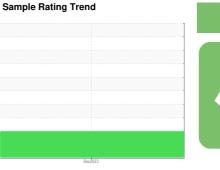
# **OIL ANALYSIS REPORT**

GUAY SON/YAVAROS [CONHER] CATERPILLAR Pisa4 MP - Pacifico Industrial Component

**Diesel Engine** Fluid

CHEVRON DELO 400 MULTIGRADE 15W40 (160 LTR)





ISO

	ILIIGNADE 15W40 (10				Dec2023		
	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
	Sample Number		Client Info		KL0013446		
ecommended at this time. rvice interval to monitor.	Sample Date		Client Info		21 Dec 2023		
		hrs	Client Info		18		
	Oil Age	hrs	Client Info		18		
s are normal.	Oil Changed		Client Info		Not Changd		
	Sample Status				ATTENTION		
ount of particulates present	CONTAMINATION		method	limit/base	current	history1	history2
	Fuel		WC Method	>5	<1.0		
hat there is suitable	Water		WC Method	>0.2	NEG		
e oil. The condition of the service.	Glycol		WC Method		NEG		
	WEAR METALS		method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>100	11		
	Chromium	ppm	ASTM D5185m	>20	0		
	Nickel	ppm	ASTM D5185m	>2	0		
	Titanium	ppm	ASTM D5185m	>2	0		
	Silver	ppm	ASTM D5185m	>2	0		
	Aluminum	ppm	ASTM D5185m	>25	2		
	Lead	ppm	ASTM D5185m	>40	0		
	Copper	ppm	ASTM D5185m	>330	2		
	Tin	ppm	ASTM D5185m	>15	0		
	Vanadium	ppm	ASTM D5185m		0		
	Cadmium	ppm	ASTM D5185m		0		
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	151	302		
	Barium	ppm	ASTM D5185m	0.4	0		
	Molybdenum	ppm	ASTM D5185m	250	112		
	Manganese	ppm	ASTM D5185m		0		
	-	ppm	ASTM D5185m		628		
		ppm	ASTM D5185m	2046	1565		
		ppm	ASTM D5185m	1043	728		
		ppm	ASTM D5185m		837		
		ppm	ASTM D5185m	5012	2485		
	CONTAMINANTS		method	limit/base	current	history1	history2
		ppm	ASTM D5185m	>25	6		
	Sodium	ppm	ASTM D5185m		2		
	Potassium	ppm	ASTM D5185m	>20	<1		
	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	*ASTM D7844	>3	0.1		
	Nitration	Abs/cm	*ASTM D7624	>20	5.8		
	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.2		

### Recommendation

No corrective action is rec Resample at the next serv

## Wear

All component wear rates

## Contamination

There is a moderate amount in the oil.

### Fluid Condition

The BN result indicates th alkalinity remaining in the oil is suitable for further se



umber of particles (1 ml) 6k 4k 21 0k Dec21

umber of particles (1 ml)

# **OIL ANALYSIS REPORT**

		FLUID CLEANLIN	IESS	method	limit/base	e cur	rent history1	history2
4μm 6μm		Particles >4µm		ASTM D7647		9613		
••••••••14µm		Particles >6µm		ASTM D7647	>5000	<b>5237</b>		
		Particles >14µm		ASTM D7647		<b>&amp;</b> 891		
		Particles >21µm		ASTM D7647	>160	<b>300</b>		
		Particles >38µm		ASTM D7647	>40	<b>4</b> 6		
		Particles >71µm		ASTM D7647	>10	5		
Dec21/23 -	Dec21/23 -	Oil Cleanliness		ISO 4406 (c)		<b>20/17</b>		
Dec2	Dec2	FLUID DEGRADA	TION	method	limit/base	cur	rent history1	history2
Particle Trend		Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2		
4μm 6μm		Base Number (BN)	mg KOH/g	ASTM D2896	12.5	10.02		
		VISUAL		method	limit/base	e cur	rent history1	history2
		White Metal	scalar	*Visual	NONE	NON	E	
		Yellow Metal	scalar	*Visual	NONE	NON	E	
		Precipitate	scalar	*Visual	NONE	NON	E	
53	2	Silt	scalar	*Visual	NONE	NON	E	
Dec21/23	Dec21/23	Debris	scalar	*Visual	NONE	NON		
	ā	Sand/Dirt	scalar	*Visual	NONE	NON	E	
Base Number		Appearance	scalar	*Visual	NORML	NOR		
Base		Odor	scalar	*Visual	NORML	NOR	ML	
		Emulsified Water	scalar	*Visual	>0.2	NEG		
		Free Water	scalar	*Visual		NEG		
		FLUID PROPERT	IES	method	limit/base	cur	rent history1	history2
		Visc @ 100°C	cSt	ASTM D445	14.4	13.2		
23	21/23	GRAPHS						
Dec21/23	/12	Ferrous Alloys			101.5	A Particle	e Count	20
Viscosity @ 100°C		15 iron			491,5			24
		E nickel						
A1 1		5-			30,7	20-	18. J.	-22
Abnormal		0		*********************	~ 후 7,6	80		-20
Aonorma		0 <del>- passesson</del>						
Base		ec21/23			ec21/2 (per 1 r			-18
Base		Dec forrous Motal	-		Dec21/23 ticles (per 1 ml	120 -		-18
		Non-ferrous Metal	S		of particles	120 - 80 -		+18 +16
Base Abnormal		Non-ferrous Metal	S		for of	120 -		-18 -16 -14
Base Abnormal		Non-ferrous Metal	S		mber of	120 - 80 -		-18 16 -14 -12
Base Abnormal		Non-ferrous Metal	S		mber of	120 - 180 - 20 - 30 -		-18
Base Abnormal		Non-ferrous Metal	S		1 number of	120 - 180 - 20 -		-18 -16 -14 -12 -10 -18
Base Abnormal		Non-ferrous Metal	5		1 number of	120 - 180 - 20 - 30 -		-18
Base Abnormal		Non-ferrous Metal	*****		mber of	20 - 80 - 20 - 30 - 8 <b>Bisroomal</b> 2 - 0 - 4 - -	6µ 14µ 21µ	-18 -16 -14 -14 -12 -10 -8 
Base Abnormal		Non-ferrous Metal	*****		Dec21/23	20	6µ 14µ 21µ Iumber	112
Base		Non-ferrous Metal	*****		Dec21/23 Dec21/23 number of	20		112
Base Abnormal		Non-ferrous Metal	*****		Dec21/23 Dec	20 20 30 <sup>8</sup> <b>Birremal</b> 2 0 4 2 0 4 2 <b>Base</b> 0.0 <b>Base</b>		112
Base Abnormal		Non-ferrous Metal	*****		Dec21/23 Dec	20		112
Base Abnormal		Non-ferrous Metal	*****		Dec21/23 Dec21/23 number of number of	20 20 30 8 <b>Bibreenal</b> 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 1 2 1 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1		12 10 38µ 71µ
Base Abnormal		Non-ferrous Metal	*****		Dec21/23 Dec21/23 number of number of	20 80 20 30 8 <b>Boresemal</b> 2- 0- 4μ <b>Base N</b> 5.0 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9		12 10 38µ 71µ
Base Abnormal		Non-ferrous Metal			Dec21/23 Dec	20 20 30 8 <b>abrownal</b> 2 0 4 <b>base N</b> 5.0 0.0 <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b>		12 10 38µ 71µ
Base Abnormal	Laboratory	Non-ferrous Metal	601 Madia		o January (0) H(0) Janu	20 20 30 8 <b>abrownal</b> 2 0 4 <b>base N</b> 5.0 0.0 <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b>		CONO
Base Abnormal	Laboratory Sample No.	Non-ferrous Metal	i01 Madia	<b>d</b> : 09 .	to angular to a set of the set of	20 20 30 8 <b>abrownal</b> 2 0 4 <b>base N</b> 5.0 0.0 <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b>	lumber	12 10 38μ 71μ CONO JUAREZ 34
Base Abnormal	Laboratory	Non-ferrous Metal	601 Madia	d :09. ed :11.	o January (0) H(0) Janu	20 20 30 8 <b>abrownal</b> 2 0 4 <b>base N</b> 5.0 0.0 <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b> <b>c</b>	lumber	

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

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