

# **OIL ANALYSIS REPORT**

Sample Rating Trend

FUEL

X

## Area IBACO [CONHER] Machine Id COZAR VI

Component Bottom Diesel Engine Fluid Xtra Rev 15W40 (160 LTR)

### DIAGNOSIS

#### Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

# Wear

All component wear rates are normal.

#### Contamination

There is a high amount of fuel present in the oil. The amount and size of particulates present in the system are acceptable.

# Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

		Nov2019	Feb 2020 Oct2020	Jan2021 Feb2022	Oct2022	
SAMPLE INFORM	IATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		KL0011173	KL0009265	KL0007700
Sample Date		Client Info		14 Oct 2022	31 Mar 2022	15 Feb 2022
Machine Age	hrs	Client Info		0	0	13385
Oil Age	hrs	Client Info		0	0	2573
Oil Changed		Client Info		N/A	N/A	Not Changd
Sample Status				SEVERE	SEVERE	SEVERE
CONTAMINATION	J	method	limit/base	current	history 1	history 2
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	7	16	19
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	2	2
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	3	3
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m				<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	maa	ASTM D5185m		0	180	167
Barium	nom	ASTM D5185m		0	0	0
Molybdenum	nom	ASTM D5185m		د د1	81	81
Manganese	nom	ASTM D5185m		<1	<1	<1
Manganeesium	ppm	ASTM D5185m		5	429	443
Calcium	nnm	ASTM D5185m		2787	2040	2064
Phosphorus	nnm	ASTM D5185m		1072	931	981
Zinc	nnm	ASTM D5185m		1267	1074	1099
Sulfur	ppm	ASTM D5185m		4461	2971	3150
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	nom	ASTM DE185m	> 25	Λ	7	0
Silicon	ppin	AGTM DE105m	>20	4	1	9
Botacoium	ppill	AGTIM DE105m	. 20	0	0	4
Fuel	٥/ ٥/		>5	0 <b>11</b> 5	• • • •	ے م
	70	ASTIVI D3524	>0	11.5	9.0	9.0
INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	0.3	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	8.0	10.3	11.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.8	21.9	24.1



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			FLUID CLEANLIN	method	limit/base	current	history 1	history 2	
			Particles >4µm		ASTM D7647		4530	21714	56246
			Particles >6µm		ASTM D7647	>5000	2468	<b>1</b> 1829	<b>A</b> 30640
$ \frown $			Particles >14µm		ASTM D7647	>640	420	🔺 2013	<u> </u>
	$\bigvee$		Particles >21µm		ASTM D7647	>160	141	<b>6</b> 78	<u> </u>
			Particles >38µm		ASTM D7647	>40	22	<b>1</b> 05	<u> </u>
			Particles >71µm		ASTM D7647	>10	2	<b>1</b> 1	<u> </u>
27/20	129/21	15/22	Oil Cleanliness		ISO 4406 (c)	>19/16	18/16	<b>1</b> /18	<u> </u>
0	Jar	Peb Oct	FLUID DEGRADA	ATION	method	limit/base	current	history 1	history 2
			Oxidation	Abs/.1mm	*ASTM D7414	>25	8.6	19.5	22.1
		٨	Base Number (BN)	mg KOH/g	ASTM D2896		9.77	7.35	6.72
			VISUAL		method	limit/base	current	history 1	history 2
		$  \wedge \rangle$	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		$// \setminus$	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
			Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
0		2 2	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
lct27/2	an 29/.	eb15/2 ct14/2	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
9	7	E 0	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
		2.27	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
		26 24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		-22 8	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		-20	Free Water	scalar	*Visual		NEG	NEG	NEG
		-16 c	FLUID PROPERT	TIES	method	limit/base	current	history 1	history 2
		14	Visc @ 100°C	cSt	ASTM D445		<b>9</b> .5	▲ 11.7	▲ 12.1
		10 ਵ	GRAPHS						
		-8	Ferrous Alloys				Particle Cou	nt	
	~	$\searrow$	Feb12/200	Jan29/21	Feb15/22	122,880 30,720 20,720 E 7,680 50 1,920			-24 -22 -20 80 -18 8
0ct27/20	Jan29/21	Feb15/2	Non-ferrous Metal	12/62/up	Feb15/22	120 120 120 120 120 120 120 120 120 120	1	14µ 21µ	16 Ceanfiness Code 14 12 Ce 10 8 38µ 71µ
120	9/21		Abromal Abr	n29/21	a15/22	1.211(1) 0.01100 KOH/(2) Base Number (ing KOH/(2) 1.0 es	Base Numbe	21. 12.1/20 12.9/21 12.9/21	015,72 114,72
Octi	Janž	Feb1	- <u>i</u> o	, ř	Ľ.	D	- Ĕ		й О

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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