

## **OIL ANALYSIS REPORT**

#### Area GUAY SON [CONHER] Machine Id IBACO COZAR VII Component

Main Diesel Engine Fluid XTRA REV 15W40 (160 LTR)

### DIAGNOSIS

#### A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

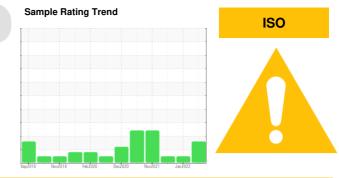
All component wear rates are normal.

#### Contamination

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

#### **Fluid Condition**

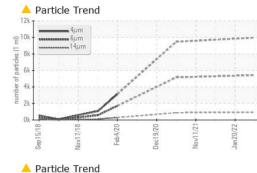
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

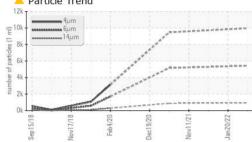


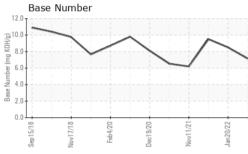
SAMPLE INFORM	<b>/IATION</b>	method	limit/base	current	history 1	history 2
Sample Number		Client Info		KL0009200	KL0009083	KL0009013
Sample Date		Client Info		23 Mar 2022	20 Jan 2022	13 Dec 2021
Machine Age	hrs	Client Info		14671	13546	12898
Oil Age	hrs	Client Info		1381	600	200
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	1.7
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	19	9	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	1
Aluminum	ppm	ASTM D5185m	>20	3	2	<1
Lead	ppm	ASTM D5185m	>40	4	<1	<1
Copper	ppm	ASTM D5185m	>330	2	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m			<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history 1	<1 history 2
	ppm ppm		limit/base			
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 205	history 1 302	history 2 392
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 205 0	history 1 302 0	history 2 392 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 205 0 126 <1 638	history 1 302 0 115 <1 569	history 2 392 <1 119
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           205           0           126           <1	history 1 302 0 115 <1 569 1516	history 2 392 <1 119 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           205           0           126           <1           638           1650           903	history 1 302 0 115 <1 569 1516 873	history 2 392 <1 119 <1 513 1384 834
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           205           0           126           <1           638           1650           903           1080	history 1 302 0 115 <1 569 1516 873 982	history 2 392 <1 119 <1 513 1384 834 936
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           205           0           126           <1           638           1650           903	history 1 302 0 115 <1 569 1516 873	history 2 392 <1 119 <1 513 1384 834
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current           205           0           126           <1           638           1650           903           1080	history 1 302 0 115 <1 569 1516 873 982	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m		current           205           0           126           <1           638           1650           903           1080           2872           current           9	history 1           302           0           115           <1           569           1516           873           982           2753           history 1           8	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2         8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	limit/base >25	current           205           0           126           <1           638           1650           903           1080           2872           current           9           3	history 1         302         0         115         <1         569         1516         873         982         2753         history 1         8         2	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2         8         1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	limit/base	current           205           0           126           <1           638           1650           903           1080           2872           current           9	history 1           302           0           115           <1           569           1516           873           982           2753           history 1           8	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2         8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	limit/base >25	current           205           0           126           <1           638           1650           903           1080           2872           current           9           3	history 1         302         0         115         <1         569         1516         873         982         2753         history 1         8         2	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2         8         1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	limit/base >25 >20	current           205           0           126           <1           638           1650           903           1080           2872           current           9           3           0	history 1         302         0         115         <1         569         1516         873         982         2753         history 1         8         2         0	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2         8         1         1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	limit/base >25 >20 limit/base	current         205         0         126         <1         638         1650         903         1080         2872         current         9         3         0         current	history 1         302         0         115         <1         569         1516         873         982         2753         history 1         8         2         0         history 1	history 2         392         <1         119         <1         513         1384         834         936         2226         history 2         8         1         <1         <1         <1         history 2

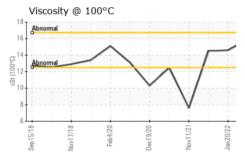


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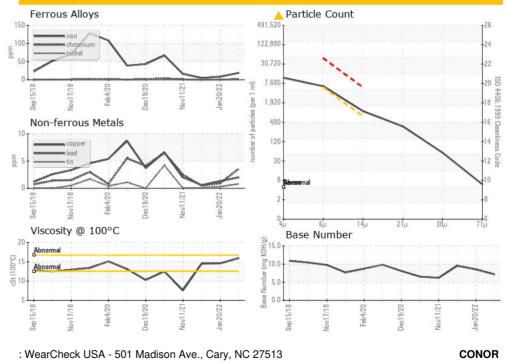






FLUID CLEANLIN	IESS	method	limit/base	current	history 1	history 2
Particles >4µm		ASTM D7647		9963		
Particles >6µm		ASTM D7647	>5000	<b>5428</b>		
Particles >14µm		ASTM D7647	>640	924		
Particles >21µm		ASTM D7647	>160	<b>3</b> 11		
Particles >38µm		ASTM D7647	>40	48		
Particles >71µm		ASTM D7647	>10	5		
Oil Cleanliness		ISO 4406 (c)	>19/16	<b>20/17</b>		
FLUID DEGRADA	TION	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	33.5	24.5	17.2
Base Number (BN)	mg KOH/g	ASTM D2896		7.15	8.5	9.5
VISUAL		method	limit/base	current	history 1	history 2
			initia babb	Guirent	Thotory T	motory 2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
White Metal Yellow Metal	scalar scalar				,	
		*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE	NONE
Yellow Metal Precipitate	scalar scalar	*Visual *Visual *Visual	NONE NONE NONE	NONE NONE NONE	NONE NONE NONE	NONE NONE NONE
Yellow Metal Precipitate Silt	scalar scalar scalar	*Visual *Visual *Visual *Visual	NONE NONE NONE NONE	NONE NONE NONE NONE	NONE NONE NONE NONE	NONE NONE NONE NONE
Yellow Metal Precipitate Silt Debris	scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE	NONE NONE NONE NONE NONE	NONE NONE NONE NONE	NONE NONE NONE NONE
Yellow Metal Precipitate Silt Debris Sand/Dirt	scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE
Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NONE NORE	NONE NONE NONE NONE NONE NONE NORML	NONE NONE NONE NONE NONE NORML	NONE NONE NONE NONE NONE NORML
Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NONE NORML NORML	NONE NONE NONE NONE NONE NORE NORML	NONE NONE NONE NONE NONE NORML NORML	NONE NONE NONE NONE NONE NORML NORML
Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NONE NORML NORML	NONE NONE NONE NONE NONE NORML NORML NEG	NONE NONE NONE NONE NONE NONE NORML NORML NEG	NONE NONE NONE NONE NONE NONE NORML NORML NEG





Laboratory Sample No. : KL0009200 Received : 30 Mar 2022 JUAREZ 348 Lab Number : 05505941 Diagnosed : 31 Mar 2022 HERMOSILLO, Unique Number : 9915215 Diagnostician : Doug Bogart MX 83140 Test Package : MOB 2 (Additional Tests: PrtCount) Contact: EDUARDO GARCIA Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. egarcia.comsa@gmail.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (526)622-1581 x:81 F: x:

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

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