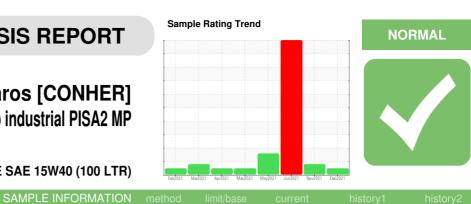


OIL ANALYSIS REPORT

GUAY SON/Yavaros [CONHER] Machine Id CATERPILLAR Pacifico industrial PISA2 MP Component

Diesel Engine

CHEVRON DELO 400 SDE SAE 15W40 (100 LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

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.

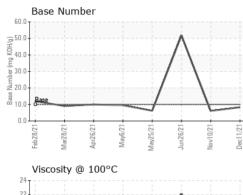
• · · · ·						
Sample Number		Client Info		KL0009022	KL0007616	KL0007456
Sample Date		Client Info		11 Dec 2021	10 Nov 2021	26 Jun 2021
Machine Age	hrs	Client Info		33300	32980	32780
Oil Age	hrs	Client Info		520	200	332
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Sample Status				NORMAL	ABNORMAL	SEVERE
CONTAMINATION	١	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	0.12
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	21	30	36
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	4	2
Lead	ppm	ASTM D5185m	>40	<1	2	16
Copper	ppm	ASTM D5185m	>330	44	107	124
Tin	ppm	ASTM D5185m	>15	1	0	4
Antimony	ppm	ASTM D5185m		0	0	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 208	history1 153	history2 157
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	208	153	157
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	208 0	153 0	157 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	208 0 120	153 0 111	157 0 122
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	208 0 120 <1	153 0 111 1	157 0 122 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	208 0 120 <1 710	153 0 111 1 767	157 0 122 1 ▲ 272
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		208 0 120 <1 710 1610	153 0 111 1 767 1722	157 0 122 1 ▲ 272 ▲ 663
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760	208 0 120 <1 710 1610 689	153 0 111 1 767 1722 674	157 0 122 1 ▲ 272 ▲ 663 ▲ 325
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800	208 0 120 <1 710 1610 689 811	153 0 111 1 767 1722 674 813	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800 3000	208 0 120 <1 710 1610 689 811 1976	153 0 111 1 767 1722 674 813 3053	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	760 800 3000 limit/base	208 0 120 <1 710 1610 689 811 1976 current	153 0 111 1 767 1722 674 813 3053 history1	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	760 800 3000 limit/base	208 0 120 <1 710 1610 689 811 1976 current 7	153 0 1111 1 767 1722 674 813 3053 history1 5	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25	208 0 120 <1 710 1610 689 811 1976 current 7 0 <1	153 0 111 1 767 1722 674 813 3053 history1 5 2	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 ► history2 5 ▲ 496
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25 >20	208 0 120 <1 710 1610 689 811 1976 current 7 0 <1	153 0 111 1 767 1722 674 813 3053 history1 5 2 2 <1	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 history2 5 ▲ 496 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25 >20 limit/base	208 0 120 <1 710 1610 689 811 1976 current 7 0 <1 current	153 0 1111 1 767 1722 674 813 3053 history1 5 2 <1 <1 history1	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 history2 5 ▲ 496 3 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25 >20 limit/base >3	208 0 120 <1 710 1610 689 811 1976 <u>current</u> 7 0 <1 <u>current</u>	153 0 1111 1 767 1722 674 813 3053 history1 5 2 2 <1 5 2 <1 history1	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 ► history2 5 ▲ 496 3 3 ► history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	760 800 3000 limit/base >25 >20 limit/base >3 >20	208 0 120 <1 710 1610 689 811 1976 current 7 0 <1 7 0 <1 1.3 8.2	153 0 1111 1 767 1722 674 813 3053 history1 5 2 2 <1 5 2 <1 history1 4.1 14.7	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 ► history2 5 ▲ 496 3 ★ 496 3 ★ 1.2 3.3
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	ASTM D5185m ASTM D5185m	760 800 3000 Imit/base >25 >20 Imit/base >3 >20 >3 >20	208 0 120 <1 710 1610 689 811 1976 <u>current</u> 7 0 <1 <u>current</u> 1.3 8.2 26.2	153 0 1111 1 767 1722 674 813 3053 history1 5 2 <1 5 2 <1 history1 ▲ 4.1 14.7 27.9	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 bistory2 5 ▲ 496 3 bistory2 1.2 39.3 0
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	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	760 800 3000 225 >22 20 imit/base >3 >20 >30 >30 >30	208 0 120 <1 710 1610 689 811 1976 Current 7 0 <1 Current 1.3 8.2 26.2 Current	153 0 1111 1 767 1722 674 813 3053 history1 5 2 2 <1 5 2 2 <1 history1 ▲ 4.1 14.7 27.9	157 0 122 1 ▲ 272 ▲ 663 ▲ 325 ▲ 421 ▲ 1293 history2 5 ▲ 496 3 history2 1.2 39.3 0 history2

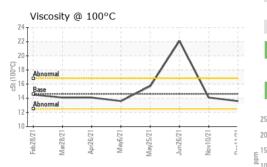
Submitted By: EDUARDO GARCIA



OIL ANALYSIS REPORT

VISUAL





White Metal scalar Visual NONE NONE NONE NONE NONE NONE Precipitate scalar Visual NONE NONE NONE NONE NONE Stitt scalar Visual NONE NONE NONE NONE NONE Sand/Dirit scalar Visual NONE NONE NONE NONE NONE Appearance scalar Visual NORML NORML NORML NORML NORML Coro scalar Visual NORML NORML NORML NORML NORML NORML Coro scalar Visual NORML NORML NORML NORML NORML NORM Visual NORML NORML NORML NORML NORML NORM Visual NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML Visual Visual NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML Visual NORML NORML NORML NORML NORML NORML Visual NORML NORML NORML NORML NORML NORML Visual Oliver C cst ASTM 0445 14.6 13.6 14.1 A 22.1 GRAPHS Tron (ppm) Corper	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar Visual NONE NONE NONE NONE NONE NONE NONE NON	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silit scalar 'Visual NONE NONE NONE NONE NONE NONE NONE NON	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar Visual NONE NONE NONE NONE NONE NONE Appearance scalar Visual NORML NO	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt scalar 'Visual NORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar 'Visual NORML NORM	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML <	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar 'Visual >0.2 NEG NEG NEG NEG Free Water scalar 'Visual NEG NEG NEG NEG FLUID PROPERTIES method imit/base current history1 history2 Visc @ 100°C cSt ASTM D445 14.6 13.6 14.1 22.1 GR2PHS Tron (ppm) Aluminum (ppm) Gopper (ppm)	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar "Visual NEG NEG NEG NEG FLUID PROPERTIES method limitbase current history1 history2 Visc @ 100°C cSt ASTM D445 14.6 13.6 14.1 22.1 GRAPHS Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Imit Data Aluminum (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Imit Data Silicon (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Imit Data Silicon (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Imit Data Silicon (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Imit Data Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Imit Data Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (ppm) Iron (Odor	scalar	*Visual	NORML	NORML	NORML	NORML
FLUID PROPERTIES method imit/base current history1 history2 Visc @ 100°C cSt ASTM D445 14.6 13.6 14.1 22.1 CHUD PROPERTIES Inon (ppm) Lead (ppm) Lead (ppm) Advantum Advantum Advantum Option of the second of the secon	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Visc @ 100°C cst ASTM D445 14.6 13.6 14.1 A 22.1 GRAPHS Tron (ppm)	Free Water	scalar	*Visual		NEG	NEG	NEG
CIRAPHS Iron (ppm)	FLUID PROPER	TIES	method	limit/base	current	history1	history2
Iron (ppm) Ton (ppm) Ton (ppm) Lead (pp	Visc @ 100°C	cSt	ASTM D445	14.6	13.6	14.1	2 2.1
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Aluminum (ppm) Aluminum (ppm)				100			
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Copper (Severe			80	Severe		
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Copper (60			
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Copper (100 Abnormal			L.	Abnormal		
Aluminum (ppm) Aluminum (ppm) Copper (ppm)				20			
Aluminum (ppm) Aluminum (ppm)							\sim
Aluminum (ppm) Aluminum (ppm)	r28/21 r28/21	ay6/2	126/21	c11/21	28/2 128/21 128/21	ay6/21	10/21/
Image: second	Api Api	May	un Nov	Dec	Reb Mai	Ma	Jun Nov Dec
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Copper (ppm)		lay6/21-	n26/21-		b28/21- ar28/21- or26/21-	lay6/21-	n26/21- v10/21-
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WearCheck USA - 501 Madison Ave., Cary, NC 27513 CONOF KL0009022 Received : 16 Dec 2021 JUAREZ 348 05424388 Tested : 17 Dec 2021 HERMOSILLO, 9778579 Diagnosed : 17 Dec 2021 - Angela Borella MX 83140 MOB1+ Contact: EDUARDO GARCIA Contact: EDUARDO GARCIA					<u> </u>		
WearCheck USA - 501 Madison Ave., Cary, NC 27513 CONOF KL0009022 Received : 16 Dec 2021 JUAREZ 348 05424388 Tested : 17 Dec 2021 HERMOSILLO, 9778579 Diagnosed : 17 Dec 2021 - Angela Borella MX 83140 MOB1+ Contact: EDUARDO GARCIA Contact: EDUARDO GARCIA	sb 2 8/2 ar 2 8/2 3r 2 6/2	flay6/2 ty25/2	in 26/2 .v10/2	ec11/2	sb 28/2 ar 28/2 yr 26/2	1ay6/2 1y25/2	in26/2 iv10/2 ic11/2
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9778579 Diagnosed : 17 Dec 2021 - Angela Borella MX 83140 MOB1+ Contact: EDUARDO GARCIA							
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		vice at 1-8	00-237-1369	9.			

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)

Certificate L2367

E

Laboratory Sample No.

Lab Number **Unique Number Test Package**

Submitted By: EDUARDO GARCIA

T: (526)622-1581 x:81

F: x: