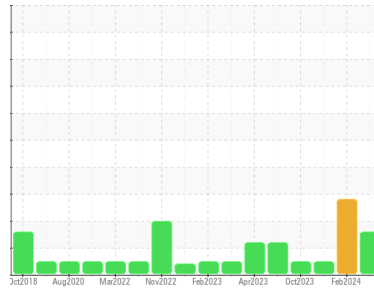




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

GUAY SON [CONHER]

Machine Id

PERKINS IBACO COZAR VII AUX-1

Component

Diesel Engine

Fluid

RALOY 15W40 (8 LTR)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy 15W40)

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		KL0014185	KL0014154	KL0013355
Sample Date	Client Info		20 Mar 2024	06 Feb 2024	01 Nov 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	372	20
Oil Changed	Client Info		N/A	Changed	Not Changed
Sample Status			ATTENTION	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	1.7	<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	>250	58	49	65
Chromium	ppm	ASTM D5185m	>10	<1	<1	1
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>35	3	3	3
Lead	ppm	ASTM D5185m	>100	<1	<1	<1
Copper	ppm	ASTM D5185m	>60	<1	1	4
Tin	ppm	ASTM D5185m	>5	<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		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		4	6	8
Calcium	ppm	ASTM D5185m		2857	2561	2961
Phosphorus	ppm	ASTM D5185m		1208	1050	1094
Zinc	ppm	ASTM D5185m		1400	1318	1495
Sulfur	ppm	ASTM D5185m		3742	2762	3168

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>35	12	10	12
Sodium	ppm	ASTM D5185m		0	1	3
Potassium	ppm	ASTM D5185m	>20	2	3	4

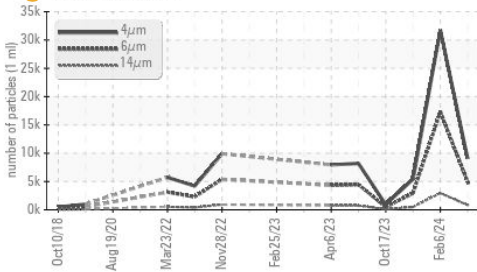
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.4	10.1	11.4
Sulfation	Abs/1mm	*ASTM D7415	>30	18.6	18.0	20.6

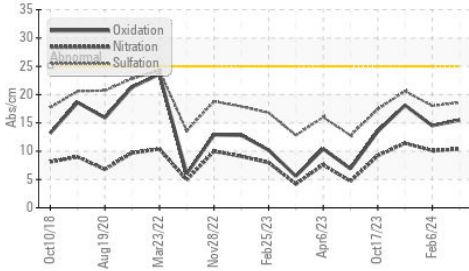


OIL ANALYSIS REPORT

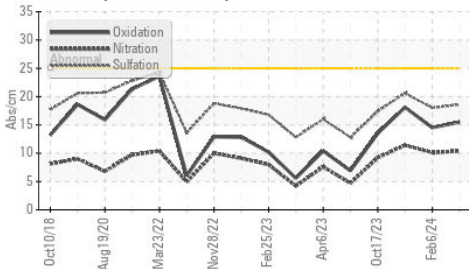
● Particle Trend



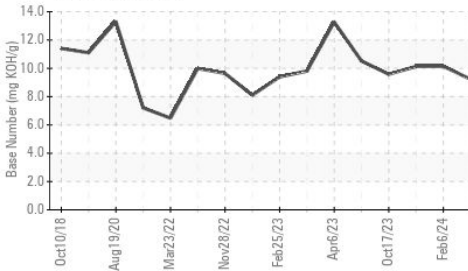
— FT-IR (Direct Trend)



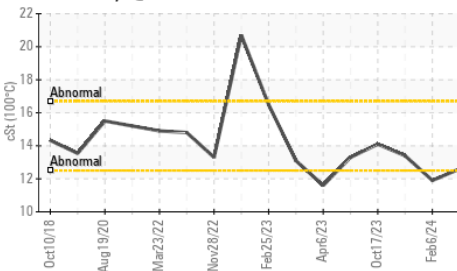
— FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		9082	31728	5429
Particles >6µm	ASTM D7647	>5000	4948	▲ 17284	2957
Particles >14µm	ASTM D7647	>640	842	▲ 2942	503
Particles >21µm	ASTM D7647	>160	284	▲ 991	170
Particles >38µm	ASTM D7647	>40	44	▲ 153	26
Particles >71µm	ASTM D7647	>10	4	▲ 16	3
Oil Cleanliness	ISO 4406 (c)	>19/16	19/17	▲ 21/19	19/16

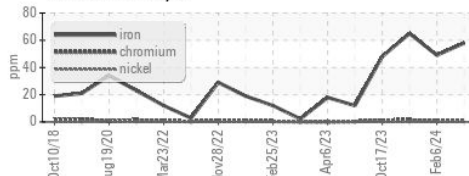
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	15.5	14.5	18.1
Base Number (BN)	mg KOH/g ASTM D2896		9.23	10.14	10.13

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

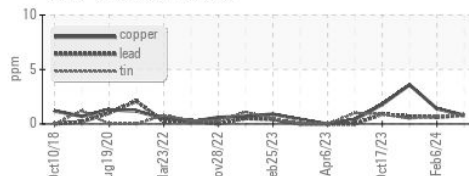
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		12.6	● 11.9	13.4

GRAPHS

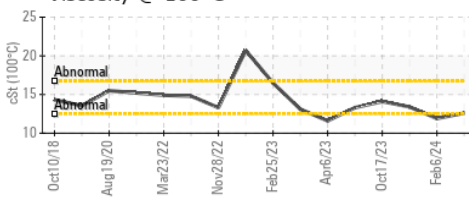
Ferrous Alloys



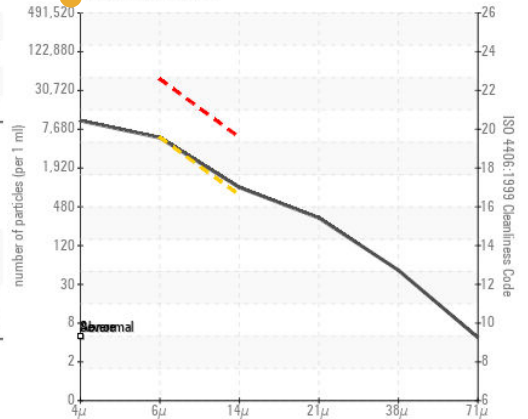
Non-ferrous Metals



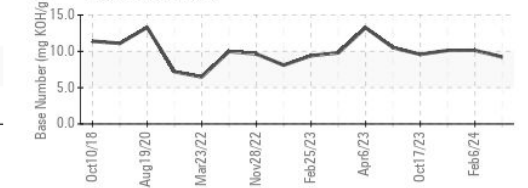
Viscosity @ 100°C



● Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KL0014185
 Lab Number : 06153293
 Unique Number : 10983371
 Test Package : MOB 2 (Additional Tests: PrtCount)
 Received : 18 Apr 2024
 Tested : 23 Apr 2024
 Diagnosed : 23 Apr 2024 - Don Baldrige

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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 MX 83140

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