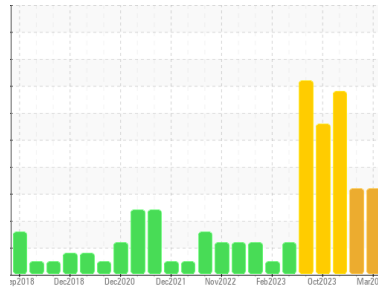




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
GUAY SON [CONHER]
 Machine Id
IBACO COZAR VII
 Component
Main Diesel Engine
 Fluid
RALOY 15W40 (160 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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 high amount of particulates present in the oil. Light fuel dilution occurring.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	KL0014184	KL0014152	KL0013354
Sample Date	Client Info	20 Mar 2024	06 Feb 2024	01 Nov 2023
Machine Age	hrs	0	19453	17869
Oil Age	hrs	0	390	345
Oil Changed	Client Info	N/A	Not Changd	Not Changd
Sample Status		ABNORMAL	ABNORMAL	SEVERE

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	8	12	20
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	2
Lead	ppm	ASTM D5185m	>40	2	<1	5
Copper	ppm	ASTM D5185m	>330	21	19	120
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		0	4	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	5	23
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		4	11	51
Calcium	ppm	ASTM D5185m		2732	2429	2445
Phosphorus	ppm	ASTM D5185m		1113	1004	1072
Zinc	ppm	ASTM D5185m		1272	1223	1300
Sulfur	ppm	ASTM D5185m		4069	2919	3600

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	10	8	8
Sodium	ppm	ASTM D5185m		24	40	85
Potassium	ppm	ASTM D5185m	>20	16	28	61
Fuel	%	ASTM D3524	>5	3.6	4.8	9.3

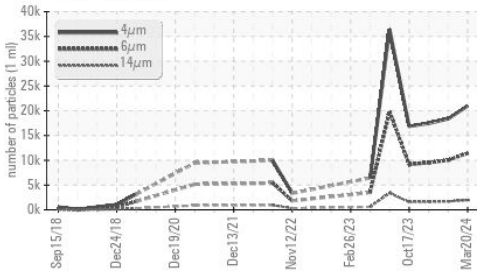
INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.2	6.2	8.4
Sulfation	Abs.1mm	*ASTM D7415	>30	14.6	13.9	17.3

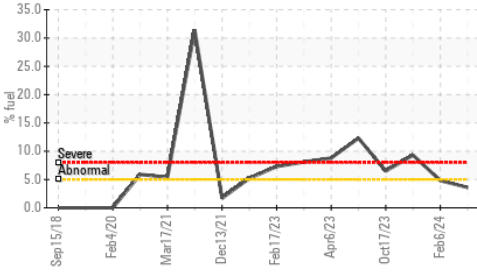


OIL ANALYSIS REPORT

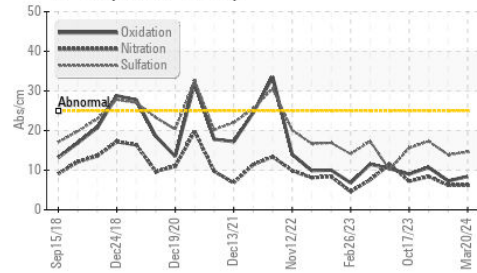
Particle Trend



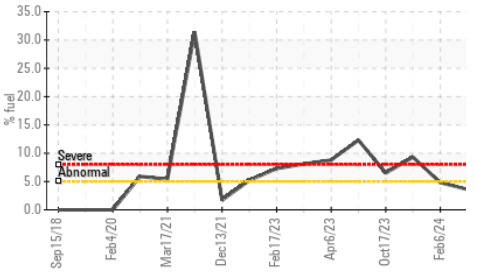
Fuel Dilution



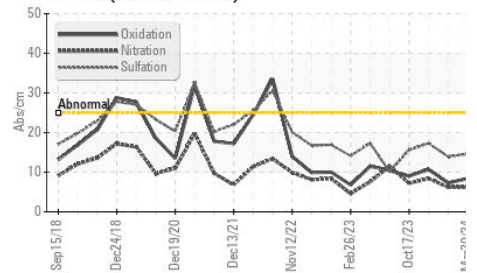
FT-IR (Direct Trend)



Fuel Dilution



FT-IR (Direct Trend)



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		20958	18374	17443
Particles >6µm	ASTM D7647	>5000	▲ 11417	▲ 10009	▲ 9502
Particles >14µm	ASTM D7647	>640	▲ 1943	▲ 1703	▲ 1617
Particles >21µm	ASTM D7647	>160	▲ 654	▲ 574	▲ 545
Particles >38µm	ASTM D7647	>40	▲ 101	▲ 89	▲ 84
Particles >71µm	ASTM D7647	>10	10	9	9
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 21/18	▲ 21/18	▲ 20/18

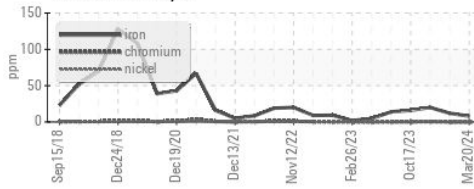
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	8.4	7.3	10.7
Base Number (BN)	mg KOH/g ASTM D2896		9.81	10.26	10.41

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

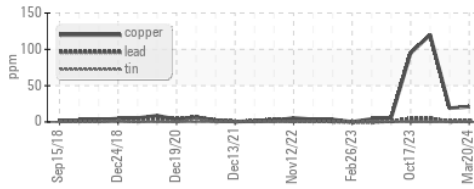
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		● 11.9	▲ 11.2	▲ 10.4

GRAPHS

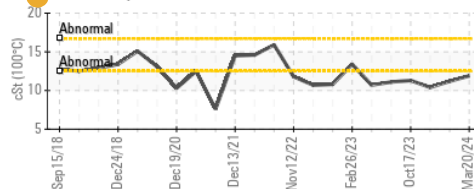
Ferrous Alloys



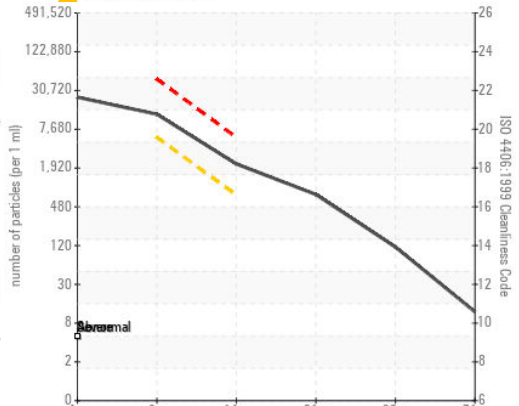
Non-ferrous Metals



Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : KL0014184

Lab Number : 06153292

Unique Number : 10983370

Test Package : MOB 2 (Additional Tests: PercentFuel, 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)

Received : 18 Apr 2024

Tested : 23 Apr 2024

Diagnosed : 23 Apr 2024 - Don Baldrige

CONOR

JUAREZ 348

HERMOSILLO,

MX 83140

Contact: EDUARDO GARCIA

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