

OIL ANALYSIS REPORT

GUAY SON/Yavaros [CONHER] PERKINS Pacifico Ind PISA1 Aux1 Component

Auxiliary Engine

CHEVRON DELO 400 MULTIGRADE 15W40 (40 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

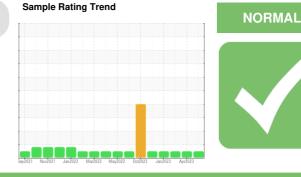
All component wear rates are normal.

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 acceptable for the time in service.

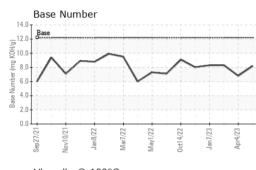


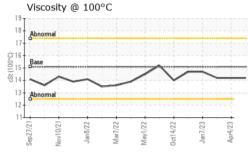


SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KL0012230	KL0012220	KL0010254
Sample Date		Client Info		26 Apr 2023	04 Apr 2023	01 Mar 2023
Machine Age	hrs	Client Info		43888	43678	43170
Oil Age	hrs	Client Info		1879	1669	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15	18	22
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	0	4
Lead	ppm	ASTM D5185m	>40	3	3	3
Copper	ppm	ASTM D5185m	>330	7	9	12
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 178	history1 198	history2 178
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	178	198	178
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	178 0	198 0	178 2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	178 0 118	198 0 130	178 2 132
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	178 0 118 <1	198 0 130 <1	178 2 132 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	178 0 118 <1 642	198 0 130 <1 664	178 2 132 <1 672
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		178 0 118 <1 642 1421	198 0 130 <1 664 1480	178 2 132 <1 672 1534
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	1360	178 0 118 <1 642 1421 636	198 0 130 <1 664 1480 687	178 2 132 <1 672 1534 691
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	1360	178 0 118 <1 642 1421 636 801	198 0 130 <1 664 1480 687 868	178 2 132 <1 672 1534 691 871
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	1360 1480 limit/base	178 0 118 <1 642 1421 636 801 2539	198 0 130 <1 664 1480 687 868 2587	178 2 132 <1 672 1534 691 871 2502
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	1360 1480 limit/base	178 0 118 <1 642 1421 636 801 2539 current	198 0 130 <1 664 1480 687 868 2587 history1	178 2 132 <1 672 1534 691 871 2502 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1360 1480 limit/base	178 0 118 <1 642 1421 636 801 2539 current 8	198 0 130 <1 664 1480 687 868 2587 history1 9	178 2 132 <1 672 1534 691 871 2502 history2 11
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1360 1480 limit/base >25	178 0 118 <1 642 1421 636 801 2539 current 8 1	198 0 130 <1 664 1480 687 868 2587 history1 9 1	178 2 132 <1 672 1534 691 871 2502 history2 11 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	1360 1480 limit/base >25 >20	178 0 118 <1 642 1421 636 801 2539 current 8 1 2	198 0 130 <1 664 1480 687 868 2587 history1 9 1 2	178 2 132 <1 672 1534 691 871 2502 history2 11 <1 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1360 1480 limit/base >25 >20 limit/base	178 0 118 <1 642 1421 636 801 2539 current 8 1 2 2	198 0 130 <1 664 1480 687 868 2587 history1 9 1 2 2 history1	178 2 132 <1 672 1534 691 871 2502 history2 11 2 2 history2
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	1360 1480 limit/base >25 >20 limit/base	178 0 118 <1 642 1421 636 801 2539 current 8 1 2 2 3 current 2.3	198 0 130 <1 664 1480 687 868 2587 history1 9 1 2 2 history1 2.2	178 2 132 <1 672 1534 691 871 2502 history2 11 2 2 history2 2.7
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	ASTM D5185m ASTM D5185m	1360 1480 limit/base >25 >20 limit/base	178 0 118 <1 642 1421 636 801 2539 current 8 1 2 2 3 current 2.3 10.4	198 0 130 <1 664 1480 687 868 2587 history1 9 1 2 2 history1 2.2 10.2	178 2 132 <1 672 1534 691 871 2502 history2 11 <1 2 history2 2.7 11.2
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	1360 1480 1480 >25 >20 Iimit/base >20 Iimit/base	178 0 118 <1 642 1421 636 801 2539 current 8 1 2 2 current 2.3 10.4 28.2	198 0 130 <1 664 1480 687 868 2587 history1 9 1 2 2 history1 2.2 10.2 26.5	178 2 132 <1 672 1534 691 871 2502 history2 11 2 2 <u>history2</u> 2.7 11.2 2.8.9
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 D7415	1360 1480 225 >225 >20 Iimit/base >20 >30	178 0 118 <1 642 1421 636 801 2539 current 8 1 2 2 current 2.3 10.4 28.2 current	198 0 130 <1 664 1480 687 868 2587 history1 9 1 2 8 history1 2.2 10.2 26.5 history1	178 2 132 <1 672 1534 691 871 2502 history2 11 <11 2 2 history2 2.7 11.2 28.9 history2

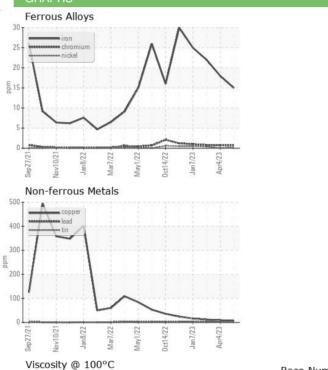


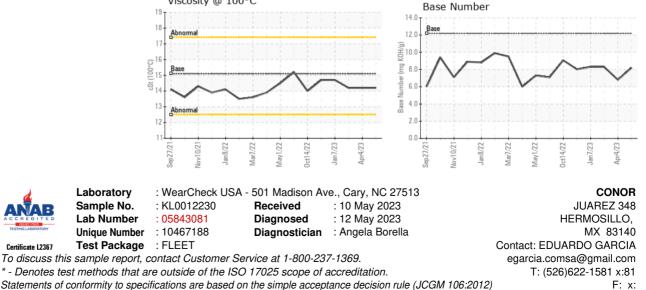
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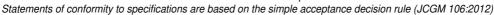




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.2	14.2	14.2
CRAPHS						







Certificate L2367

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