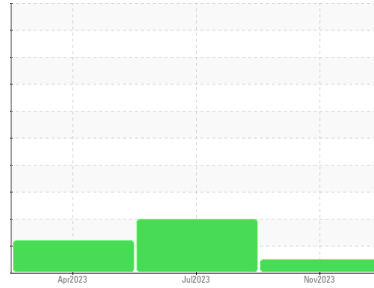




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
27309

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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 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		KL0012099	KL0012055	KLM2339375
Sample Date	Client Info		10 Nov 2023	25 Jul 2023	11 Apr 2023
Machine Age	mls	Client Info	63175	61168	56924
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	ABNORMAL	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	17	104	55
Chromium	ppm	ASTM D5185m >20	<1	3	2
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	10	6
Lead	ppm	ASTM D5185m >40	<1	0	<1
Copper	ppm	ASTM D5185m >330	2	6	3
Tin	ppm	ASTM D5185m >15	<1	<1	<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 250	96	14	19
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	62	62	64
Manganese	ppm	ASTM D5185m	<1	1	<1
Magnesium	ppm	ASTM D5185m 450	1076	1078	1113
Calcium	ppm	ASTM D5185m 3000	1075	1126	1047
Phosphorus	ppm	ASTM D5185m 1150	1126	1077	1035
Zinc	ppm	ASTM D5185m 1350	1352	1363	1346
Sulfur	ppm	ASTM D5185m 4250	3635	3589	3722

CONTAMINANTS

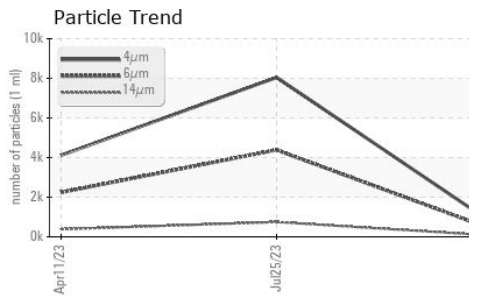
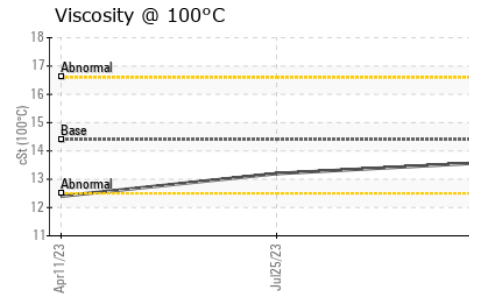
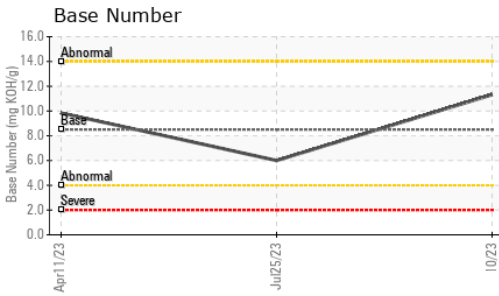
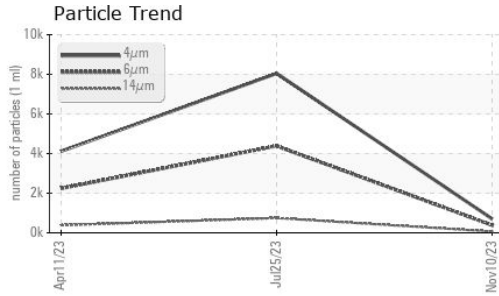
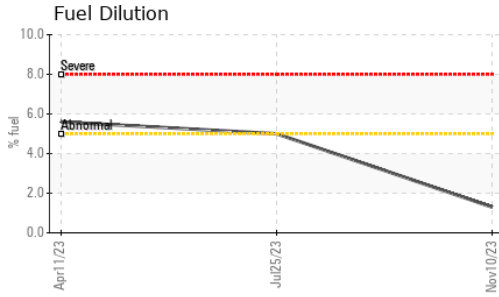
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	13	10
Sodium	ppm	ASTM D5185m >158	5	32	8
Potassium	ppm	ASTM D5185m >20	5	17	10
Fuel	%	ASTM D3524 >5	1.3	▲ 5.0	▲ 5.6

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	1.3	1.1
Nitration	Abs/cm	*ASTM D7624 >20	8.4	16.3	13.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.3	37.6	33.1



OIL ANALYSIS REPORT



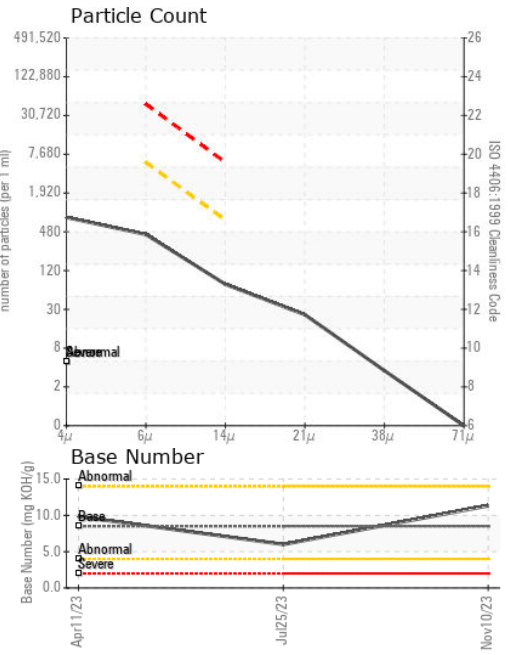
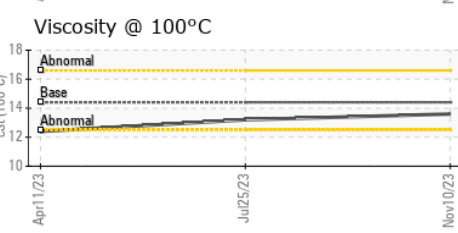
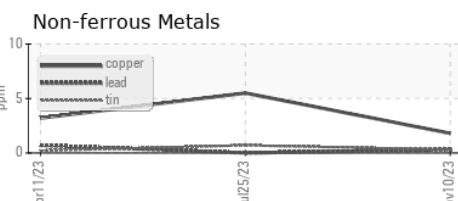
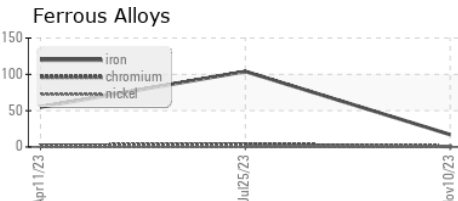
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		705	8047	4115
Particles >6µm	ASTM D7647	>5000	384	4384	2242
Particles >14µm	ASTM D7647	>640	65	▲ 746	381
Particles >21µm	ASTM D7647	>160	22	▲ 251	129
Particles >38µm	ASTM D7647	>40	3	39	20
Particles >71µm	ASTM D7647	>10	0	4	2
Oil Cleanliness	ISO 4406 (c)	>19/16	16/13	▲ 19/17	18/16

FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	20.7	45.8	37.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	11.32	6.00	9.84

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	13.6	13.2	▲ 12.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012099 **Received** : 20 Nov 2023
Lab Number : **06013437** **Diagnosed** : 24 Nov 2023
Unique Number : 10752581 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: PercentFuel, PrtCount)

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Certificate L2367
 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)