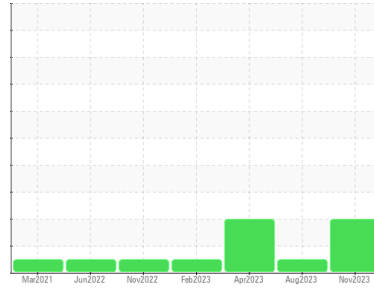




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
27289
 Component
Diesel Engine
 Fluid
NOT GIVEN (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. 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		KL0012029	KL0012048	KLM2339313
Sample Date	Client Info		14 Nov 2023	03 Aug 2023	09 Apr 2023
Machine Age	hrs	Client Info	34218	30169	27075
Oil Age	hrs	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	>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	27	12	32
Chromium	ppm	ASTM D5185m >20	<1	<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	7	2	5
Lead	ppm	ASTM D5185m >40	<1	0	0
Copper	ppm	ASTM D5185m >330	2	<1	2
Tin	ppm	ASTM D5185m >15	<1	0	0
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	50	91	60
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	70	74	63
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	732	778	877
Calcium	ppm	ASTM D5185m	1362	1398	1115
Phosphorus	ppm	ASTM D5185m	1049	1077	1031
Zinc	ppm	ASTM D5185m	1312	1303	1296
Sulfur	ppm	ASTM D5185m	3573	4274	4097

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	4	7
Sodium	ppm	ASTM D5185m	4	3	2
Potassium	ppm	ASTM D5185m >20	15	4	9

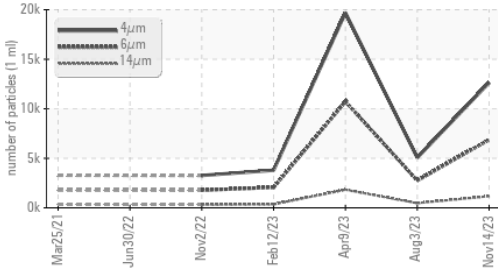
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1	0.4	0.9
Nitration	Abs/cm	*ASTM D7624 >20	10.5	7.7	10.1
Sulfation	Abs./1mm	*ASTM D7415 >30	26.0	20.6	25.0

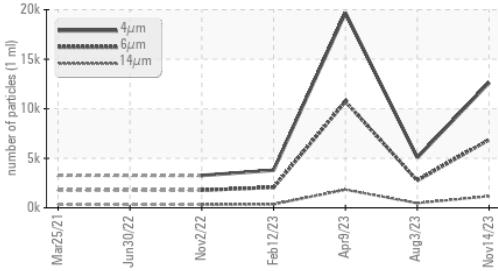


OIL ANALYSIS REPORT

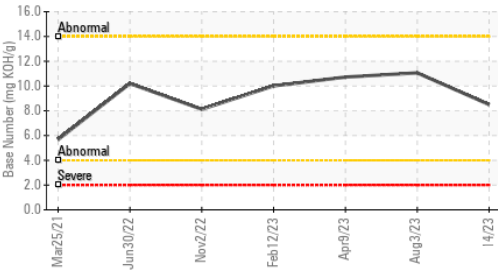
▲ Particle Trend



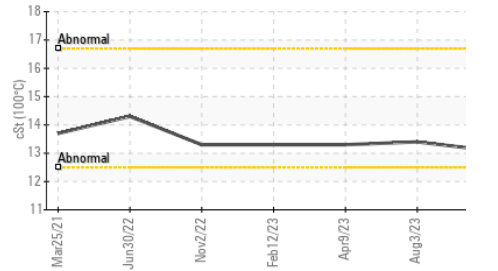
▲ Particle Trend



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		12632	5063	19687
Particles >6µm	ASTM D7647	>5000	▲ 6881	2758	▲ 10725
Particles >14µm	ASTM D7647	>640	▲ 1171	469	▲ 1825
Particles >21µm	ASTM D7647	>160	▲ 394	158	▲ 615
Particles >38µm	ASTM D7647	>40	▲ 61	24	▲ 95
Particles >71µm	ASTM D7647	>10	6	2	10
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 20/17	19/16	▲ 21/18

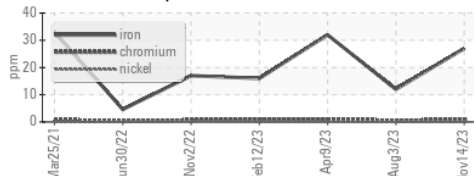
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	26.2	18.1	23.6
Base Number (BN)	mg KOH/g ASTM D2896		8.50	11.06	10.72

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

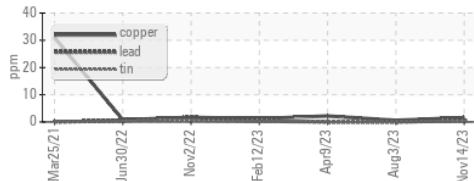
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		13.1	13.4	13.3

GRAPHS

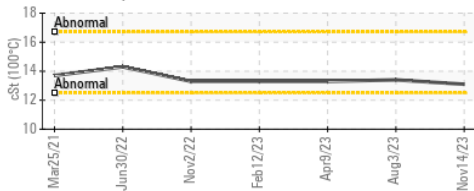
Ferrous Alloys



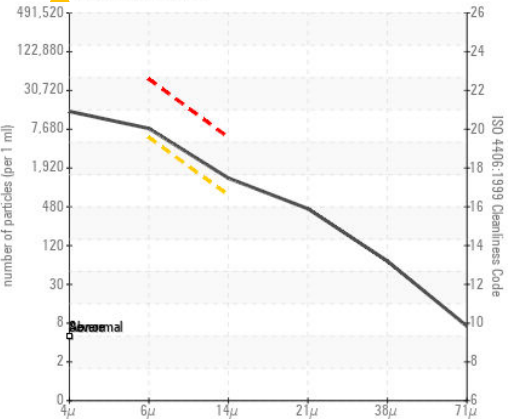
Non-ferrous Metals



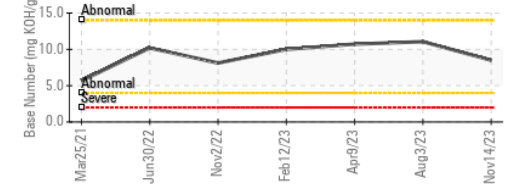
Viscosity @ 100°C



▲ Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KL0012029 Received : 20 Nov 2023
 Lab Number : 06013442 Diagnosed : 23 Nov 2023
 Unique Number : 10752586 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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