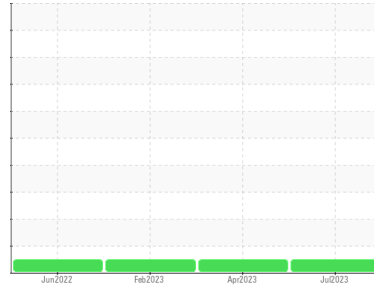




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
35172
 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		KL0012012	KLM2339432	KLM2339314
Sample Date	Client Info		25 Jul 2023	10 Apr 2023	13 Feb 2023
Machine Age	mls	Client Info	34547	0	18532
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	28	20	45
Chromium	ppm	ASTM D5185m >20	1	<1	2
Nickel	ppm	ASTM D5185m >4	0	<1	<1
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >3	0	<1	0
Aluminum	ppm	ASTM D5185m >20	8	5	14
Lead	ppm	ASTM D5185m >40	0	<1	4
Copper	ppm	ASTM D5185m >330	58	96	353
Tin	ppm	ASTM D5185m >15	2	2	5
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	31	62	20
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	55	53	7
Manganese	ppm	ASTM D5185m	1	1	4
Magnesium	ppm	ASTM D5185m	1050	1063	755
Calcium	ppm	ASTM D5185m	1151	1097	1433
Phosphorus	ppm	ASTM D5185m	978	1009	705
Zinc	ppm	ASTM D5185m	1222	1249	880
Sulfur	ppm	ASTM D5185m	3329	3811	2846

CONTAMINANTS

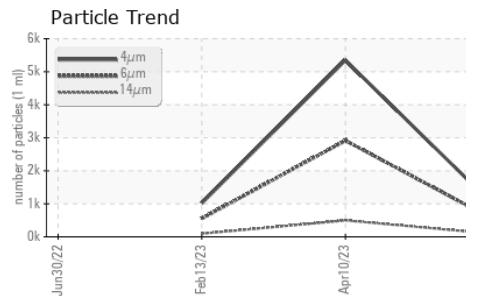
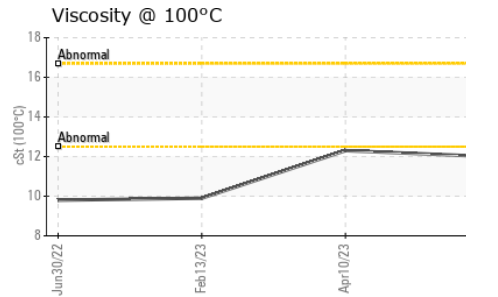
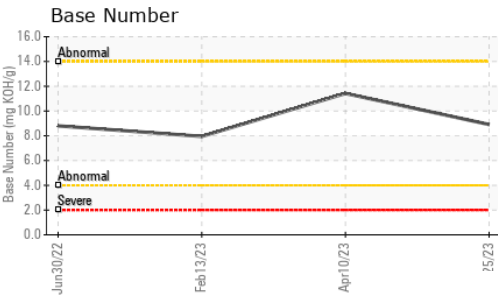
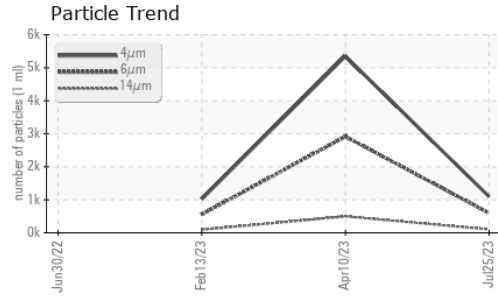
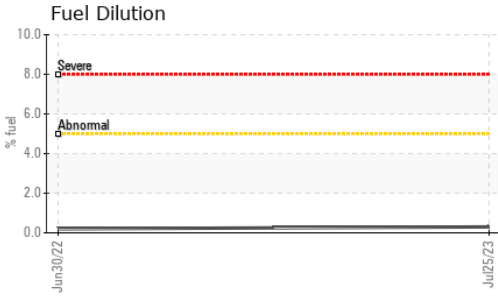
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	6	8
Sodium	ppm	ASTM D5185m	4	2	4
Potassium	ppm	ASTM D5185m >20	15	13	33
Fuel	%	ASTM D3524 >5	0.3	<1.0	<1.0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.6	0.4	0.6
Nitration	Abs/cm	*ASTM D7624 >20	9.9	8.5	10.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.7	21.7	22.5



OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		1096	5350	1018
Particles >6µm	ASTM D7647	>5000	597	2915	554
Particles >14µm	ASTM D7647	>640	102	496	94
Particles >21µm	ASTM D7647	>160	34	167	32
Particles >38µm	ASTM D7647	>40	5	26	5
Particles >71µm	ASTM D7647	>10	1	3	1
Oil Cleanliness	ISO 4406 (c)	>19/16	16/14	19/16	16/14

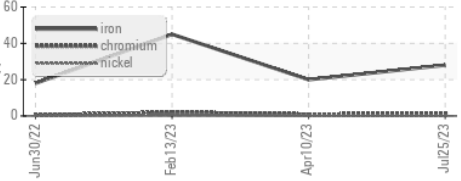
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	18.8	17.3	19.1
Base Number (BN)	mg KOH/g	ASTM D2896		8.91	11.42	7.95

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

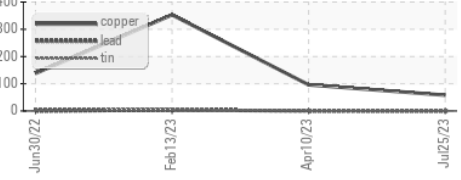
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.0	12.3	9.9

GRAPHS

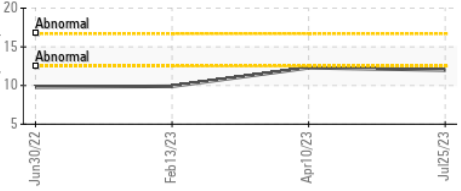
Ferrous Alloys



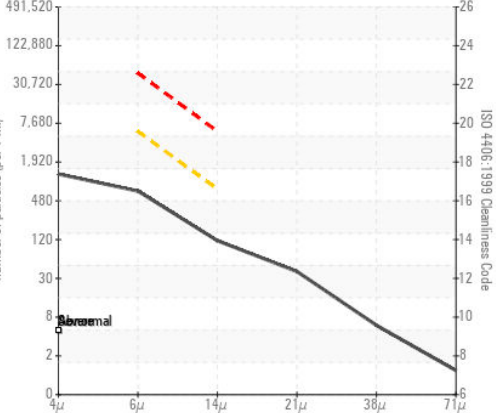
Non-ferrous Metals



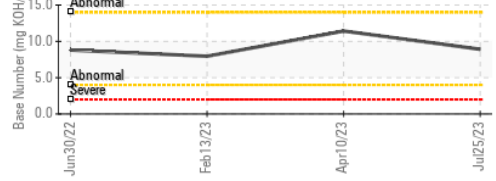
Viscosity @ 100°C



Particle Count



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012012 **Received** : 14 Aug 2023
Lab Number : **05923601** **Diagnosed** : 18 Aug 2023
Unique Number : 10603548 **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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