

# **OIL ANALYSIS REPORT**

# HORMAL

Sample Rating Trend



### Area GUAY SON/Yavaros [CONHER] Machine Id CATERPILLAR Pacifico industrial PISA2 MP Diesel Engine Fluid

CHEVRON DELO 400 SDE SAE 15W40 (100 LTR)

SAMPLE INFORM	MATION	method	limit/base	current	history1	history
Sample Number		Client Info		KL0010216	KL0010205	KL001119
Sample Date		Client Info		16 Jan 2023	15 Nov 2022	16 Oct 202
Machine Age	hrs	Client Info		36860	36260	35980
Oil Age	hrs	Client Info		1200	600	320
Oil Changed		Client Info		Changed	Changed	Not Chang
Sample Status				NORMAL	NORMAL	ATTENTIC
CONTAMINATIO	N	method	limit/base	current	history1	history
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history
Iron	ppm	ASTM D5185m	>100	<b>118</b>	76	21
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	1
Aluminum	ppm	ASTM D5185m	>25	3	3	3
Lead	ppm	ASTM D5185m	>40	2	<1	<1
Copper	ppm	ASTM D5185m	>330	23	19	8
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history
Boron	ppm	ASTM D5185m		50	85	356
Barium	ppm	ASTM D5185m		0	2	0
Molybdenum	ppm	ASTM D5185m		150	144	120
Manganese	ppm	ASTM D5185m		2	1	2
Magnesium	ppm	ASTM D5185m		715	678	670
Calcium	ppm	ASTM D5185m		1718	1659	1595
Phosphorus	ppm	ASTM D5185m	760	749	743	686
Zinc	ppm	ASTM D5185m	800	970	919	851
Sulfur	ppm	ASTM D5185m	3000	2750	2444	2846
CONTAMINANTS	6	method	limit/base	current	history1	history
Silicon	ppm	ASTM D5185m	>25	7	7	6
Sodium	ppm	ASTM D5185m		2	<1	2
Potassium	ppm	ASTM D5185m	>20	2	1	1
Fuel	%	ASTM D3524	>5	<1.0	<1.0	<1.0
		method	limit/base	current	history1	history
INFRA-RED		*ASTM D7844	>3	<b>A</b> 3.3	2.8	1.1
INFRA-RED Soot %	%	ASTIVI D7044				
Soot %	% Abs/cm	*ASTM D7624	>20	13.0	12.1	7.9
Soot % Nitration				13.0 30.9	12.1 28.8	7.9 26.3
Soot % Nitration	Abs/cm Abs/.1mm	*ASTM D7624		30.9		26.3
Soot % Nitration Sulfation	Abs/cm Abs/.1mm	*ASTM D7624 *ASTM D7415	>30	30.9	28.8	

## 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.



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

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