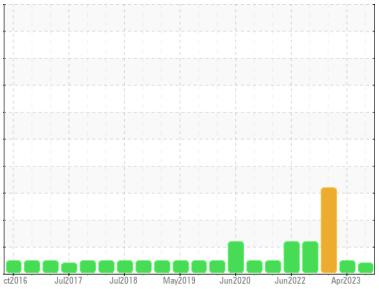
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
AUTOCAR 27237
Component
Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (12 GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0012108**	KLM2339325	KLM2339468
Sample Date		Client Info		**31 Oct 2023**	09 Apr 2023	11 Feb 2023
Machine Age	mls	Client Info		**63871**	63372	63370
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ATTENTION**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**20**	7	8
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	<1	6
Lead	ppm	ASTM D5185m	>40	**<1**	0	<1
Copper	ppm	ASTM D5185m	>330	**10**	11	66
Tin	ppm	ASTM D5185m	>15	**0**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	151	**86**	146	109
Barium	ppm	ASTM D5185m	0.4	**0**	0	0
Molybdenum	ppm	ASTM D5185m	250	**51**	62	54
Manganese	ppm	ASTM D5185m		**<1**	<1	2
Magnesium	ppm	ASTM D5185m	0	**930**	1146	1007
Calcium	ppm	ASTM D5185m	2046	**913**	955	924
Phosphorus	ppm	ASTM D5185m	1043	**1009**	1080	923
Zinc	ppm	ASTM D5185m	943	**1200**	1318	1237
Sulfur	ppm	ASTM D5185m	5012	**3216**	4277	3532

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	7	4
Sodium	ppm	ASTM D5185m		**2**	<1	1
Potassium	ppm	ASTM D5185m	>20	**2**	1	3
Fuel	%	ASTM D3524	>5	**0.4**	0.7	▲ 7.3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**7.7**	5.1	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.9**	19.8	29.9

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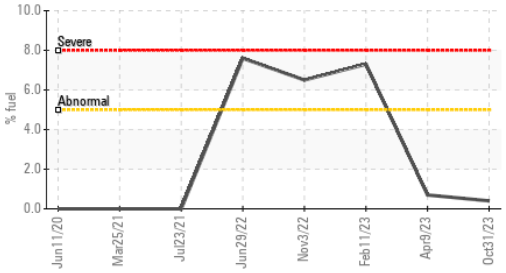
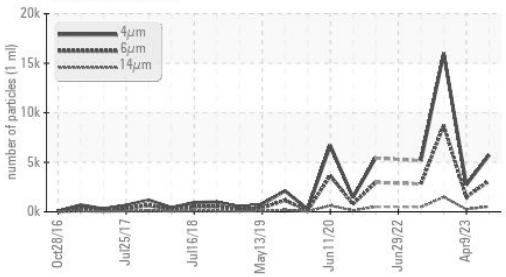
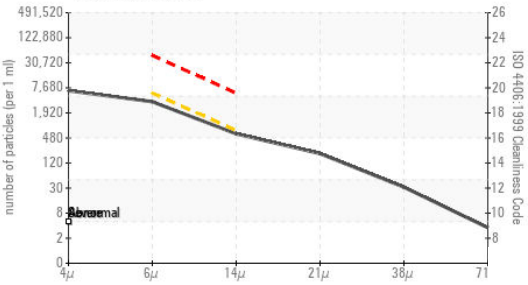
Fuel Dilution



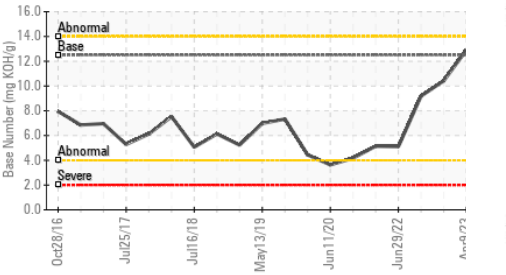
Particle Trend



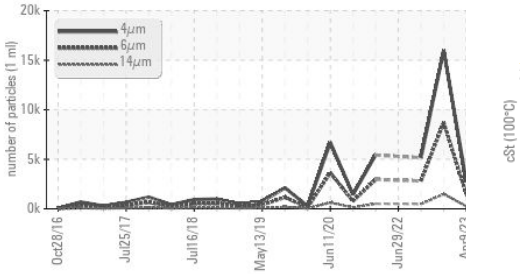
Particle Count



Base Number



Particle Trend



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**5716**	2723	16007
Particles >6µm		ASTM D7647	>5000	**3114**	1483	▲ 8720
Particles >14µm		ASTM D7647	>640	**530**	252	▲ 1484
Particles >21µm		ASTM D7647	>160	**178**	85	▲ 500
Particles >38µm		ASTM D7647	>40	**28**	13	▲ 77
Particles >71µm		ASTM D7647	>10	**3**	1	8
Oil Cleanliness		ISO 4406 (c)	>19/16	**19/16**	18/15	▲ 20/18

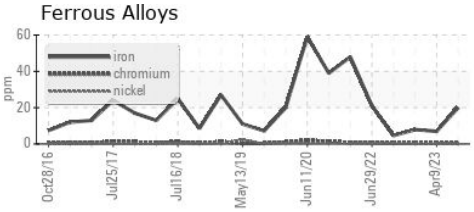
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**32.2**	15.0	22.8
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	**10.47**	12.89	10.42

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

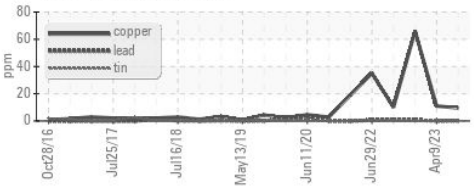
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **10.2**	14.1	▲ 11.0

GRAPHS

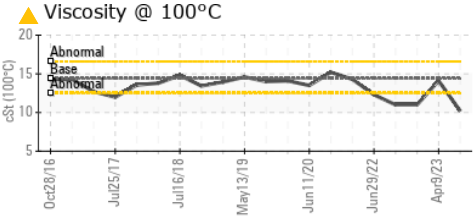
Ferrous Alloys



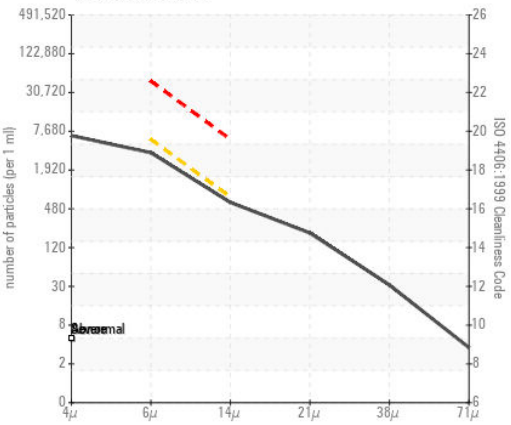
Non-ferrous Metals



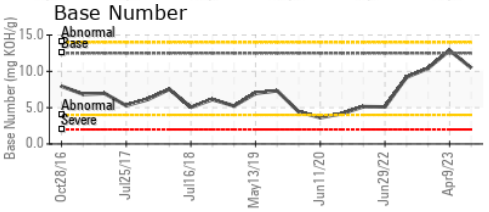
▲ Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012108 **Received** : 20 Nov 2023
Lab Number : 06013467 **Diagnosed** : 24 Nov 2023
Unique Number : 10752611 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, 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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