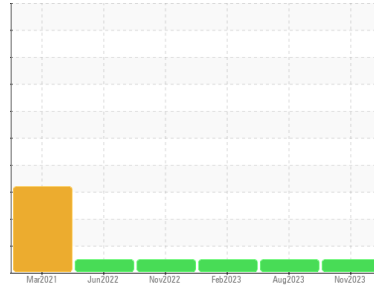




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
35164
 Component
Diesel Engine
 Fluid
NOT GIVEN (--- QTS)

DIAGNOSIS

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KL0012127	KL0012005	KLM2339390
Sample Date	Client Info		11 Nov 2023	02 Aug 2023	10 Feb 2023
Machine Age	mls	Client Info	109249	105628	95963
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
Fuel	WC Method	>6.0	<1.0	<1.0	<1.0
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	7	26	8
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	2	<1
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	2	4	2
Lead	ppm	ASTM D5185m >40	2	10	2
Copper	ppm	ASTM D5185m >330	3	4	3
Tin	ppm	ASTM D5185m >15	<1	2	<1
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	84	17	52
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	61	65	60
Manganese	ppm	ASTM D5185m	<1	<1	1
Magnesium	ppm	ASTM D5185m	1156	1107	1110
Calcium	ppm	ASTM D5185m	1009	1088	1080
Phosphorus	ppm	ASTM D5185m	1131	1034	979
Zinc	ppm	ASTM D5185m	1358	1309	1313
Sulfur	ppm	ASTM D5185m	3647	3686	3706

CONTAMINANTS

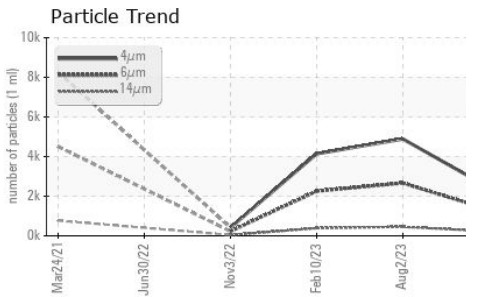
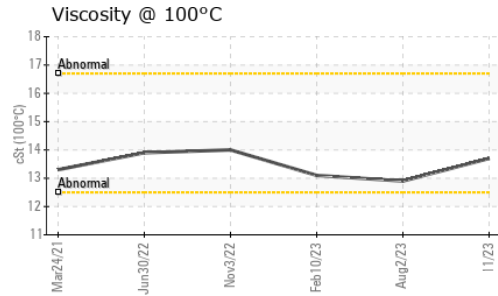
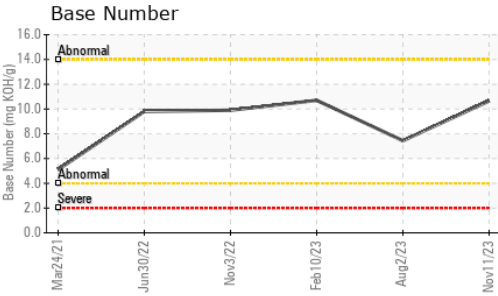
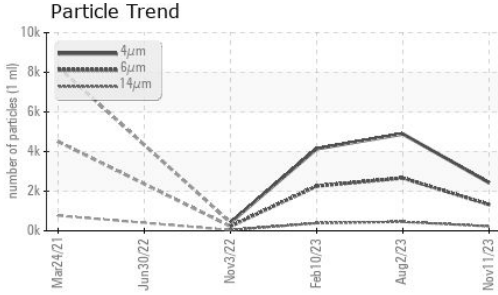
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	6	4
Sodium	ppm	ASTM D5185m	6	27	16
Potassium	ppm	ASTM D5185m >20	4	7	5

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.7	0.3
Nitration	Abs/cm	*ASTM D7624 >20	7.3	11.0	8.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.0	26.1	21.7



OIL ANALYSIS REPORT



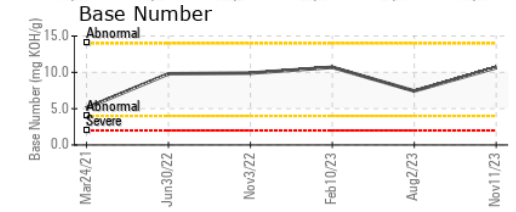
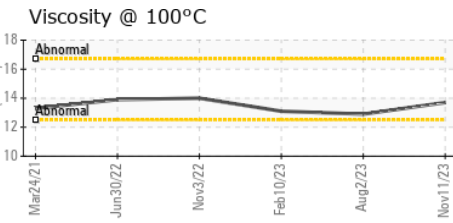
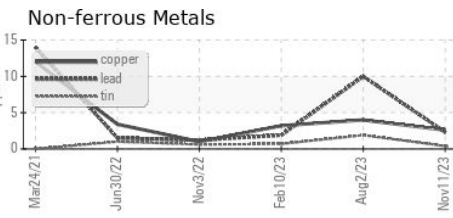
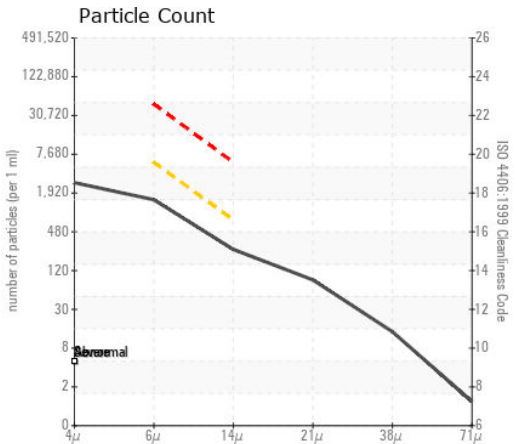
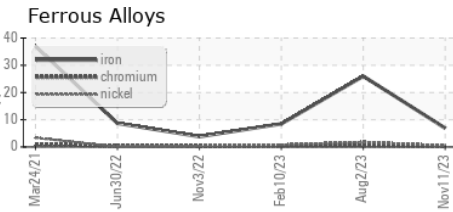
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		2427	4888	4141
Particles >6µm	ASTM D7647	>5000	1322	2663	2256
Particles >14µm	ASTM D7647	>640	225	453	384
Particles >21µm	ASTM D7647	>160	76	153	129
Particles >38µm	ASTM D7647	>40	12	24	20
Particles >71µm	ASTM D7647	>10	1	2	2
Oil Cleanliness	ISO 4406 (c)	>19/16	18/15	19/16	18/16

FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	17.4	24.9	18.6
Base Number (BN)	mg KOH/g	ASTM D2896		10.65	7.44	10.70

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		13.7	12.9	13.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KL0012127 Received : 20 Nov 2023
 Lab Number : 06013444 Diagnosed : 23 Nov 2023
 Unique Number : 10752588 Diagnostician : Don Baldrige
 Test Package : MOB 2 (Additional Tests: PrtCount)

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 F:

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)