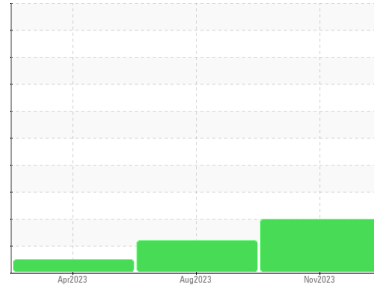




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
27319
 Component
Diesel Engine
 Fluid
NOT GIVEN (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high 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		KL0012123	KL0012001	KLM2339360
Sample Date	Client Info		11 Nov 2023	02 Aug 2023	09 Apr 2023
Machine Age	mls	Client Info	55824	51581	45714
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	ATTENTION	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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	74	21	30
Chromium	ppm	ASTM D5185m >20	2	<1	1
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	5	5	2
Lead	ppm	ASTM D5185m >40	2	0	0
Copper	ppm	ASTM D5185m >330	6	6	2
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	18	19	55
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	64	17	65
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1100	290	1123
Calcium	ppm	ASTM D5185m	1217	2272	1084
Phosphorus	ppm	ASTM D5185m	1128	1007	1050
Zinc	ppm	ASTM D5185m	1385	1254	1320
Sulfur	ppm	ASTM D5185m	3422	4352	4061

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	9	7
Sodium	ppm	ASTM D5185m	12	8	6
Potassium	ppm	ASTM D5185m >20	6	5	4

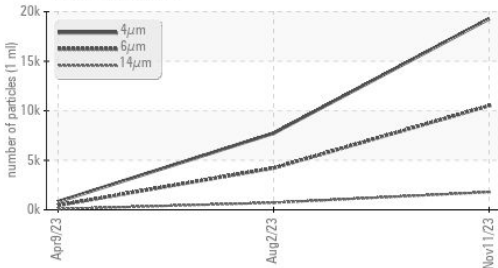
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.4	0.6	0.7
Nitration	Abs/cm	*ASTM D7624 >20	13.9	8.8	10.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	33.3	22.8	23.8

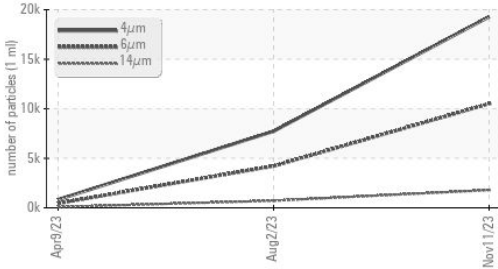


OIL ANALYSIS REPORT

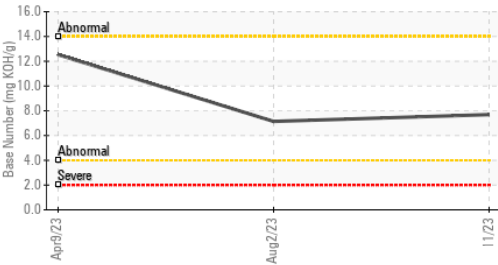
Particle Trend



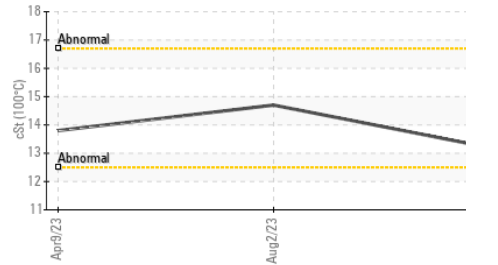
Particle Trend



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		19287	7734	826
Particles >6µm	ASTM D7647	>5000	▲ 10507	4213	450
Particles >14µm	ASTM D7647	>640	▲ 1788	▲ 717	77
Particles >21µm	ASTM D7647	>160	▲ 602	▲ 242	26
Particles >38µm	ASTM D7647	>40	▲ 93	37	4
Particles >71µm	ASTM D7647	>10	9	4	0
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 21/18	▲ 19/17	16/13

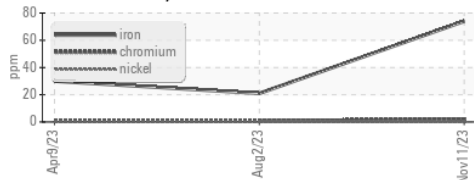
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	36.8	15.5	22.1
Base Number (BN)	mg KOH/g ASTM D2896		7.69	7.14	12.53

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

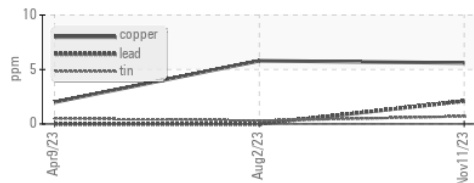
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		13.2	14.7	13.8

GRAPHS

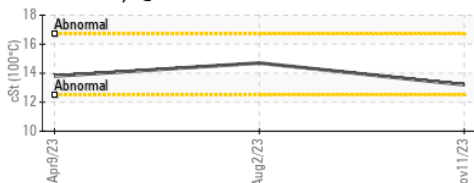
Ferrous Alloys



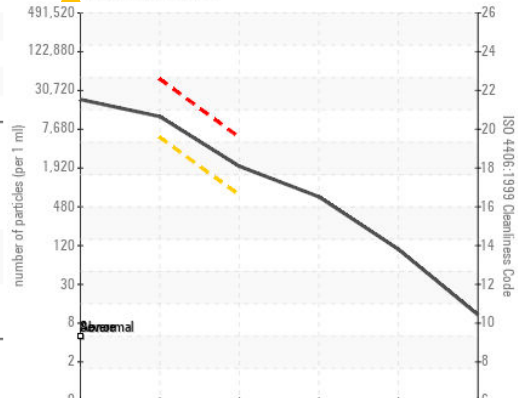
Non-ferrous Metals



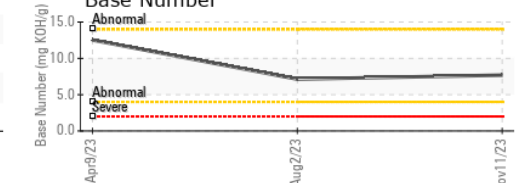
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KL0012123 Received : 20 Nov 2023
 Lab Number : 06013454 Diagnosed : 23 Nov 2023
 Unique Number : 10752598 Diagnostician : Don Baldrige
 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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