



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	ATTENTION

Area  
**IBACO [CONHER]**  
Machine Id  
**COZAR I**  
Component  
**Bottom Diesel Engine**  
Fluid  
**RALOY 15W40 (160 LTR)**

## RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KL0014190</b>	KL0013369	KL0012789
Sample Date		Client Info		<b>20 Mar 2024</b>	06 Nov 2023	17 Sep 2023
Machine Age	hrs	Client Info		<b>0</b>	16750	16025
Oil Age	hrs	Client Info		<b>0</b>	280	15
Filter Age	hrs	Client Info		<b>0</b>	280	15
Oil Changed		Client Info		<b>N/A</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>N/A</b>	Not Changd	Not Changd
Sample Status				<b>ATTENTION</b>	ATTENTION	SEVERE

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>22</b>	30	3
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	<1	<1
Lead	ppm	ASTM D5185m	>40	<b>7</b>	1	<1
Copper	ppm	ASTM D5185m	>330	<b>3</b>	47	<1
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

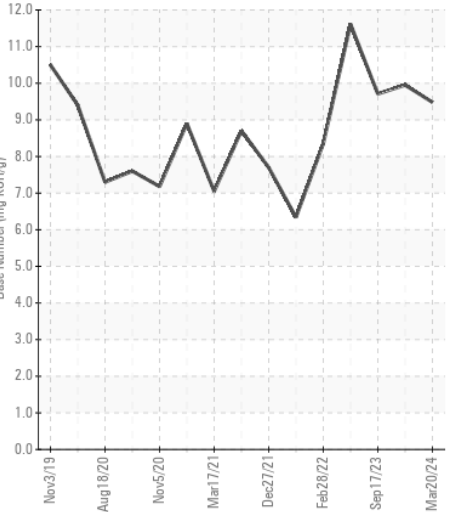
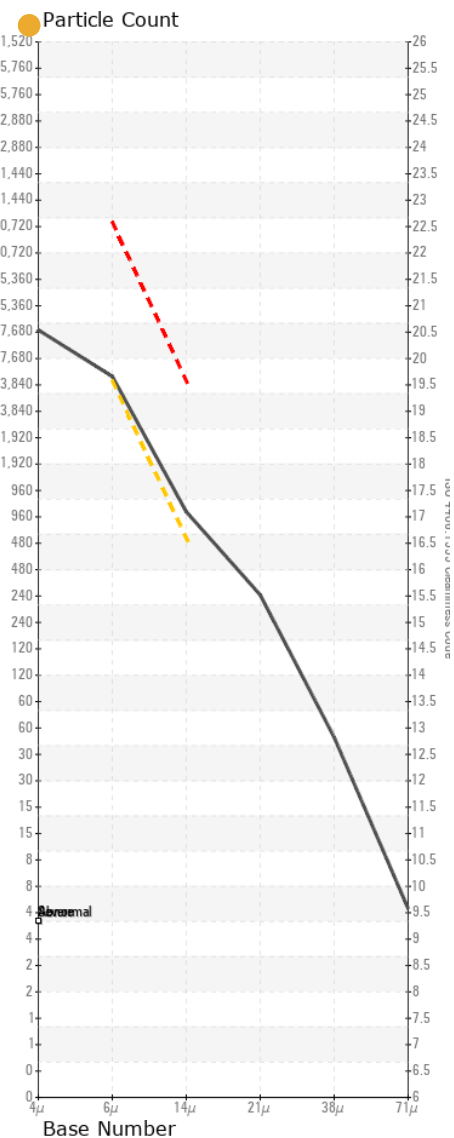
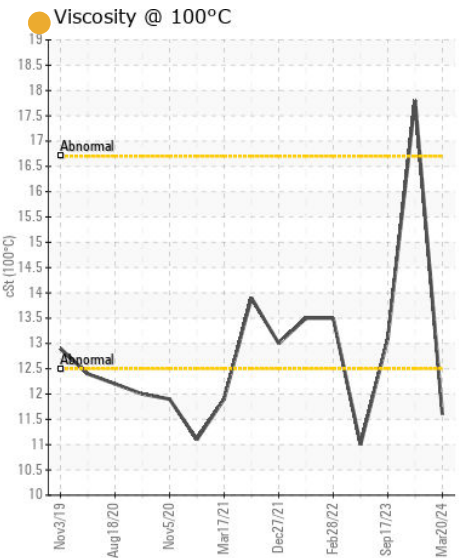
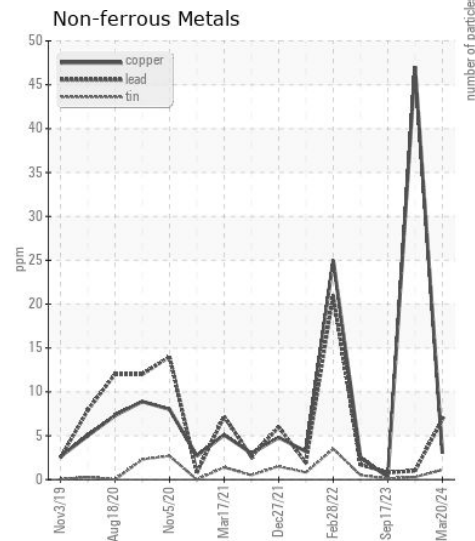
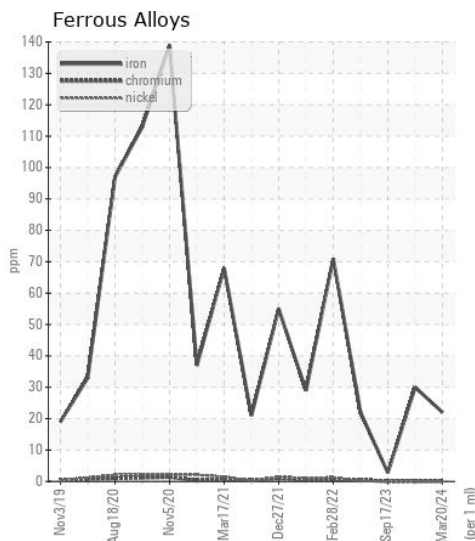
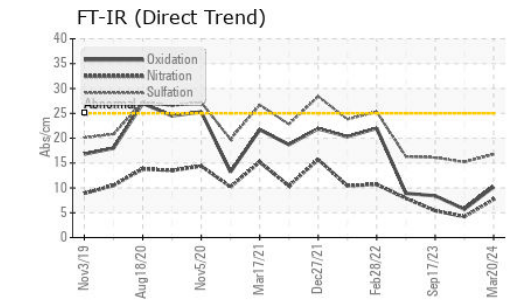
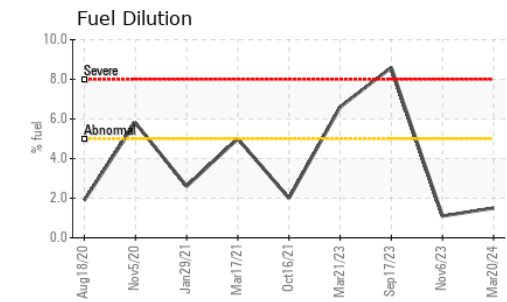
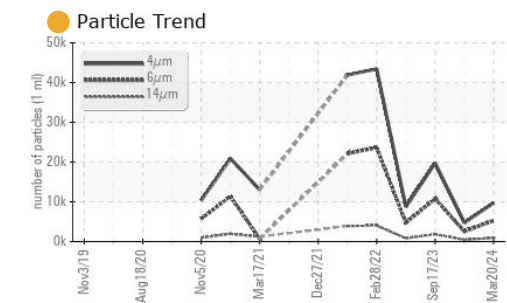
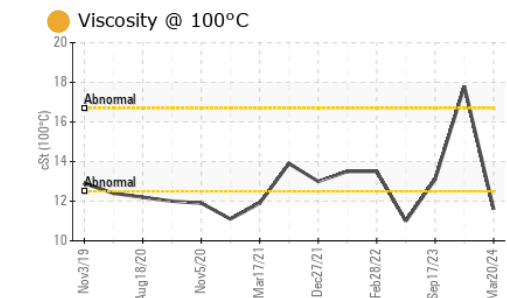
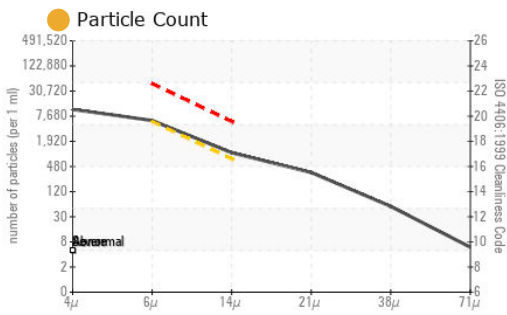
There is a moderate amount of particulates present in the oil. Fuel content negligible.

Silicon	ppm	ASTM D5185m	>25	<b>12</b>	8	6
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	0	6
Fuel	%	ASTM D3524	>5	<b>1.5</b>	1.1	▲ 8.6
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0	0
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.7</b>	4.2	5.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.7</b>	15.2	16.1
Particles >4µm		ASTM D7647		<b>9709</b>	4715	19722
Particles >6µm		ASTM D7647	>5000	● <b>5289</b>	2569	▲ 10744
Particles >14µm		ASTM D7647	>640	● <b>900</b>	437	▲ 1828
Particles >21µm		ASTM D7647	>160	● <b>303</b>	147	▲ 616
Particles >38µm		ASTM D7647	>40	● <b>47</b>	23	▲ 95
Particles >71µm		ASTM D7647	>10	● <b>5</b>	2	10
Oil Cleanliness		ISO 4406 (c)	>19/16	● <b>20/17</b>	19/16	▲ 21/18
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>25</b>	2	<1
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	0	28
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>3</b>	0	8
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>12</b>	0	43
Calcium	ppm	ASTM D5185m		<b>2878</b>	3233	2727
Phosphorus	ppm	ASTM D5185m		<b>1209</b>	936	1133
Zinc	ppm	ASTM D5185m		<b>1391</b>	809	1373
Sulfur	ppm	ASTM D5185m		<b>4112</b>	6199	4586
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.2</b>	5.7	8.4
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.48</b>	9.95	9.71
Visc @ 100°C	cSt	ASTM D445		● <b>11.6</b>	● 17.8	13.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KL0014190  
**Lab Number** : 06153320  
**Unique Number** : 10983398  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel, PrtCount )

**Received** : 18 Apr 2024  
**Tested** : 23 Apr 2024  
**Diagnosed** : 23 Apr 2024 - Jonathan Hester

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)

**CONOR**  
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