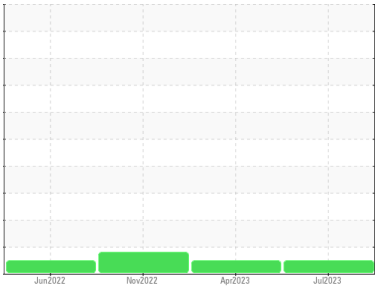
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
35166
Component
Diesel Engine
Fluid
NOT GIVEN (--- QTS)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0012010**	KLM2339323	KL0007983
Sample Date		Client Info		**25 Jul 2023**	07 Apr 2023	02 Nov 2022
Machine Age	mls	Client Info		**37906**	31039	13257
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**NORMAL**	NORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**80**	69	37
Chromium	ppm	ASTM D5185m	>20	**3**	3	1
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**<1**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**27**	21	11
Lead	ppm	ASTM D5185m	>40	**0**	0	5
Copper	ppm	ASTM D5185m	>330	**364**	361	▲ 369
Tin	ppm	ASTM D5185m	>15	**4**	4	4
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**14**	25	32
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**14**	14	7
Manganese	ppm	ASTM D5185m		**3**	3	2
Magnesium	ppm	ASTM D5185m		**849**	865	748
Calcium	ppm	ASTM D5185m		**1395**	1377	1498
Phosphorus	ppm	ASTM D5185m		**806**	813	732
Zinc	ppm	ASTM D5185m		**950**	974	866
Sulfur	ppm	ASTM D5185m		**3030**	3264	3082

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	10	7
Sodium	ppm	ASTM D5185m		**11**	7	4
Potassium	ppm	ASTM D5185m	>20	**54**	52	19
Fuel	%	ASTM D3524	>5	**0.2**	<1.0	<1.0
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.1**	1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**12.6**	12.7	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.8**	24.3	23.3

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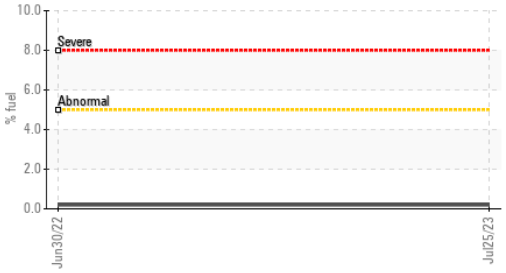
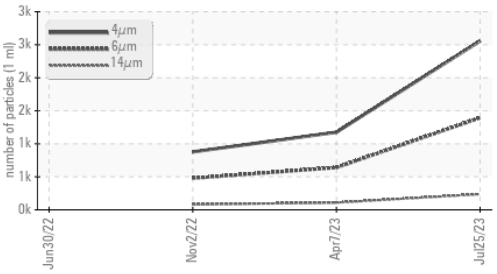
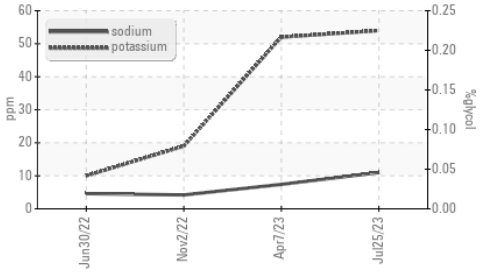
Fuel Dilution



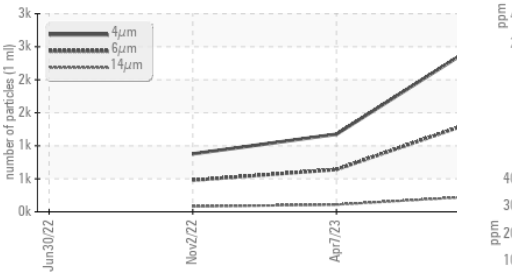
Particle Trend



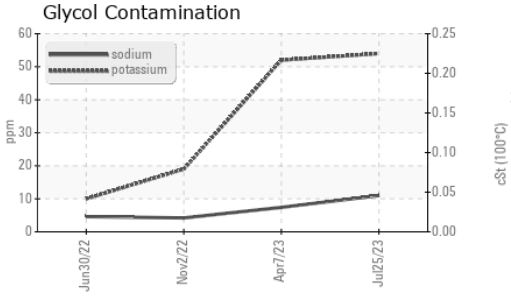
Glycol Contamination



Particle Trend



Glycol Contamination



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**2558**	1175	877
Particles >6µm		ASTM D7647	>5000	**1393**	640	478
Particles >14µm		ASTM D7647	>640	**237**	109	81
Particles >21µm		ASTM D7647	>160	**80**	37	27
Particles >38µm		ASTM D7647	>40	**12**	6	4
Particles >71µm		ASTM D7647	>10	**1**	1	0
Oil Cleanliness		ISO 4406 (c)	>19/16	**18/15**	16/14	16/14

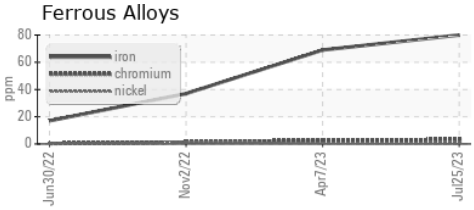
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**24.2**	22.4	18.8
Base Number (BN)	mg KOH/g	ASTM D2896		**8.67**	10.15	7.10

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

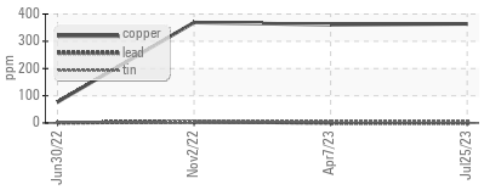
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**10.9**	10.9	10.0

GRAPHS

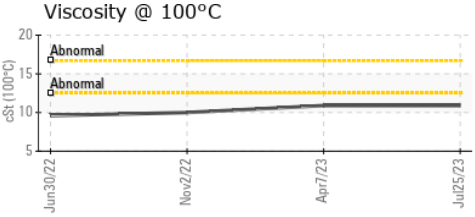
Ferrous Alloys



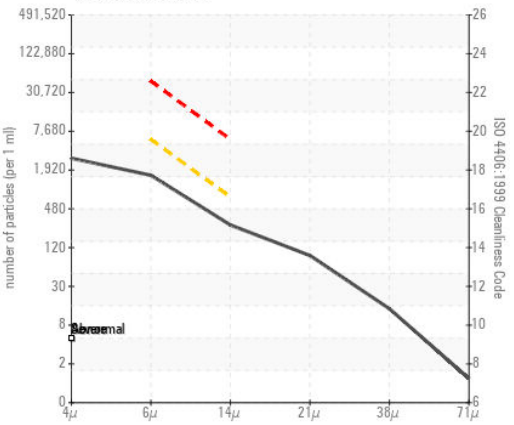
Non-ferrous Metals



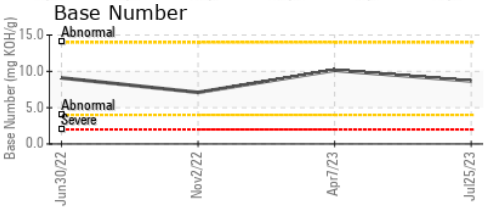
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012010 **Received** : 14 Aug 2023
Lab Number : 05923602 **Diagnosed** : 18 Aug 2023
Unique Number : 10603549 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, 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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