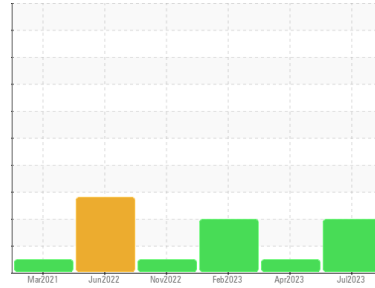




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
27247

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a moderate amount of particulates present 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	KL0012006	KLM2339404	KLM2339324	
Sample Date	Client Info	28 Jul 2023	09 Apr 2023	10 Feb 2023	
Machine Age	mls	Client Info	78883	0	72921
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	
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>75	6	24	13
Chromium	ppm	ASTM D5185m	>5	<1	1	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	2	2
Lead	ppm	ASTM D5185m	>25	0	<1	<1
Copper	ppm	ASTM D5185m	>100	0	2	1
Tin	ppm	ASTM D5185m	>4	0	0	0
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	250	118	91	46
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	73	67	58
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m	450	862	850	968
Calcium	ppm	ASTM D5185m	3000	1337	1256	1234
Phosphorus	ppm	ASTM D5185m	1150	1106	1050	1008
Zinc	ppm	ASTM D5185m	1350	1319	1322	1341
Sulfur	ppm	ASTM D5185m	4250	4364	4041	3863

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	3	6	5
Sodium	ppm	ASTM D5185m	>216	2	3	2
Potassium	ppm	ASTM D5185m	>20	<1	2	2

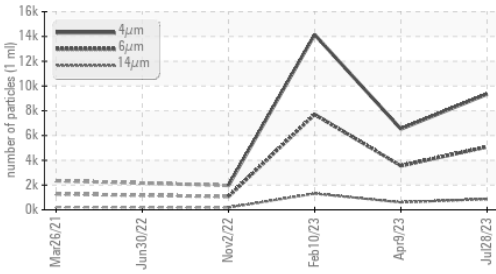
INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>6	0.2	0.7	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.4	11.5	10.1
Sulfation	Abs./1mm	*ASTM D7415	>30	19.7	27.0	23.2

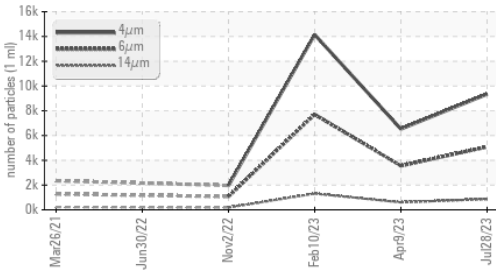


OIL ANALYSIS REPORT

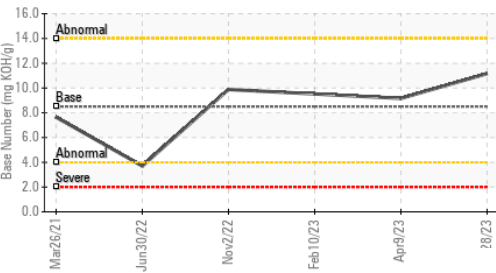
▲ Particle Trend



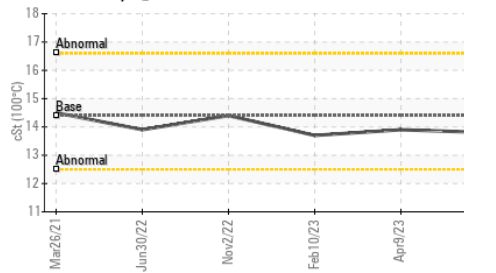
▲ Particle Trend



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		9344	6525	14146
Particles >6µm	ASTM D7647	>5000	▲ 5090	3554	▲ 7706
Particles >14µm	ASTM D7647	>640	▲ 866	605	▲ 1311
Particles >21µm	ASTM D7647	>160	▲ 292	204	▲ 442
Particles >38µm	ASTM D7647	>40	▲ 45	31	▲ 68
Particles >71µm	ASTM D7647	>10	5	3	7
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 20/17	19/16	▲ 20/18

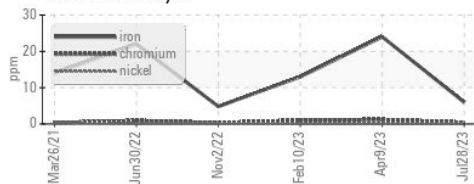
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	16.8	26.3	22.0
Base Number (BN)	mg KOH/g ASTM D2896	8.5	11.16	9.16	9.52

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

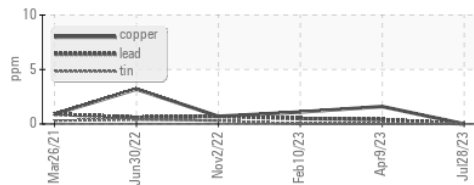
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445	14.4	13.8	13.9	13.7

GRAPHS

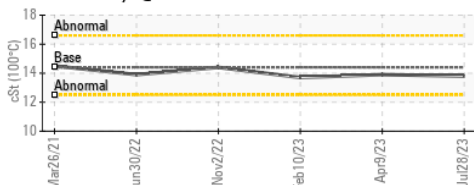
Ferrous Alloys



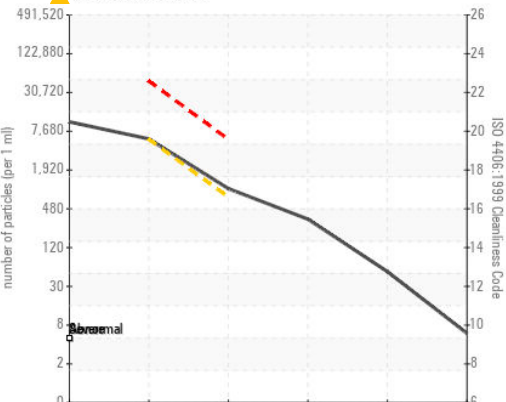
Non-ferrous Metals



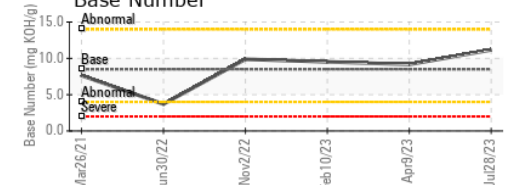
Viscosity @ 100°C



▲ Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KL0012006 Received : 14 Aug 2023
 Lab Number : 05923557 Diagnosed : 15 Aug 2023
 Unique Number : 10603504 Diagnostician : Doug Bogart
 Test Package : MOB 2 (Additional Tests: 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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