MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
AUTOCAR 27229
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

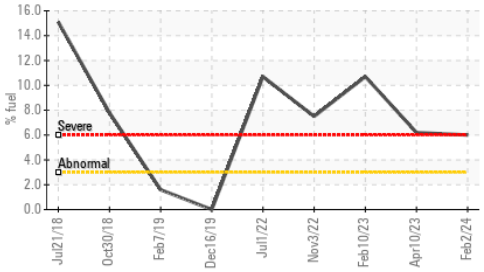
There is a moderate amount of particulates present in the oil. There is a moderate amount of fuel present in the oil.

FLUID CONDITION

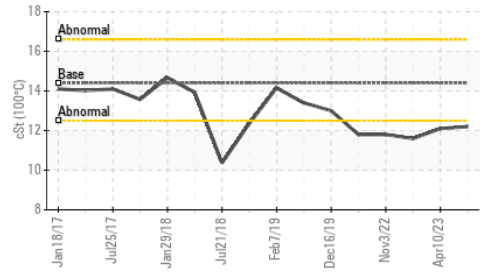
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0012140	KLM2339373	KLM2340549
Sample Date		Client Info		02 Feb 2024	10 Apr 2023	10 Feb 2023
Machine Age	mls	Client Info		120345	118482	114553
Oil Age	mls	Client Info		63314	0	18952
Filter Age	mls	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				ABNORMAL	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>90	48	27	79
Chromium	ppm	ASTM D5185m	>20	2	2	5
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	1	5
Lead	ppm	ASTM D5185m	>40	7	6	▲ 46
Copper	ppm	ASTM D5185m	>330	5	4	8
Tin	ppm	ASTM D5185m	>15	0	0	<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	6	6	8
Potassium	ppm	ASTM D5185m	>20	6	4	5
Fuel	%	ASTM D3524	>3.0	▲ 6.0	⬢ 6.2	⬢ 10.7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	1	0.9	1.5
Nitration	Abs/cm	*ASTM D7624	>20	14.7	13.0	16.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	33.3	30.6	44.0
Particles >4µm		ASTM D7647		9109	12101	25977
Particles >6µm		ASTM D7647	>5000	4962	▲ 6592	▲ 14151
Particles >14µm		ASTM D7647	>640	▲ 844	▲ 1122	▲ 2408
Particles >21µm		ASTM D7647	>160	▲ 284	▲ 378	▲ 811
Particles >38µm		ASTM D7647	>40	▲ 44	▲ 58	▲ 125
Particles >71µm		ASTM D7647	>10	4	6	▲ 13
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 19/17	▲ 20/17	▲ 21/18
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	>158	4	6	8
Boron	ppm	ASTM D5185m	250	31	33	19
Barium	ppm	ASTM D5185m	10	11	0	0
Molybdenum	ppm	ASTM D5185m	100	57	61	40
Manganese	ppm	ASTM D5185m		0	<1	2
Magnesium	ppm	ASTM D5185m	450	891	1049	701
Calcium	ppm	ASTM D5185m	3000	978	1090	1618
Phosphorus	ppm	ASTM D5185m	1150	925	1018	929
Zinc	ppm	ASTM D5185m	1350	1095	1279	1250
Sulfur	ppm	ASTM D5185m	4250	3201	3926	3377
Oxidation	Abs/.1mm	*ASTM D7414	>25	38.0	35.4	56.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.83	11.57	5.73
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 12.2	▲ 12.1	▲ 11.6

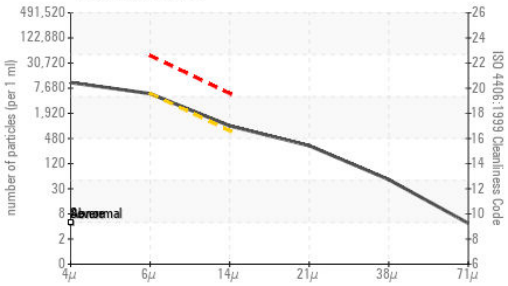
Fuel Dilution



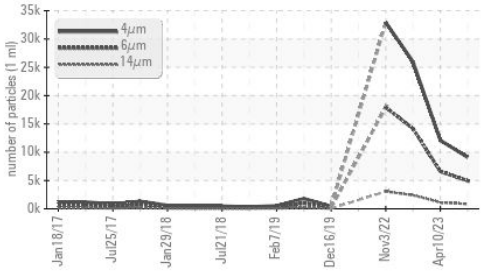
Viscosity @ 100°C



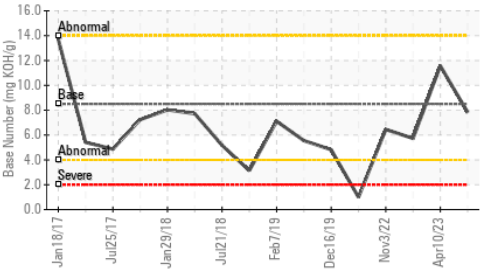
Particle Count



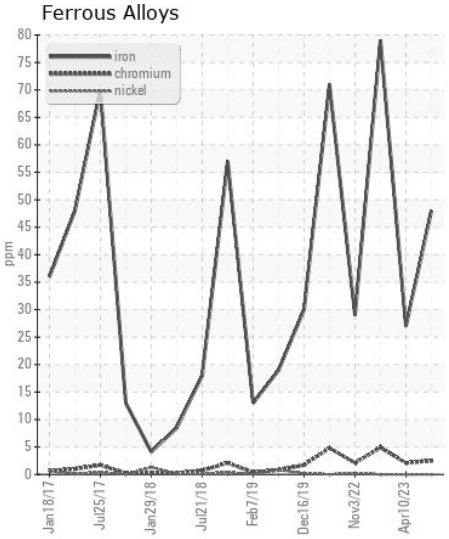
Particle Trend



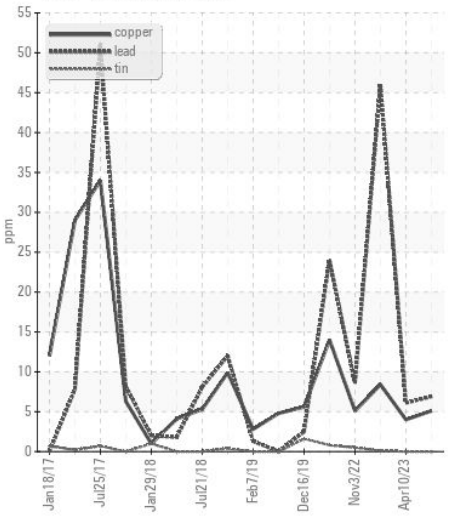
Base Number



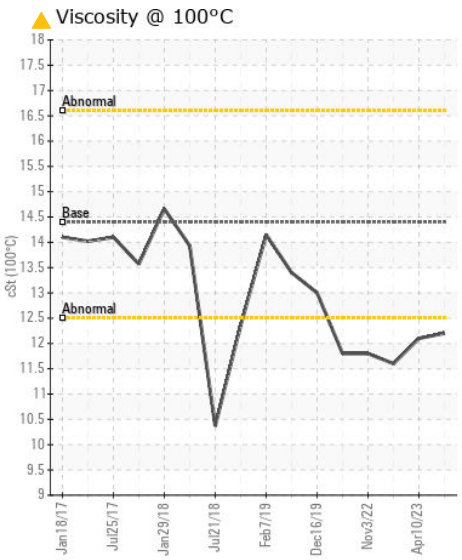
Ferrous Alloys



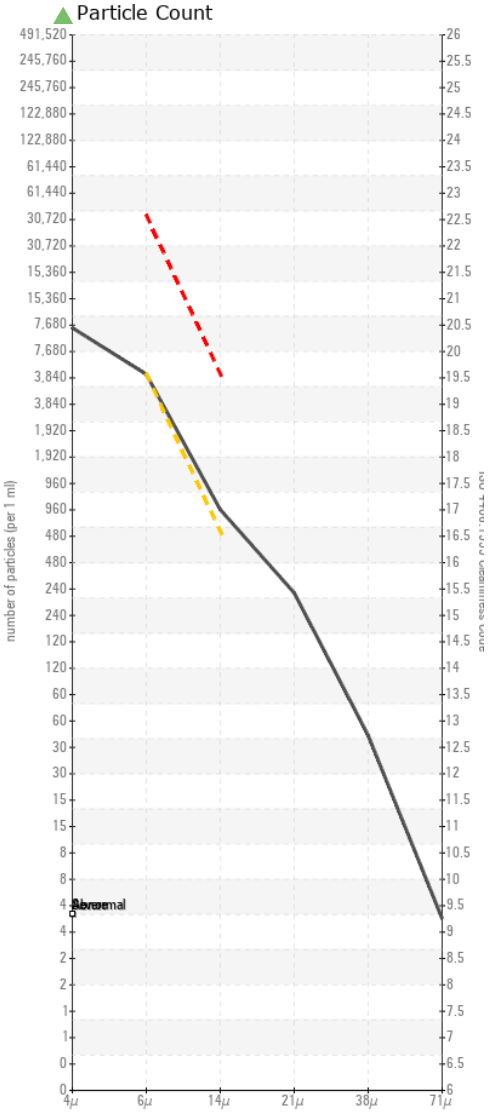
Non-ferrous Metals



Viscosity @ 100°C



Particle Count



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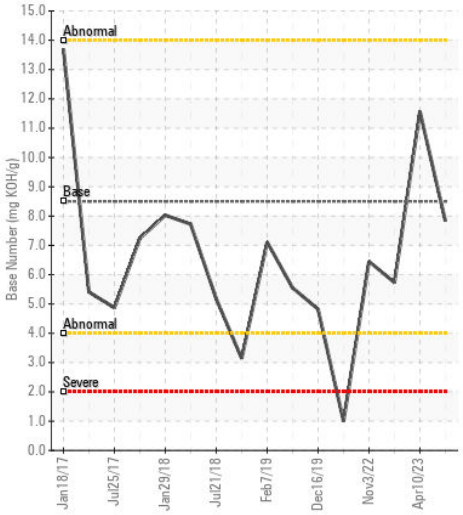

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012140
Lab Number : 06089630
Unique Number : 10877075
Test Package : MOB 2 (Additional Tests: PercentFuel, PrtCount)

Received : 14 Feb 2024
Tested : 16 Feb 2024
Diagnosed : 16 Feb 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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Submitted By: Mike Richardson