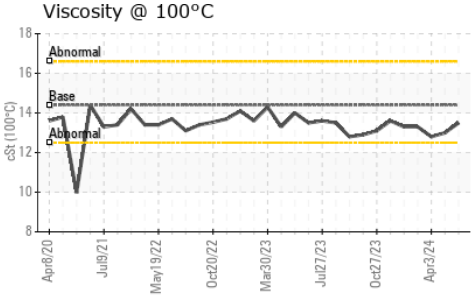
Particle Count



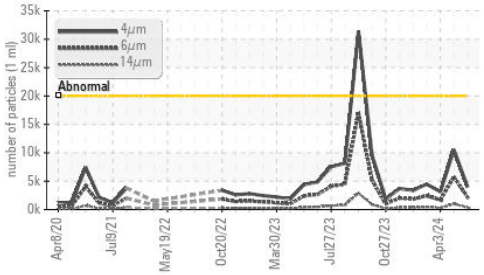
Base Number



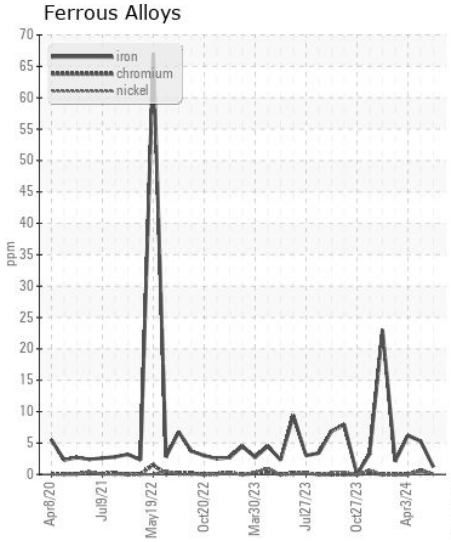
Viscosity @ 100°C



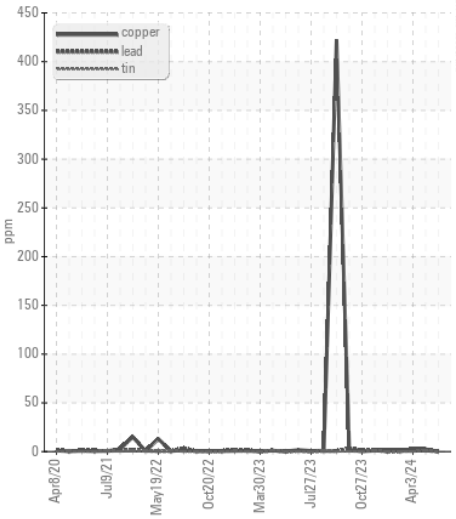
Particle Trend



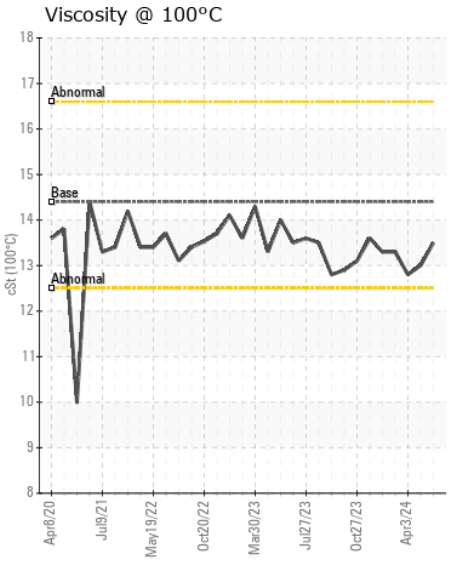
Ferrous Alloys



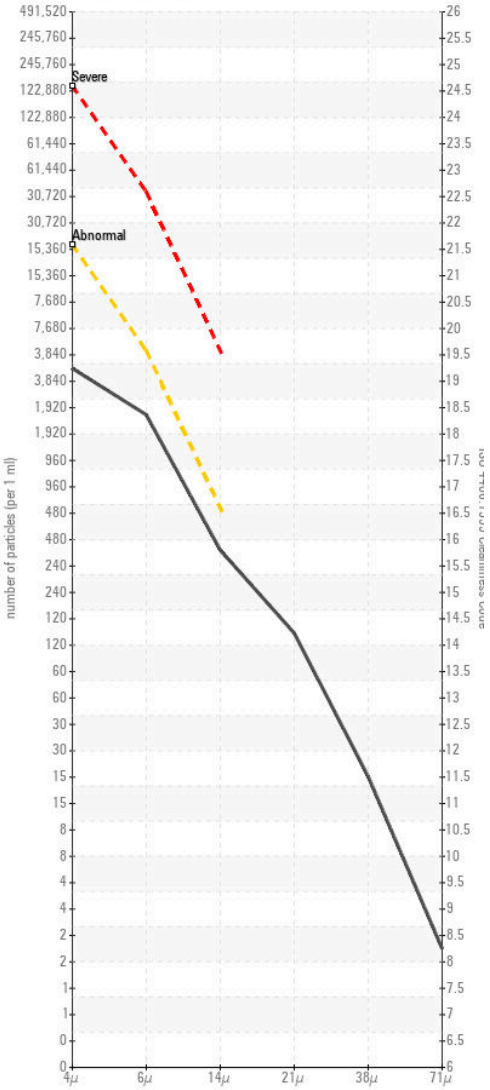
Non-ferrous Metals



Viscosity @ 100°C



Particle Count



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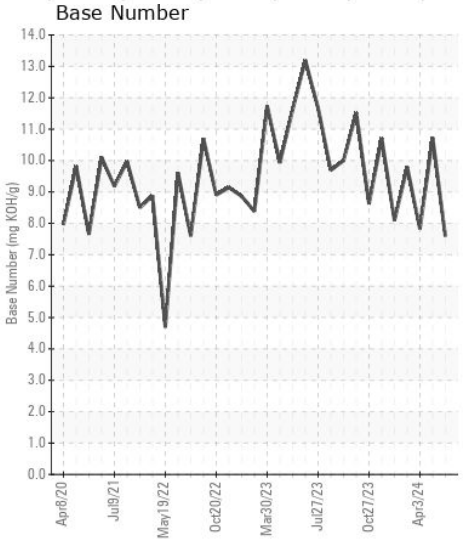

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014461 **Received** : 02 Jul 2024
Lab Number : 06226814 **Tested** : 03 Jul 2024
Unique Number : 11110307 **Diagnosed** : 05 Jul 2024 - Don Baldridge
Test Package : MOB 2 (Additional Tests: PrtCount)

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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