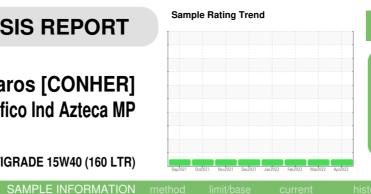


OIL ANALYSIS REPORT

GUAY SON/Yavaros [CONHER] CATERPILLAR Pacifico Ind Azteca MP Component

Diesel Engine

CHEVRON DELO 400 MULTIGRADE 15W40 (160 LTR)





NORMAL

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Estimated oil hours)

Fluic

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

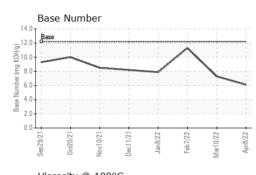
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

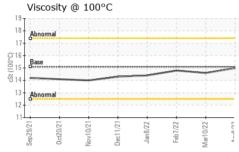
SAMPLE INFORM		methou	IIIII/Dase	current	nistory i	TIIStoryz
Sample Number		Client Info		KL0009232	KL0009098	KL0009052
Sample Date		Client Info		08 Apr 2022	10 Mar 2022	07 Feb 2022
Machine Age	hrs	Client Info		2919	2569	1618
Oil Age	hrs	Client Info		2919	2569	1618
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
· ·						
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<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	>100	72	60	52
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>2	2	<1	<1
Titanium	ppm		>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	5	6	2
Lead	ppm	ASTM D5185m	>40	22	16	11
Copper	ppm	ASTM D5185m	>330	25	26	27
Tin	ppm	ASTM D5185m	>15	3	2	2
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
	le le			•	0	0
ADDITIVES	la la con	method	limit/base	current	history1	history2
	ppm		limit/base			
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m	limit/base	current 141 0	history1 144	history2 154
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 141 0 122	history1 144 0	history2 154 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 141 0	history1 144 0 131	history2 154 0 125
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 141 0 122 <1 754	history1 144 0 131 <1 708	history2 154 0 125 <1 713
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 141 0 122 <1 754 1708	history1 144 0 131 <1 708 1636	history2 154 0 125 <1 713 1650
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1360	current 141 0 122 <1 754 1708 734	history1 144 0 131 <1 708 1636 712	history2 154 0 125 <1 713 1650 718
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 141 0 122 <1 754 1708	history1 144 0 131 <1 708 1636	history2 154 0 125 <1 713 1650
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	1360 1480	Current 141 0 122 <1 754 1708 734 844 2198	history1 144 0 131 <1 708 1636 712 898 2321	history2 154 0 125 <1 713 1650 718 831 2362
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	1360 1480 limit/base	current 141 0 122 <1 754 1708 734 844 2198 current	history1 144 0 131 <1 708 1636 712 898 2321 history1	history2 154 0 125 <1 713 1650 718 831 2362 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	1360 1480	current 141 0 122 <1 754 1708 734 844 2198 current 9	history1 144 0 131 <1 708 1636 712 898 2321 history1 10	history2 154 0 125 <1 713 1650 718 831 2362 history2 10
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	1360 1480 limit/base >25	current 141 0 122 <1 754 1708 734 844 2198 current 9 20	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16
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	1360 1480 limit/base >25 >20	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	1360 1480 limit/base >25 >20 limit/base	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	1360 1480 1480 >25 >20 1imit/base >20	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current 1	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1 0.9	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	1360 1480 225 >20 Iimit/base >20 Iimit/base >3 >20	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current 1 1. 14.6	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1 0.9 13.5	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2 0.1 5.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	1360 1480 1480 >25 >20 1imit/base >20	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current 1	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1 0.9	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	1360 1480 225 >20 Iimit/base >20 Iimit/base >3 >20	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current 1 1. 14.6	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1 0.9 13.5	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2 0.1 5.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	1360 1480 225 >25 >20 <u>limit/base</u> >3 >20 >30	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current 1 14.6 31.4	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1 0.9 13.5 30.0	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2 0.1 5.6 16.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	1360 1480 225 >225 >20 imit/base >3 >20 >30 >30	current 141 0 122 <1 754 1708 734 844 2198 current 9 20 0 current 1 14.6 31.4 current	history1 144 0 131 <1 708 1636 712 898 2321 history1 10 19 2 history1 0.9 13.5 30.0 history1	history2 154 0 125 <1 713 1650 718 831 2362 history2 10 16 1 history2 0.1 5.6 16.4 history2

Submitted By: EDUARDO GARCIA

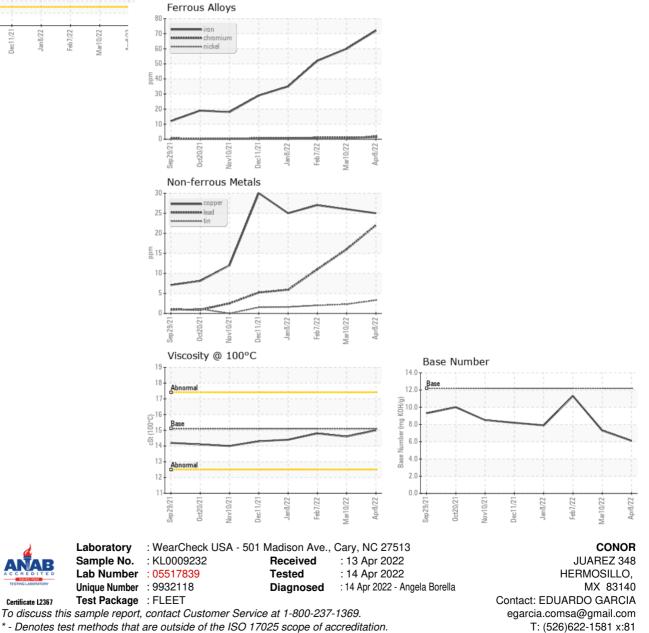


OIL ANALYSIS REPORT





VISUAL		method				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 PROPERT	IFS	method	limit/base	current	history1	history2
		method	mmbase	Current	Thistory I	THISTOLYZ
Visc @ 100°C	cSt	ASTM D445	15.1	15.0	14.6	14.8
GRAPHS						



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

Certificate L2367

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Submitted By: EDUARDO GARCIA

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